

Digital Innovation and **Transformation**

TITLE: Innovation & Customer Journey

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Executive Summary

This report critically analyses Tesco's current approach to innovation Ambition Matrix and customer journey mapping. These frameworks help identify strengths, gaps, and opportunities in Tesco's innovation strategy. Based on these insights, the report proposes a new digital transformation initiative designed to address current challenges and enhance the customer experience. The initiative will be supported by an enhanced customer journey map and an impact assessment to demonstrate value to both customers and the business.

Tesco's Analysis and Assessment

Introduction

A company's capacity for innovation determines its long-term survival. However, many businesses are still learning how to strategically manage innovation. The businesses with the best innovation records, take a different approach: They aim for "total innovation" rather than relying on a series of disorganised, independent initiatives that compete for resources like time, money, attention, and prestige (Nagji & Tuff, 2012).

Tesco PLC is the UK's largest retailer and a dominant force in the grocery sector, with over 4000 stores and a strong online presence, Tesco employs over 330,000 people globally (Tesco PLC, 2025). Over the past decade, Tesco has undertaken several innovative steps to remain competitive in a rapidly changing retail landscape. These include the adoption of self-checkout machines, digital loyalty through Tesco Clubcard, and investment in delivery services like Tesco Whoosh. As consumer expectations evolve, especially with increased demand for personalisation, convenience, and sustainability, Tesco must continuously innovate to remain at the forefront. Tesco's market share in grocery sector stands at 27% as of early 2025 (Statista, 2025), maintaining a significant lead over competitors such as Sainsbury's (14.8%), Asda (13.6%), Aldi (10.4%), and Lidl (7.7%). The company's main competitors include these traditional supermarket chains, as well as digital disruptors like Amazon Fresh and Ocado, which are reshaping consumer expectations around convenience and technology. Tesco's main objectives are to provide great value to customers, deliver convenience, improve customer loyalty, and lead on sustainability. Tesco's core purpose is "serving shoppers a little better every day" (Tesco PLC, 2025). Through continuous investment in technology and innovation, Tesco aims to enhance customer experiences, streamline operations, and achieve long-term growth while maintaining a strong commitment to social and environmental responsibility.

Key Consumer and Industry Trends

Several major trends shape the UK grocery industry and consumer behaviour:

1. E-commerce Growth: Online grocery shopping continues to rise (Kirby-Hawkins, et. al., 2019). Over 30% of UK consumers prefer shopping for groceries online, driven by convenience and mobile-first behaviour. Tesco has its own delivery service, Whoosh

but utilizes the Uber eats network of couriers to deliver the orders. Although Uber Eats delivers the groceries, Tesco.com or the Tesco app are used to place the orders rather than the Uber Eats platform. As part of its expansion strategy, Tesco is partnering with Uber Eats to bring the Whoosh services to additional stores (BBC, 2022).

2. **Price Sensitivity:** Inflation and cost-of-living pressures have made consumers more price-conscious, and they tend to use the cheaper option. Tesco's Clubcard Prices and Aldi's Price Match initiatives reflect responses to this trend (Tesco, 2025).
3. **Health and Wellness:** More consumers are seeking healthier options, with demand for plant-based and low-sugar products growing (Venter de Villiers et al., 2024).
4. **Sustainability:** Environmental concerns influence purchasing decisions. Shoppers now expect transparency on sourcing, packaging, and carbon impact (Tesco Sustainability Report, 2025).
5. **Digital Loyalty and Personalisation:** With 20 million active Clubcard users, Tesco has access to vast data that can be used for personalised marketing and promotions (Tesco PLC, 2025). They can send out vouchers for items to customers who are more likely to purchase.
6. **Competition from Discounters and Digital Players:** Aldi, Lidl, Amazon Fresh, and Ocado continue to challenge Tesco by offering low prices or technologically advanced platforms. Lidl have improved their app, and send out personalised money-off vouchers, but Aldi are behind in this technology, they have an app, but it does not offer the customer any benefits, so they do not need to scan. Aldi is missing out on all the information they can collect and use to improve their products and services but is still a big threat to Tesco with their prices.

Tesco's Approach to Innovation

Tesco's Current Innovation Activities: Tesco has implemented various innovations across physical stores, online platforms, and supply chain operations. Notable activities include:

Clubcard and Clubcard Plus: A digital loyalty programme that offers personalised discounts and insights into customer behaviour. Tesco have made sure people scan their Clubcard by offering cheaper prices with the Clubcard.

Scan-as-You-Shop: In store app functionality allowing customers who are Clubcard members to scan their shopping with a hand-held scanner as they go around the store, they can even pack it in their bags as they go. Once they are done, they simply go to a scan-as-you-shop till and pay.

Tesco Whoosh: Rapid delivery service offering grocery delivery. Whoosh, aims to get your order from the store to customer in as little as forty-five minutes. When an order is checked out, payment is collected. In the event that the final order is unavailable or less than anticipated, Refunds are automatically given.

Tesco Media and Insight Platform: The largest food store in the UK, Tesco, and Dunnhumby, a world leader in customer data analytics, have partnered on this. By bridging the gap between advertising exposure and consumer behaviour across online and offline touchpoints, they are the largest closed-loop grocery media and insight platform in the UK, enabling marketers to make better decisions about their investments, marketing, and products.

Partnerships with Startups: Together with international retailers, Tesco has invested 125 million US dollars (£99 million) in companies that are modernising and reshaping the supermarket industry. According to the supermarket behemoth, W23 Global, a collaborative food venture fund, would seek to assist start-ups and scale-ups that are utilising technology to disrupt the market. Tesco announced that it will invest \$25 million (£20 million) in the most creative businesses over a five-year period (Independent, 2024).

E-commerce growth has accelerated post-pandemic, and traditional retailers like Tesco have expanded their digital capabilities to remain competitive (Salway, 2021).

Innovation Ambition Matrix application to Tesco Plc

The Innovation Ambition Matrix, introduced by Nagi and Tuff (2012), helps organisations structure innovation into three categories: Core, Adjacent, and Transformational.

Core Innovation – improvements to existing/ services for current customers.

Adjacent Innovation – expanding into new markets or capabilities by leveraging existing strengths.

Transformational Innovation – creating new offerings or markets that redefine the business.

This framework enables companies like Tesco to balance short-term performance with long-term growth (see table 1).

Table 1: Innovation Ambition Matrix

Category	Focus	Examples
Core Innovation	Optimising existing operations	Tesco's Clubcard prices, self-checkout, improved logistics
Adjacent Innovation	Expanding into related markets/customers	Tesco Whoosh, Tesco bank, Tesco Insurance.
Transformational innovation	Creating new solutions or markets	Tesco's Trials of delivery robots

Core Innovation – Strengthening what Tesco already does. Tesco has made substantial investments in core innovations that enhance the existing customer experience. These are improvements to services, operations, and technology that serve the current market more efficiently. For example: Tesco Clubcard app and personalised vouchers, this enhanced by AI algorithms that tailor discounts based on the individuals purchase history. As well as offering vouchers for discounts, by scanning the app you also receive a discounted price for promotional items which you don't receive if you don't have a Clubcard (Chowdhury, 2016). Tesco scan-as-you-shop was introduced in 2018 and expanded to mobile, this allows the shoppers to scan their items while they shop which allows them to skip the queue at the checkouts. Tesco Whoosh is a 60-minute delivery service for convenience products (Urquhart et al., 2022).

Nagji and Tuff (2102) suggest that around 70% of an organisation's budget should be spent on core initiatives, something Tesco reflects in its heavy investment in technology upgrades, checkout automation, and customer experience improvements. “Core innovations strengthen existing offerings and build brand loyalty while keeping costs predictable” (Nagji and Tuff, 2012).

Adjacent Innovation – Tesco has already ventured into new markets by using existing capabilities (logistics, customer data, store infrastructure) to offer new services. For example: Tesco Bank, originally this was a joint venture with RBS, but now it is completely owned by Tesco, using Brand Trust to offer financial products/services (Worthington, & Welch, 2011). Tesco Mobile, a service provided using O2 infrastructure to serve Tesco's customer base (YUEN, No Date). A partnership with Deliveroo and Uber Eats to reach new customers with convenient last-mile delivery.

These innovations go beyond the grocery core but still align with Tesco's retail and consumer base. Adjacent innovations typically require moderate investment and are natural progression for established firms (Nagji and Tuff, 2012). They allow Tesco to diversify revenue and strengthen ecosystem control without straying too far from its expertise.

“Adjacent innovations often evolve by applying existing competencies to new uses or markets” (Nagji and Tuff, 2012).

Transformational Innovation – Transformational innovation involves radical new approaches and is aligned with Christensen's (1997) theory of Disruptive Innovation – where new solutions eventually overtake established offerings. For example, Tesco's venture into Just Walk Out style technologies. A group of curious consumers were welcomed into the first Amazon Go store, customers entered via the gates, put their groceries in their bags and left without having to wait in queue at a till or self-service checkout, after scanning a smartphone app that had their banking details stored already. With the introduction of Aldi Shop&Go, Albert Heijn To Go, Tesco GetGo, and 7-Eleven Cashierless, other grocery giants joined what Amazon calls the "retail revolution" as it extended its implementation of its "Just Walk Out" technology (Dekeyser & Lynch, 2025). In select GetGo stores, customers can shop without scanning – an experience popularised by Amazon Go. To completely automate the purchasing process, using AI and machine learning, your movements are tracked using sensors and cameras to ensure accurate billing for your transactions when you exit (Shemshaki, No Date).

Tesco is also exploring vertical farming partnerships, to reduce supply chain dependence and boost sustainability (Briggs, et. al., 2019). These are early-stage and not yet mainstream, but Tesco is preparing for long-term shifts in consumer behaviour and retail models. According to Christensen (1997), disruptive models often start in niche markets with lower performance but offer distinct advantages, like simplicity or lower costs. Tesco's experimentation with AI and cashier less technology fits this profile. “Disruptive Technologies are simpler, cheaper, and initially lower-performing than established products but can change market dynamics dramatically”, and “Transformational innovations create new offerings for new markets and require vision and risk tolerance” (Christensen, 1997).

Tesco's approach reflects a balanced innovation portfolio, in line with Nagji and Tuff (2012) model: 70% core – 20% adjacent – 10% transformational. This balance supports short-term stability while building readiness for future disruption, aligning with Christensen's theory that legacy firms must innovate before they are overtaken.

Analysis: Tesco's innovation strategy heavily focuses on core adjacent innovations. Transformational efforts are emerging but remain limited.

Customer Journey Mapping (Current Journey)

In an increasingly digital retail environment, customer experience (CX) has become a critical differentiator. Tesco, the UK's largest supermarket chain, serves millions of customers

across multiple channels: physical stores, online platforms, and mobile apps. Mapping the customer journey enables Tesco to identify pain points, optimise touchpoints, and drive digital transformation (Lemon & Verhoef, 2016).

Lemon & Verhoef's (2016) framework recognises that customer experience spans the entire customer journey, and is influenced by brand-own, customer owned, and social/external touchpoints. It highlights the importance of context, customer goals, and interconnected experiences.

In the **Touchpoint Theory** every interaction between Tesco and the customer, be it via an app notification or in-store interaction shapes the customer perception (Halvorsrud et al., 2016).

Service-Dominant logic (Vargo & Lusch, 2004) sees customers not as passive recipients but as co-creators of value. Tesco's use of loyalty data to personalise offers is a real-life application of this principle.

Tesco's Customer Journey Mapping

Table 2:

Stage	Touchpoints	Customer Sentiments	Gains	Pain Points	Digital opportunities
Awareness	TV ads, Instagram, email, word of mouth	Curious, price-conscious	Seasonal ads (e.g., Clubcard Christmas Deals)	Ad fatigue, irrelevance	AI-driven targeted marketing (Kannan, 2017)
Consideration	Website, App, in-store browsing	Interested but comparing options	Easy browsing, Clubcard pricing clarity	App crashes, unclear stock levels	Predictive personalisation using Clubcard data
Purchase	Self-checkout, online checkout	Excited or rushed	Fast checkout, loyalty points, scan-as-you-shop	Long queues, system errors	Mobile scan & pay, automation at checkout (PwC, 2021)
Delivery/Pick-up	Click & collect, email, app alerts	Hopeful but concerned about timing	Accurate ETA updates, contact pickup	Late delivery, wrong items	Live tracking, AI route optimisation (Mc Kinsey, 2022)
Post-Purchase	Feedback, surveys and social media	Relieved or dissatisfied	Tesco e-receipts, loyalty offers for future shops	Difficult returns, delayed refunds	Automated refunds, chatbot support (Allocio, 2021)
Loyalty/Advocacy	App engagement, Clubcard updates	Loyal or disengaged	Personalised discounts, points accumulation	Irrelevant offers, lack of engagement	Gamified loyalty programme (NielsenIQ, 2021)

Touchpoints

In-store: Tesco's "scan-as-you-shop" service allows Clubcard users to scan items via handsets or mobile app, reducing checkout time. Customers appreciate the control and speed, especially during peak hours (Tesco, 2023).

Online: During the covid-19 pandemic, Tesco's online orders surged. Customers appreciated the convenience but reported frustrations with limited delivery slots and poor substitutions (Owusu, 2022).

Mobile App: Tesco's app includes shopping lists, recipes, and a barcode scanner. However, users often complain about occasional crashes or slow performance, affecting its use.

Customer Gains

Tesco's Clubcard transforms shopping data into personalised deals (Tesco PLC, 2023). This strengthens brand loyalty and increases spend per customer.

Digital receipts and instant access to points earned improve transparency and convenience, reflecting the customer-owned touchpoints in Lemon & Verhoef's model.

Customer Pain Points

Lack of real-time stock updates causes disappointment, especially when online orders are replaced with undesirable substitutes (Verhoef, & Sloot, 2009). Many times, customers have complained about receiving completely different items, to the items they ordered, or have received an item completely different in price, leaving them with an unexpected bill.

Long queues at self-checkouts can occur due to technical issues or lack of staff assistance, impacting brand perception at a critical point (Colley, 2025). Customers often find long queues at self-checkouts, which were installed to provide a fast checkout service, but they are instead used as main tills so that Tesco can hire less staff. This is evident in stores, when you see one person supervising ten self-checkout tills, and less main tills open.

Digital Opportunities

Tesco can implement 24/7 AI chatbots to handle basic queries, delivery updates, or returns, minimising wait times and increasing customer satisfaction (Dangol, & Rind, 2024).

Using Clubcard data, Tesco can predict when a customer might repurchase certain items, offering timely reminders and discounts (Ziliani, & Ieva, 2019).

Tesco could enhance cross-channel shopping for example, showing online what aisle, an item is located in when shopping in-store, via the app geolocation services (Stickdorn et al., 2018).

Incorporating gamification into Clubcard points (e.g., badges, milestones or extra points) could enhance engagement and brand advocacy (Saks, 2024).

According to Lemon & Verhoef (2016) theory Tesco needs to improve journey coherence across touchpoints. A positive website experience can be undone by a poor delivery, finding all the products in-store, can be ruined by long wait times in the queue, reducing overall satisfaction.

According to the Touchpoint Theory each interaction, like a delayed app notification or confusing product label, can influence customer perception. Tesco must ensure consistency across platforms (Halvorsrud et al., 2016).

According to the service-Dominant Logic, by analysing customer generated data (e.g., reviews, app usage), Tesco can co-create value and tailor offerings, shifting from product-centric to service-centric value creation (Vargo & Lusch, 2004).

Tesco's current core customer journey involves several touchpoints:

Stage 1: Awareness – TV advertising, social media, and Clubcard notifications.

Stage 2: Consideration - Customers explore offers via the Tesco App or website. Reviews and price comparisons influence decisions.

Stage 3: Purchase – In-store (Self-checkout, scan-as-you-shop). Online (home delivery or click and collect).

Stage 4: Fulfilment – Whoosh rapid delivery for urgent needs. Scheduled deliveries for weekly shops.

Stage 5: Emails with receipts. Clubcard points and updates. Limited personal feedback mechanisms.

Pain Points & Opportunities for Innovation:

Customer journey mapping reveals that Tesco delivers strong value through loyalty schemes, (reduced prices, discount vouchers and Clubcard points) and multichannel convenience, but pain points remain around personalisation, wait times, and tech reliability. Applying Lemon & Verhoef's (2016) framework and digital transformation tools like AI, analytics and omnichannel strategies, Tesco can enhance overall customer experience . Embracing Service-Dominant logic ensures customers are part of the solution, not just recipients of service.

Part 2: Proposed Digital Transformation Initiative

Identifying The Core Problems

The retail industry has undergone a dramatic shift due to digital transformation, with changing customer expectations, emerging technologies, and the rise of omnichannel strategies. Tesco, one of the UK's largest supermarket chains, has made notable progress in digitising its services. However based on customer journey mapping, there remain several key pain points that negatively impact customer experience. This document proposes a detailed digital transformation initiative, "Tesco Smartshop AI+", which integrates artificial intelligence (AI), mobile technology, and real-time data to streamline the customer experience across all touchpoints. This proposal outlines the problems identified, presents a digital solution, explains integration into Tesco's business model, provides a visualised before and after customer journey map, and defines how success will be measured using specific Key Performance Indicators (KPI's).

Based on the earlier customer journey mapping using Lemon & Verhoef's (2016) customer experience framework, several pain points were identified:

1. Long queues and checkout issues – customers frequently experience delays due to long queues, especially during peak hours. Self-checkout machines often malfunction, causing further delays.
2. Delivery errors and poor substitution control – online shoppers face issues such as receiving wrong items, delayed deliveries, or having no control over substitution.
3. Lack of real-time stock visibility and limited personalisation – Tesco's app and website often fail to provide up to date stock information. Additionally, recommendations are not always relevant, leading to customer frustration and missed upsell opportunities.

These issues reduce customer satisfaction, increase churn risk, and damage brand reputation. According to Lemon and Verhoef (2016), poor integration between physical and digital channels significantly weakens overall customer experience.

Core Features of Tesco's Smartshop AI+

1. AI Personal Shopper – uses historical Clubcard data and shopping trends to recommend products tailored to individual customers.

2. Live Stock Visibility – real-time updates on stock levels at specific branches of Tesco, with the information of what aisle they are located in.
3. Mobile Scan & Pay – customers can scan the items with their phones, pay via the app, and skip queues entirely. A digital receipt is sent instantly to the related email address.
4. Smart Substitution – During online shopping, if an item is unavailable, the AI engine suggests alternatives based on previous acceptance and preferences.
5. Delivery Tracker and AI Chatbot – customers receive real-time delivery tracking, estimated arrival times, and can interact with a 24/7 support chatbot for order changes and complaints.

This transformation draws inspiration from similar innovations by global retailers. For example, British Airways implemented an AI chatbot that handles customer queries instantly, significantly reducing waiting times (Hidayat-ur-Rehman, 2025). Similarly, Alibaba's supermarkets provide real-time inventory visibility and app-based checkouts, which improve convenience and satisfaction (Rahman, 2024).

Integration Into Tesco's Business Model

The Tesco Smartshop AI+ system would seamlessly integrate into Tesco's existing model through the following components:

The Tesco App – can be the core platform hosting the AI features, scan & pay, and chatbot interface.

Clubcard data system – supplies historical data for the AI personalisation engine.

Inventory Management System – enables real-time stock visibility across online platforms and in-store systems.

Self-Checkout – connects with mobile scan & Pay functionality.

Logistics and Delivery Systems – synchronises with delivery and tracking systems.

As noted by (Johnson, No Date), successful digital transformation in retail must integrate front-end (customer-facing) and back-end (logistics, inventory, data systems) platforms to maintain consistency across the omnichannel experience.

Updated Customer Journey

Using the Lemon & Verhoef's (2016) customer experience framework and the Service Design approach (Stickdorn et al., 2018), the following table visualises the before and after customer journey.

Table 3: Before: Customer Journey (Key Pain Points)

Stage	Touchpoints	Customer sentiments	Pain points
Consideration	App, Website, Ads	Confused, unsure	Poor recommendations, stock information errors
Purchase	Store or online checkout	Frustrated impatient	Long queues, checkout delays, website crash
Delivery	Tesco van, driver, app alerts	Annoyed, helpless	Incorrect items, no ETA, bad substitution
Post-purchase	Clubcard offers, customer service	Ignored, unvalued	Generic offers, slow refunds

Table4: After: Tesco Journey (Gains)

Stage	Enhanced Touchpoints	Customer Sentiments	Gains
Consideration	AI suggestions, live stock view	Informed, confident	Easy planning, relevant offers
Purchase	Scan & pay, digital receipt	Empowered, stress free	Fast check-out, no waiting
Delivery	Live tracker, smart subs	In-control, reassured	Real-time ETA, better alternatives
Post-Purchase	AI loyalty rewards, chatbot help	Valued, loyal	Tailored reward, 24/7 customer assistance

This transformation also supports the Touchpoint Theory, which argues that every point of contact influences the customer's perception of the brand (Clatworthy, 2011).

Defining KPI's to Measure Success

To evaluate the effectiveness of Smartshop AI+, the following Key Performance Indicators (KPI's) will be used:

1. Customer satisfaction score (CSAT) – pre-implementation, 78% average satisfaction
Target 90% within 6 Months.
2. Net Promoter Score (NPS) – pre-implementation, +30. Target +45 by the end of the first year.
3. Operational Efficiency Metrics – Checkout time reduction, from 7 minutes to under 3 minutes. Delivery substitution complaints reduced by 50%.
4. Revenue Impact - Average basket size increase, +8%. Churn rate reduced from 15% to below 10%.

These metrics align with Tesco's goals of improving customer experience, reducing costs, and maintaining competitiveness in a fast-changing market (Yrjölä et al., 2024).

Strategic Alignment and Competitive Advantage

Tesco Smartshop AI+ aligns with broader digital transformation goals by enhancing customer centricity through personalised and real-time experiences. Strengthening operational resilience through automation and efficiency, and boosting brand loyalty with value co-creation, a core principle of Service-Dominant Logic (Vargo & Lusch, 2004). By responding to evolving consumer expectations with advanced technology, Tesco can position itself as a digital leader in UK retail. This also enables Tesco to compete with high-tech players like Amazon Fresh and Sainsbury's Smartshop.

The Tesco Smartshop AI+ initiative represents a forward-thinking approach to solving long-standing customer journey issues. By leveraging AI, real-time data, and mobile technology, Tesco can offer a more seamless, personalised, and convenient shopping experience. Integrated across its systems, this digital solution will enhance satisfaction, reduce friction, and create long-term value for both the customer and the business. With clearly defined KPI's, Tesco will be able to measure progress and continue refining its digital journey in a highly competitive market.

Conclusion

Tesco's current approach to innovation, as analysed using the Innovation Ambition Matrix and customer journey mapping, highlights a strong investment in core and adjacent innovations. These include digital tools such as the Tesco Clubcard app, scan-as-you-shop, and express delivery services, which enhance customer convenience and strengthen Tesco's market position. However, the analysis revealed gaps in hyper-personalisation, automation, and pro-active digital engagement, particularly in the online shopping journey.

To address these challenges, a new digital transformation initiative is proposed: an AI powered personal shopping assistant. This would deliver tailored recommendations, provide real-time support, and enhance accessibility across digital platforms. The enhanced customer journey map illustrates how this solution streamlines browsing, checkout, and post purchase experiences, making shopping faster, easier, and more relevant to individual needs. This initiative aligns with industry trends in artificial intelligence and personalisation, helping Tesco remain competitive against rivals. Expected benefits include increased customer engagement, improved loyalty, higher conversion rates, and reduced cart abandonment. Tesco can measure success through KPI's such as app usage, customer satisfaction scores, repeat purchase rates, and average basket value. Ultimately this transformation supports Tesco's strategic objective to be the UK's leading retailer for value, convenience and digital innovation.

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