

Data-Driven Product Design: Using AI to Close the Gap Between Trend and Production



INTRODUCTION



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Mubine is a seasoned technology leader with a proven track record in driving digital transformation and delivering complex business solutions. As the Global Head of Solutioning at Ciklum, he brings nearly a decade of expertise in innovation, solution architecture, and strategic planning.

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With deep expertise in AI, Blockchain, RPA, and cloud solutions, Mubine specializes in bridging the gap between business and technology to create impactful, future-ready solutions.

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Introduction

The gap between traditional retail and digital-native success has never been more stark: while established brands take 18-24 months to bring products to market, newcomers are turning designs around in 24 hours.

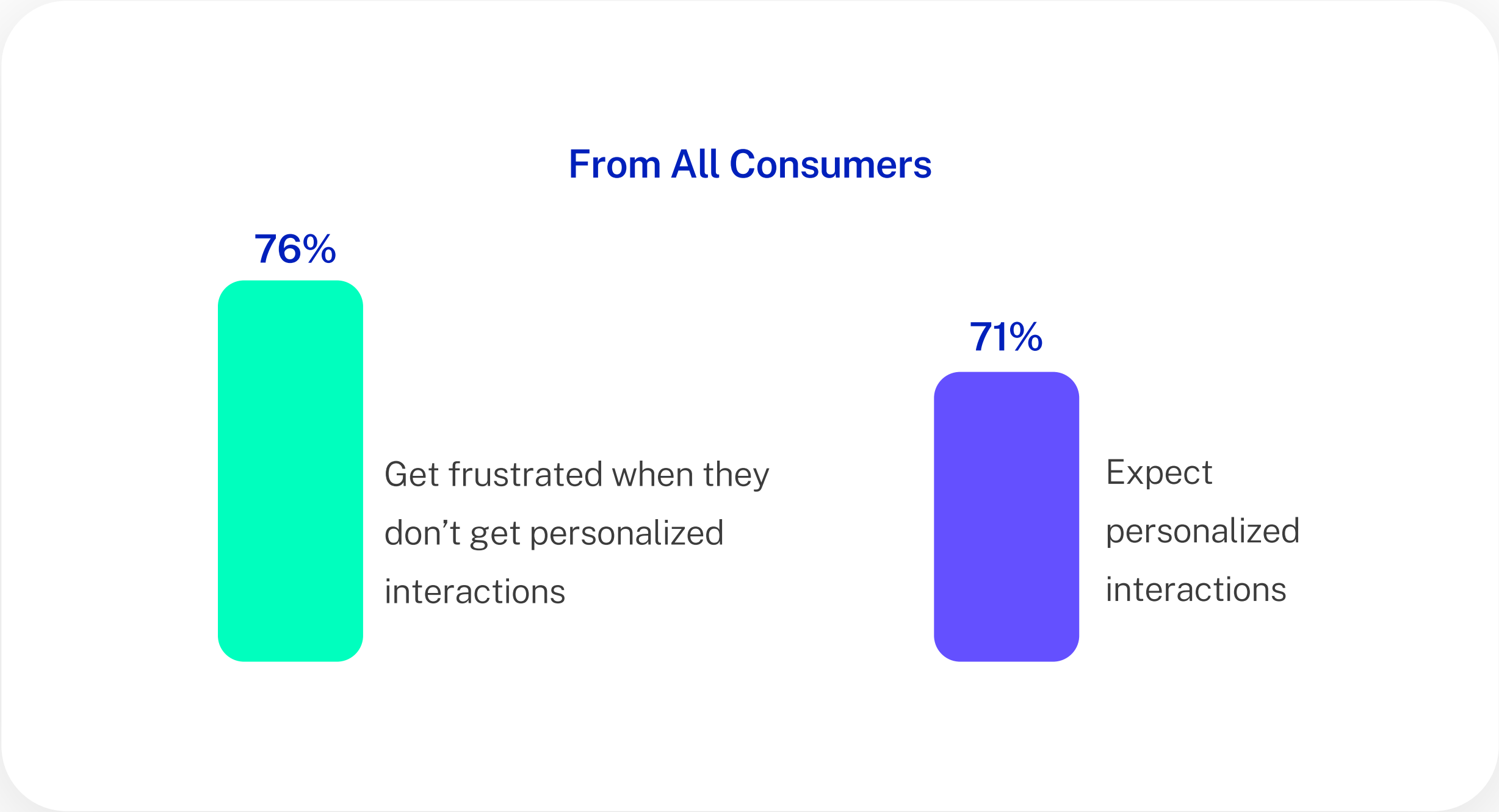
This isn’t just about speed — it’s about the ability to capture trends, respond to consumer demand in real-time, and scale production instantly. Shein exemplifies this new reality, reaching a \$100 billion valuation and [doubling profits](#) within a year by mastering the art of immediate market response.

Traditional consumer brands are struggling to match this pace of innovation. Years of layering new technology onto legacy systems has left them with disconnected processes, outdated workflows, and data trapped in silos — a fragmented foundation that’s now severely limiting their ability to compete. Consider this: Apple can design, test and release an entirely new phone — with sophisticated hardware and software — in 12 months, yet some consumer goods companies still take up to 24 months to bring a single new design to market.

This technological gap is most evident in how companies respond to market trends. Digital-native companies have mastered rapid response to social media, where the average user [spends nearly 2.5 hours of their day](#). New trends now emerge instantly from single events — a reality TV star’s outfit, a soccer player’s team transfer — and companies like Shein can detect and respond to these trends in as little as 24 hours. This has resulted in a stark contrast in production capability: while some consumer brands are releasing 300 styles into the market per month, digital natives are often achieving over 1,000 a day.



These trends are heavily [influencing Generation Z in particular](#), who have ever-increasing buying power, and high expectations for personalized experiences and immediate product availability. But regardless of their generation, [according to McKinsey](#), 71% of consumers expect personalized interactions from businesses, and 76% of them get frustrated when they don't get them.



The market has already decided the future of retail. Success now depends on harnessing [artificial intelligence](#), real-time consumer data, and agile supply chains to turn market signals into products at unprecedented speed. This guide shows you how.

The Growing Gap Between Traditional Design and Market Reality

For many years, traditional retailers have relied on seasonal planning cycles. This has involved forecasting trends far in advance using historical sales data; making early design decisions and sticking to them; producing in bulk to meet forecasted demand; and planning static marketing campaigns that can’t be adjusted dynamically.



This approach is often led by the product designer and their knowledge and gut feel, rather than specific data on customer wants and preferences. It also circumvents any early testing and validation of product concepts and prototypes -partly driven by fear of designs being leaked or copied.

As a result, there is often a disconnect between design, marketing and the supply chain, meaning no market exposure for a product at all until full production is well underway, and the product is released fully into the marketplace.

When more or less everyone worked this way, this approach wasn’t an issue. But now digital-native disruptors have shaken things up, the gaps in this approach have been exposed.



Lack of Data-Driven Decision Making

With design based on individual intuition rather than data, and with seasonal forecasts made on historical data, there are no triggers to indicate real-time consumer behavior and sentiment. This deficiency is especially felt in the social media age where trends evolve daily, and traditional cycles can’t capitalize on high-impact, ‘flavor of the month’ trends.



Weakened Market Position

The slow, intuition-led approach can lead to missed sales opportunities, because new products are already off-trend by the time they eventually get to market. In turn, this overproduction leads to discount dependency that erodes profit margins and devalues brands. As digital-native brands continue to displace competitors through agility and tapping into consumer demands, these issues will only become greater over time.





Gaps in Customer Experience

Rigid design, production, and marketing cycles prevent retailers from delivering the personalized experiences customers now expect. As trends surge and fade on social media within days or even hours, traditional timelines leave brands perpetually behind the curve. This is especially costly with younger consumers, who expect brands to be culturally current and instantly responsive to their preferences.



Wider Business Impacts

All of the above can have serious adverse effects on the organization as a whole. For example, when retailers can't capitalize on cultural moments or quickly scale production of popular items, they don't just lose immediate sales — they erode customer confidence and push buyers toward more responsive competitors. The bottom line is also hit if new products don't resonate with customers, sell badly, and tie up capital through overstocking.



Increased Waste

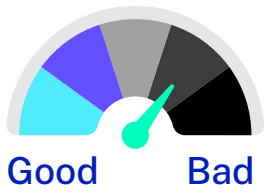
Beyond the bottom line, overstocking can lead to environmental waste, which will play particularly badly among consumers who are more sustainability-conscious than ever before.



Key Technology Obstacles Facing Traditional Consumer Brands

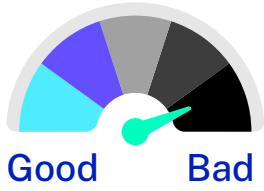
Moving away from product design processes that have served many retailers so well for so long isn't easy. This is not only because it represents such a change in philosophy, but also because it requires addressing a number of issues at a technical level:

Legacy Technology and Data



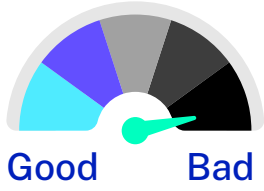
Many firms have gradually added to their technology infrastructure as and when required, leading to an uncoordinated array of systems and data. This leads to siloed data scattered across multiple systems, hindering the use of AI to generate real-time insights, and restricting informed decision-making.

Siloed Design and Development Processes



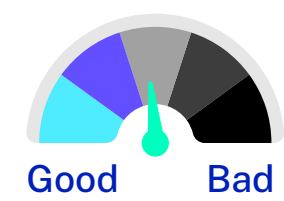
Traditional product development cycles are very rigid, with designers working in isolation from other functions and departments. Because of this, opportunities for real-time feedback, or to incorporate new trends along the way, can be extremely limited.

Market Blindness



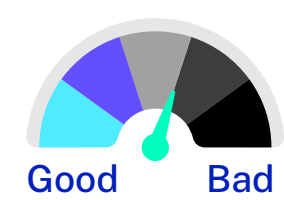
Many retailers don't make the most of the market trends and data available to them, especially through social media. This includes responding quickly to social media trends; failing to identify micro-trends at an early stage; not keeping up with emerging aesthetics and cultural shifts; and failing to accurately translate social 'buzz' to product demand.

Supply Chain Constraints



Traditional supply chains tend to be optimized for efficiency rather than speed, with long-term plans guiding operations. Many suppliers require bulk orders on an annual basis, meaning very long lead times, and no flexibility or agility to quickly change production to meet emerging consumer demand.

Limited Testing and Feedback



New designs are considered highly sensitive intellectual property, kept closely guarded when newly created in case the designs are copied or ‘stolen’. This mindset increasingly looks outdated as it prevents the bold, fast actions needed to test market response, validate designs with audiences, and compete with agile, digital-native disruptors.

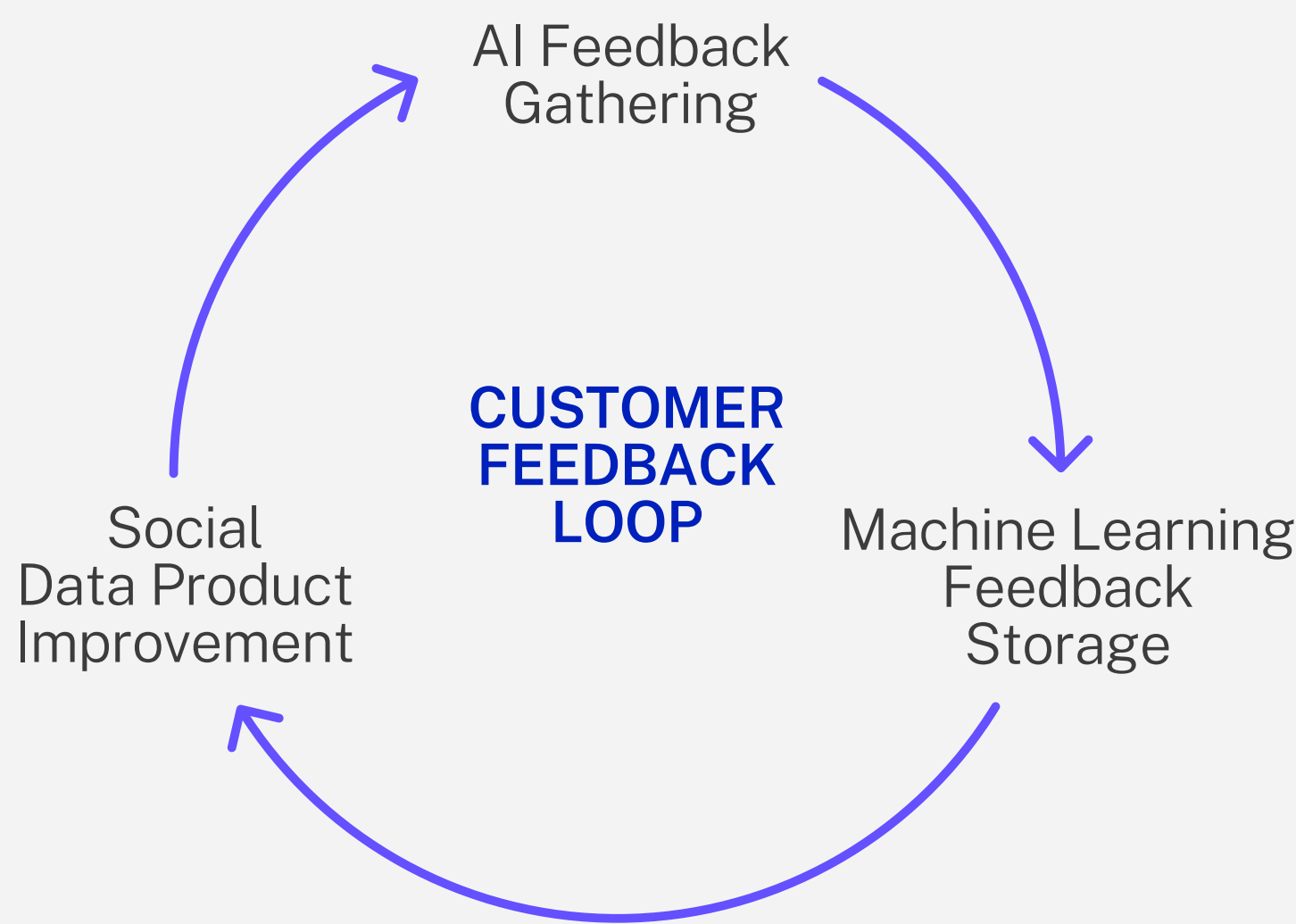
Does this sound familiar?

Your organization may be in particular need of a new design approach if all or most of these statements apply:

- ☒ You frequently suffer from overstocking or understocking
- ☒ Your margins are eroded by high discount dependency
- ☒ Your product cycles are slow
- ☒ Your customer engagement is declining, especially with Gen Z
- ☒ Your data is siloed
- ☒ Your cross-team collaboration is poor and workflows too rigid
- ☒ Your decision-making is slow and prone to bottlenecks
- ☒ You still need to make progress in sustainability and digital transformation

Building a Responsive, AI-Powered Product Design Engine

Success in modern retail demands a shift from seasonal planning to real-time product development. By integrating AI, machine learning, and social data, retailers can create a continuous feedback loop that powers every stage of the product lifecycle — from trend spotting to final marketing.



This new model transforms your organization’s approach to data, from historical record to predictive engine, with AI continuously learning from and adapting to live consumer behavior for smarter, faster decisions.



Four Foundations of Market-Led Design

01

Real-Time Integration of Social Insights

Building proprietary tools and leveraging Google trends can help identify trending styles through a combination of sources including social media, customer behavior, sales data and regional preferences.

These insights can then be fed to product development and PLM systems straight away, so that they can respond to viral moments (such as a celebrity wearing a particular garment) quickly and create new designs. These real-time, data-driven design processes therefore enable dynamic responses to market signals, and make it possible to leverage social trends to generate hype before an item has even been produced.



02

Data-Driven Decision-Making

Using data can add context and confidence to important design and production decisions, whether it’s the analysis of trends, cultural factors, demographics, or previous user browsing and purchasing behaviors. Understanding all of this information can make demand forecasting more accurate, helping to right-size production to demand and minimize waste.

[Predictive analytics](#) maximizes potential in this area to forecast demand with the highest degree of accuracy -especially when integrating data from social media, ERP, PLM, and CRM systems to create a 360-degree view of consumer behavior.

03

Testing and Validation

An agile approach encompassing real-time production allows for a more iterative and incremental approach. For example, products can be created in digital form first, and then be subjected to A/B testing to gauge market response before entering full production.

This rapid validation allows popularity and likely demand, to be measured before committing to manufacturing, and ensures retailers only produce items that are likely to sell. In turn, this data can be used as a proof-of-concept to convince stakeholders and wholesalers that they should invest in a product.

The same principles can be applied to tracking user behavior (such as browsing time and add-to-cart actions) and making production decisions based on those. Data within ERP and PLM platforms gives real-time visibility into which products are gaining the most interest, and real-time production models can be used to create more units and get them to market quickly.

04

Selection and Personalization

Leveraging user behavior data allows retailers to deliver the [hyper-personalized product recommendations](#) consumers are looking for. This includes leveraging user preferences, delivering localized offers, and weighing user actions according to importance.

The last of these features is based around a proprietary sophisticated algorithm that analyzes and ranks user actions on your website, giving increased importance to products with high viewing time and tailoring product recommendations according to these popularity metrics.

These algorithms can then be optimized continuously based on real-time feedback loops, so that recommendations are constantly tuned to evolving customer demands for a better product/market fit.

Client Spotlight

Gaining Deeper Insights Without Intruding on Customers

A leading international food and confectionery brand wanted to gain a better understanding of consumer preferences without violating privacy regulations. Together at Ciklum, we developed a custom AI solution to analyze consumer behavior data and provide marketers with real-time insights into purchasing habits and preferences



Data-Driven Success: Transforming Marketing and Product Development

This data enabled the development of personalized marketing campaigns that resonated with specific customer segments and demographics. It allowed more informed decision-making around product development, sped up product iteration and improved the success rates of new launches and products.

Turning Innovation into Impact

By adopting a tech-led, agile approach to design and product development, consumer businesses and retailers stand to completely transform their operations in virtually all areas, and benefit from:

- Rapid design sprints and quick prototyping
- Flexible manufacturing, with testing before full production
- Stronger ability to capitalize on new trends and viral moments
- More confident production decision-making, backed by A/B testing and consumer sentiment analysis
- Lead times reduced from years and months to weeks and days
- More dynamic inventory management, with real-time visibility into product performance
- Higher margins and stronger profitability
- The creation of more agile supply chains that are scalable in real-time and can accommodate urgent small-batch production



Your Path to Implementation: How Ciklum Can Help

Achieving this transformation is not necessarily an easy or quick task, especially when the previous approach and principles have been embedded in an organization for so long. This is where the help of an expert partner can be instrumental in guiding you through to a tech-led, AI-driven approach that works for your specific needs.

At Ciklum, we combine deep industry knowledge with a robust digital adoption framework to ensure initiatives succeed from start to finish. Our end-to-end approach combines four key services:



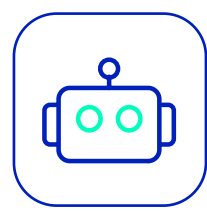
Data Estate Optimization:

We can help you assess your current infrastructure and optimize your data estate for better decision-making and [improved data governance](#). We achieve this by bringing all your data together in a single “fabric”, which can integrate with a wide range of systems, from R&D and the supply chain, through inventory, to sales and marketing.



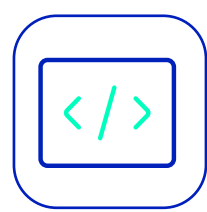
AI and Analytics Use Cases:

We can use your existing data to build compelling AI use cases, creating proof of value by testing them before full deployment. Beyond this, we can support in scaling those successful solutions by integrating them with existing systems, and conducting training and capability-building.



Responsible AI Implementation:

Ethical, unbiased and [responsible use of AI](#) is increasingly in the spotlight -[according to KPMG](#), 40% of US shoppers don’t trust companies to use their data ethically, and 30% won’t share their data at all. We can ensure that your new solutions are fully compliant with all relevant regulations. We do this through a combination of a safe implementation approach, ethical decision-making frameworks, and non-discriminatory data usage policies.



Technology Assessment:

We can identify the right places for you to invest in alignment with your business strategy and objectives. This includes evaluating build vs. buy decisions, determining the most appropriate technology solutions, and planning architectures with cost efficiency in mind.

When you partner with Ciklum, we start by **exploring proof-of-value** rather than simply proof-of-concept, focusing on business case development and a user-centric approach that solves specific needs. By avoiding “AI for AI’s sake”, we **build a business case with clear, demonstrable return** that helps achieve CFO buy-in.

From there, we implement and **scale solutions**, using existing technology and infrastructure where appropriate, and building custom elements where needed. With these solutions in place, we **provide ongoing platform management and optimization**, and plan for cost-effective scaling, completing a full end-to-end service.

The Future of Retail is Responsive

Modern retail success isn't built on prediction — it's powered by real-time response to customer demands. The divide between adaptive and traditional retailers grows wider each day, as legacy processes and fixed development cycles become increasingly unsustainable.

Leading retailers are already leveraging AI-driven insights, agile workflows, and flexible supply chains to outpace competition and reduce costs. Their products resonate with audiences because they're validated through digital-first testing and AI-powered analytics before production. Most importantly, their decisions are informed by intelligent systems that connect every point from design to distribution.

The path to this future doesn't require a complete overhaul. It begins with focused proof-of-value projects that demonstrate measurable, positive outcomes building on your existing systems and scaling based on validated success

Start your journey with Ciklum today to discover how to turn market responsiveness into a competitive advantage.

[Get in Touch](#)