CRAFT AT HEART

How Retail Companies Can Scale During Peak Shopping Periods

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Peak shopping periods, such as Black Friday, Cyber Monday, and the holiday season, present both opportunities and challenges for retail companies. To handle the surge in demand and capitalise on these key periods, retailers must scale their operations quickly, securely and efficiently. Below is a 10 step checklist to help retail companies scale in time for peak shopping periods, leveraging modern technology practices, agile methodologies, and lessons learned from Codurance's work with leading retailers.

1. Assessing Your Current Infrastructure

Before scaling, it's essential to evaluate your current technology stack and operational processes. This ensures that any bottlenecks are identified and addressed in advance. Our work with **Tesco** highlighted the importance of load testing to ensure their systems could handle significant traffic spikes during promotions and seasonal sales.

- **Audit Your Systems:** Ensure your eCommerce platform, inventory management systems, and payment gateways can handle increased traffic. Bottlenecks such as slow server responses or payment failures can lead to missed revenue opportunities.

- **Load Testing:** Conduct rigorous load testing on your systems to simulate peak traffic. This helps identify weak points in performance and highlights areas that need reinforcement.
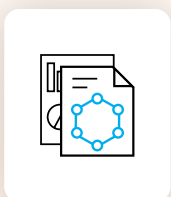
Looking to strengthen your infrastructure for peak readiness? Our **Architecture Vision Assessment** provides a comprehensive review of your current architecture, identifying key improvements to ensure stability, scalability, and performance under pressure. Start your journey toward a resilient architecture today.

2. Implementing Cloud Scalability

Cloud platforms offer flexible solutions that allow businesses to scale their infrastructure dynamically, adapting to sudden traffic surges during peak periods.

- **Adopt Cloud-Native Architecture:** Cloud services such as AWS, Azure, and Google Cloud provide auto-scaling capabilities that allow your infrastructure to expand automatically based on demand. This ensures high availability and performance under pressure.

- **Use Containers and Microservices:** Adopting a microservices architecture allows teams to independently scale specific services (e.g., checkout, search, inventory). Containerisation can help streamline deployments, making scaling faster and more reliable.

Codurance worked closely with **ASOS** to transform their architecture into a cloud-native, scalable solution that could adapt instantly to peak demands. By implementing microservices and containerisation, ASOS was able to maintain a seamless customer experience even during high-traffic shopping events, ensuring stability, security, and efficiency. This transformation contributed to ASOS doubling customer sales within two years, supporting over 14 million active users and handling a staggering 150 million unique visitors per month. The platform processes more than 100 million requests per day, with services capable of handling over 15,000 requests per second.

3. Building Agile, Cross-Functional Teams

The ability to scale operations efficiently during peak shopping periods requires agile and responsive teams that are empowered to make quick decisions and address any emerging challenges in real-time.

- **Cross-Functional Teams:** Foster collaboration across departments—developers, operations, marketing, and customer support. Cross-functional teams can address issues faster and improve time-to-market for features that enhance customer experience.

- **Agile Methodologies:** Implement agile frameworks such as Scrum or Kanban, allowing your teams to respond to changing priorities. Regular sprint reviews and retrospectives help teams stay aligned and address challenges quickly.

Learn how we helped **Cazoo** achieve scalable, sustainable growth by enhancing team collaboration and implementing agile practices, enabling them to respond swiftly to customer demand. During peak moments, such as TV ad breaks, Cazoo's platform scaled from handling 300 to 27,000 requests per minute without any drop in performance and with nearly zero additional cost. This approach supported Cazoo's rapid expansion and acquisitions, ensuring a cost-optimised, high-performing environment even under intense demand.

4. Optimising Website Performance for Speed and Reliability

During peak shopping periods, consumers expect websites to load quickly and operate smoothly. Optimising your site's speed is critical to improving conversion rates and customer satisfaction.

- **Content Delivery Network (CDN):** Using a CDN helps to deliver your content faster by caching it across multiple servers worldwide. This reduces latency and improves the loading time for users, especially during high traffic.

- **Database Optimisation:** Optimising queries and indexing your databases ensures that your site's backend can handle increased data loads without performance degradation.

We worked with **WebBeds**, the world's second-largest accommodation supplier to the travel industry, to streamline database queries and optimise backend performance, enabling them to better manage traffic spikes. This collaboration resulted in a 50% reduction in database load, a 150% increase in performance capacity for handling requests, and zero downtime during system updates, ensuring seamless service continuity even during peak demand.

5. Enhancing Customer Experience with Personalisation

With increased traffic during peak periods, it's important to deliver a personalised shopping experience to improve conversions and retain customer loyalty.

- **AI-Powered Personalisation:** Use AI and machine learning algorithms to provide tailored recommendations, targeted promotions, and dynamic pricing based on customer behaviour and preferences.
- **Omnichannel Experience:** Ensure seamless integration across your online, mobile, and in-store experiences. Unified inventory, order management, and consistent customer interactions are critical to enhancing satisfaction.

Our AI-enabled scent curation platform for Scentmate by **Firmenich** showcases how AI-driven solutions can transform customer experiences. We transformed a legacy MVP with numerous features needing refinement into a stable, scalable platform boasting 99.95% system availability. Additionally, sample delivery times were cut from 4 weeks to just 48 hours—a reduction of nearly 93%. This adaptable solution offers valuable insights for the retail sector, enabling tailored customer interactions and enhanced engagement during peak times.

6. Ensuring Robust Security and Compliance

As traffic and transactions surge, so do potential security risks. Ensuring that your systems are secure and compliant is paramount during peak shopping periods.

- **Data Encryption:** Ensure that customer data, including payment information, is encrypted both in transit and at rest.
- **Fraud Prevention:** Use AI and machine learning tools to detect and prevent fraudulent activities. Implement two-factor authentication (2FA) for added security during checkout.

Our **Software Quality Assessment** can help retailers identify vulnerabilities and improve their overall security posture, ensuring compliance and safeguarding customer data.

7. Managing Inventory and Supply Chain Efficiency

Scaling for peak periods isn't just about technology—it also requires well-managed inventory and a flexible supply chain.

- **Real-Time Inventory Management:** Implement systems that provide real-time visibility into inventory across all channels. This ensures stock levels are accurate and reduces the risk of overselling.
- **Demand Forecasting:** Use data analytics to forecast demand based on historical data, market trends, and customer behaviour, allowing you to stock appropriately.

Discover how Codurance helped a **global data** and insights business create a scalable, modern platform that enhances data accessibility and real-time decision-making.

8. Customer Support Readiness

As customer inquiries and issues spike during peak periods, it's critical to scale your support systems to maintain a high level of service.

- **AI Chatbots:** Implement AI-driven chatbots to handle common customer queries, such as order tracking and returns, allowing human agents to focus on more complex issues.

- **Omnichannel Support:** Provide consistent support across all channels, including email, chat, social media, and phone. Ensure your support team is adequately staffed and trained to handle increased demand.

Interested in exploring how AI can further enhance your customer support readiness? Discover our **AI Readiness Assessment (AIRA)** to evaluate your current AI capabilities and uncover opportunities for leveraging AI to boost efficiency and customer satisfaction. Learn more and see how AI can transform your support systems.

9. Monitoring and Continuous Improvement

Peak shopping periods often reveal operational inefficiencies that can be addressed with continuous monitoring and improvement.

- **Real-Time Monitoring:** Use tools like New Relic, Datadog, or Prometheus to monitor your infrastructure's health in real-time. This helps identify issues before they impact customers.

- **Post-Peak Review:** After the peak period, conduct a thorough review to identify successes and areas for improvement. Implement the lessons learned into your processes for the next high-demand event.

To ensure your systems are resilient and optimised for peak performance, consider Codurance's **Observability Assessment**. Our team will evaluate your monitoring setup, identify any gaps, and provide a tailored roadmap to improve visibility and resilience across your infrastructure. Ready to see where you stand? Start with our **25-question self-assessment** to gain immediate insights into your system's readiness for the next big shopping season.

10. Building for the Future

While scaling for peak shopping periods is critical, building a long-term scalable infrastructure ensures that future peaks are handled smoothly without the need for reactive scaling.

- **Continuous Improvement Programs:** Establish continuous improvement programs that ensure your systems, teams, and processes are constantly evolving to meet the needs of your customers and the business.

- **Sustainability:** As retailers look to build tech foundations for future growth, sustainability becomes a key consideration. Opt for energy-efficient cloud solutions and prioritise software development practices that minimise technical debt.

Explore how our continuous improvement approach helped **Marks & Spencer** elevate code quality, build resilient teams, and create a foundation for future growth, ready to adapt to new projects and remote work.

Conclusion

Scaling in time for peak shopping periods requires a holistic approach that includes robust infrastructure, agile teams, personalised customer experiences, and continuous improvement. By leveraging the right technologies and strategies, retailers can ensure they not only meet customer expectations during these crucial times but also build a resilient foundation for long-term success. Codurance's work with **leading retailers** demonstrates the importance of tailored solutions and the role that expert guidance can play in achieving scalability.

By focusing on cloud scalability, agile teams, and optimised systems, retail companies can confidently navigate peak shopping periods, maximising revenue opportunities while minimising risks.