

Whitepaper

Revolutionising DIY Retail

8 Data Science
Impact Cases
to Transform
your Business
in 2024



1

Post-Pandemic Challenges

DIY Retail Industry Adapts to Shifting Trends and Economic Realities

The DIY retail industry experienced an unprecedented boom during the COVID-19 pandemic, with the European market growing by 6.1% between 2019 and 2021 due to a [surge in demand](#) for home improvement projects.

However, as the pandemic subsides, DIY retailers are facing new challenges such as shifting customer preferences and a difficult macroeconomic environment characterised by sluggish economies, high inflation, and supply chain disruptions.

DIY Retailers are Facing Changing Customer Trends

US DIY retailers Home Depot and Lowe's are experiencing the effect of weakening customer demand which is reflected in their quarterly earnings calls. In the first quarter of 2023, Lowe's comparable [sales fell 4.3%](#) with customers spending less per ticket.

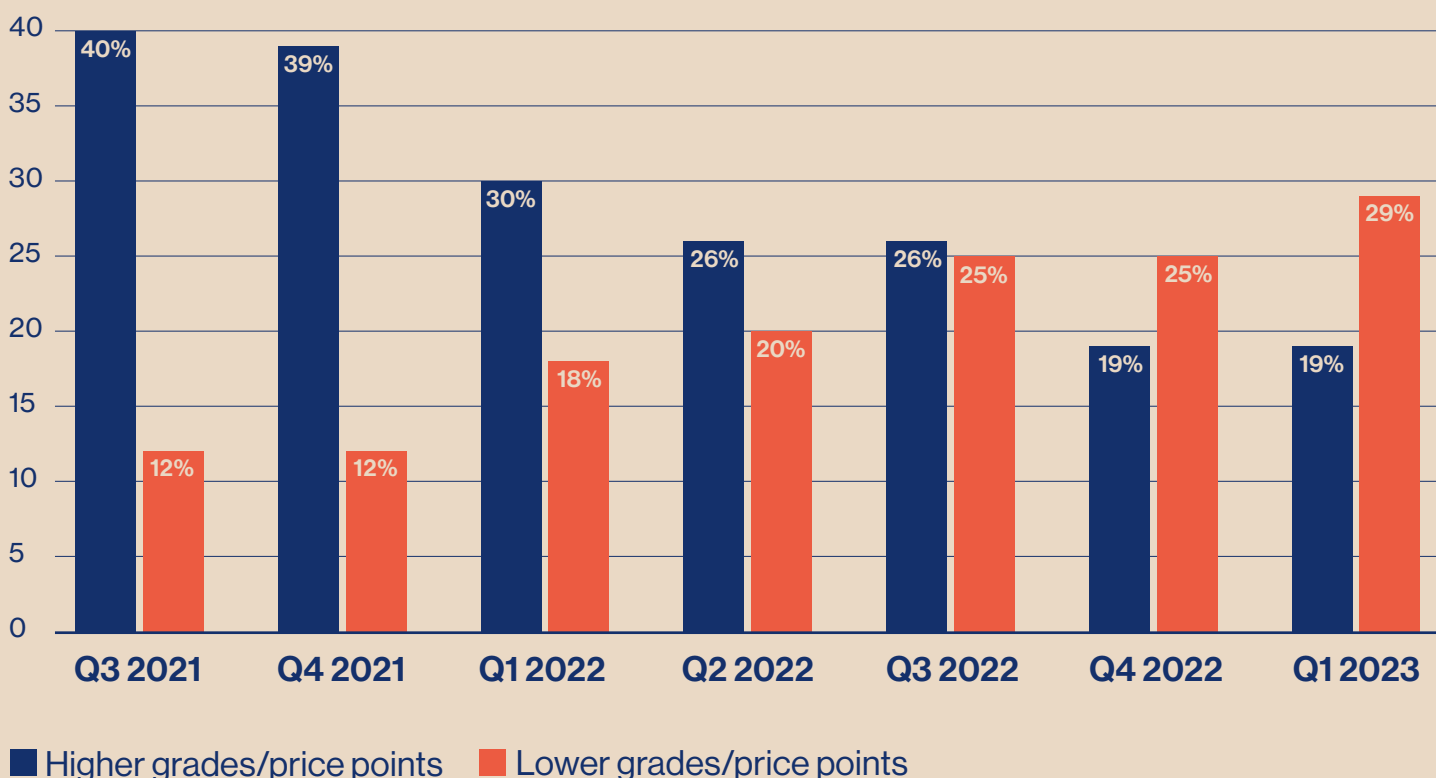
Similarly, Home Depot's sales fell by 4.8% year over year. It is also noteworthy that big-ticket transactions (above \$1,000) decreased by 6.5% compared with last year's [first quarter](#).

Data from John Burns Research and Consulting shows that customers are shifting from high-grade products to lower-cost alternatives.

Additionally, customers are decreasing the size of remodeling and home improvement projects as Ted Decker, CEO of Home Depot describes it: *“Rather than do an entire room or an entire basement, you start working it in smaller chunks, and that clearly impacts items per basket in overall activity.”*

The challenging market situation is not limited to only the United States. Hornbach, one of Germany’s leading DIY retailers, is projecting a decreased operating result of up to 15% for the new fiscal year paired with stagnating sales.

Graphic 01:
Customer demand for remodeling products by price point (%)



Source: John Burns Research and Consulting, US Remodeler Index Survey, March 2023

Unlocking Success: How Data Science Reshapes DIY Retail in 2024

In this challenging DIY retail market context, data science offers a valuable opportunity for DIY retailers to reduce costs, boost profitability and increase sales. The vast amount of data generated in the retail industry, combined with advancements in data science techniques, enables retailers to understand customer behaviour, optimise operations, and ultimately thrive in a rapidly changing market.

By adopting data science, retailers can make data-driven decisions, adapt to changing market conditions, and deliver personalised experiences to customers.

From predictive demand forecasting to price optimisation, customer segmentation to churn prediction, these impact cases harness advanced analytics and artificial intelligence to revolutionise various aspects of the DIY retail ecosystem.

2

Driving DIY Retail Success

Exploring the top 8 Data Science Impact Cases for Thriving amid Challenges

Let's look at the top eight data science impact cases that will help DIY retailers thrive in these challenging times. These impact cases have been categorised into four distinct areas: marketing, customer service, personalisation, and sales & supply chain.

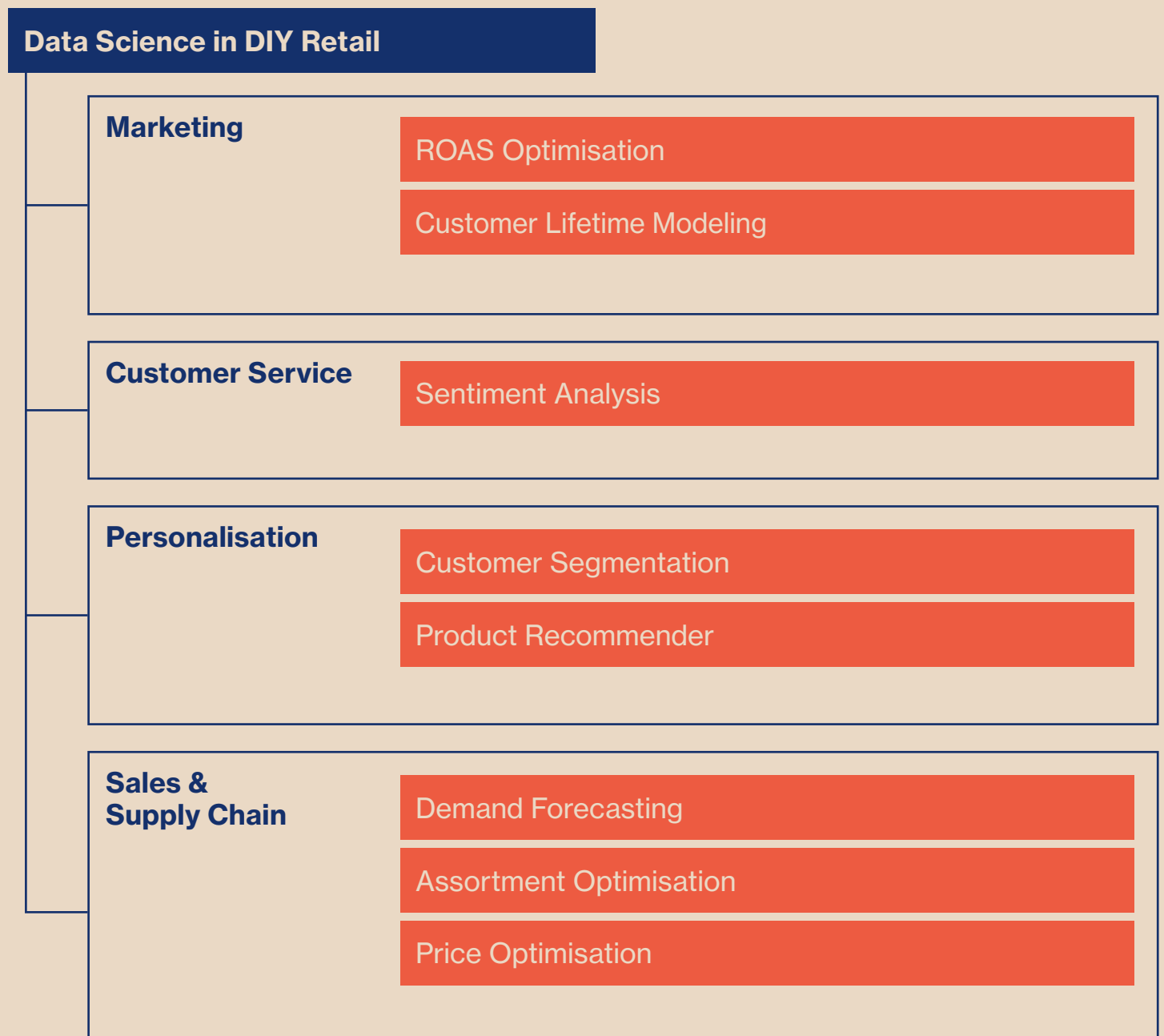
By incorporating these data science impact cases, DIY retailers can proactively address the challenges they are facing, optimise their strategies, and position themselves for sustainable growth in the post-pandemic era and beyond.

As each impact case differs in its impact on the business and its operations, the following illustration provides an estimation of how strongly each case impacts the six areas of revenue generation, profitability, customer experience, supply chain & logistics, operational efficiency, and competitive advantage.

Graphic 02:

Data Science Impact Cases

Organisational Chart by Categories and Challenges

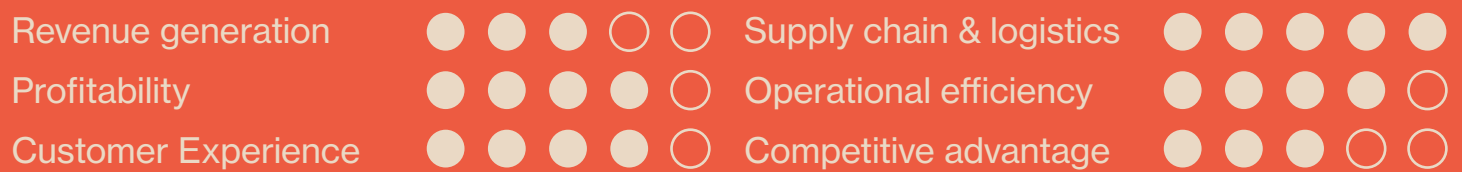


High-level Impact Case Assessment

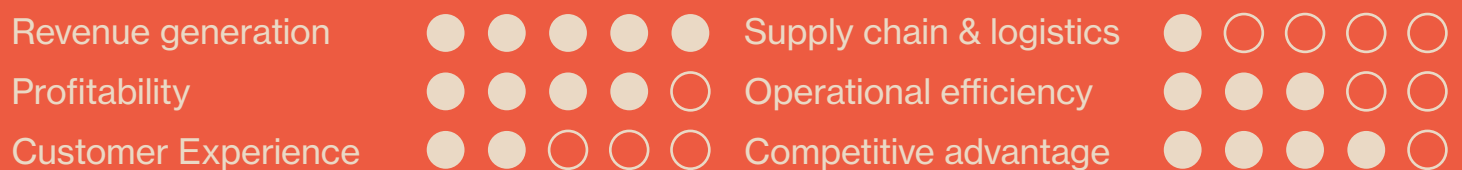
1. Demand Forecasting



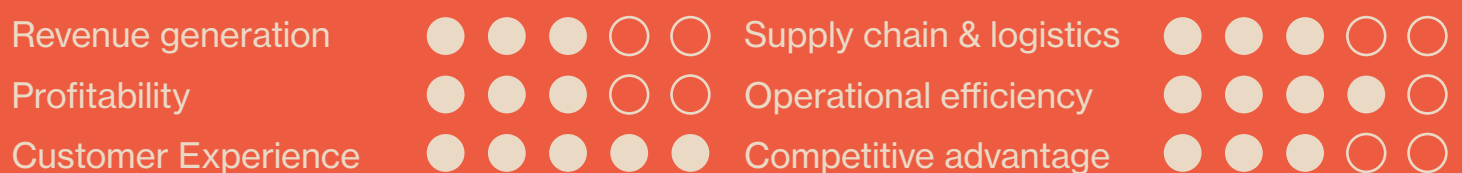
2. Assortment Optimisation



3. Pricing Optimisation

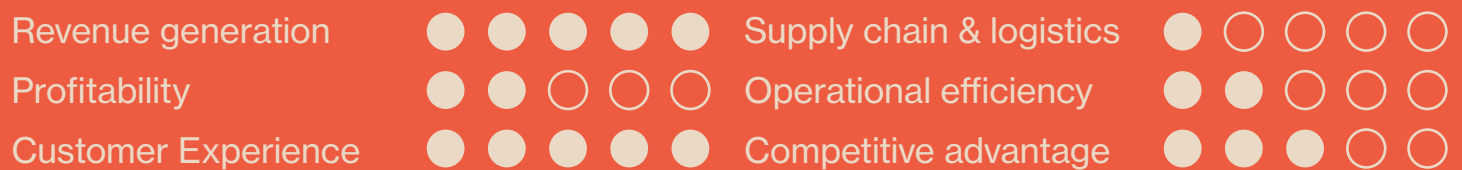


4. Customer Segmentation

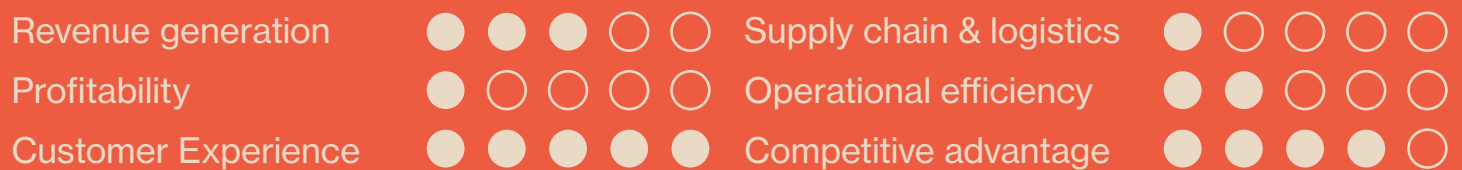


High-level Impact Case Assessment

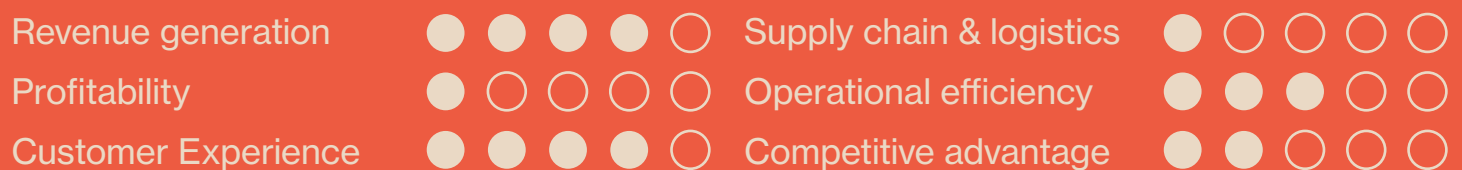
5. Personalised Product Recommendations



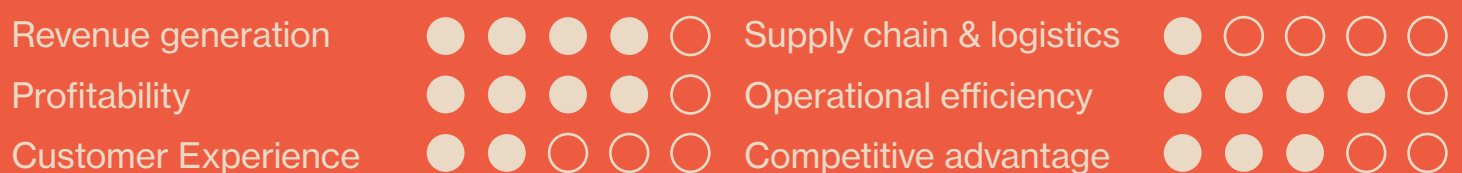
6. Customer Sentiment Analysis



7. Customer Lifetime Modeling



8. Marketing Spend Optimisation





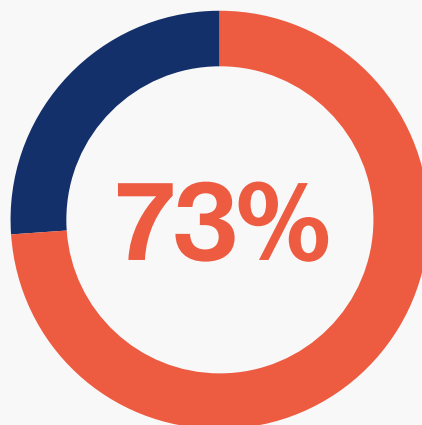
#01

Impact Case: Demand Forecasting

The Key to Meeting Customer Demand and Loyalty in DIY Retail

Demand forecasting is crucial for DIY retailers as it helps meet customer demand and avoid lost sales and decreased loyalty. [Studies](#) show that 46% of customers are likely to switch to a competitor or not make a purchase at all if faced with a stockout. Moreover, 73% of customers are less likely to buy from a brand again if a desired product is unavailable.

On the other hand, maintaining excessive supply results in unnecessary inventory costs and the need for price discounts. Accurate demand forecasts enable DIY retailers to strike the right balance between supply and demand.



of customers are less likely to buy again from a brand if they experience product unavailability.

What are the Benefits of Demand Forecasting?

Accurate demand forecasting offers DIY retailers efficient inventory management, improved customer satisfaction, optimised planning and resource allocation, effective pricing and promotions, and streamlined supply chain operations. Additionally, demand forecasting can aid in strategic decision-making:

- **Efficient Inventory Management:** Accurate demand forecasts help DIY retailers optimise their inventory levels by ensuring the right products are available in the right quantities at the right time. This reduces the risk of stockouts or excess inventory, leading to improved operational efficiency and cost savings.
- **Improved Customer Satisfaction:** By accurately forecasting demand, DIY retailers can meet customer expectations by having products readily available. This reduces customer frustration due to out-of-stock situations and enhances overall customer satisfaction.
- **Better Planning and Resource Allocation:** Demand forecasting allows retailers to plan and allocate resources effectively. By anticipating demand fluctuations, retailers can align their production, procurement, and staffing strategies, accordingly, improving resource utilisation and minimising waste.
- **Optimal Pricing and Promotions:** Demand forecasts enable retailers to set appropriate pricing strategies and plan effective promotions. By understanding demand patterns, retailers can identify opportunities for dynamic pricing and optimise promotional campaigns to maximise revenue and profitability.
- **Optimised Supply Chain:** Accurate demand forecasts facilitate better supply chain management. Retailers can collaborate with suppliers, plan deliveries, and manage inventory levels more effectively, reducing costs and improving overall supply chain efficiency.
- **Strategic Decision-Making:** Demand forecasts provide valuable insights for strategic decision-making, including expansion plans, product assortment decisions, and pricing strategies.





#02

Impact Case: (In-store) Assortment Optimisation

Navigating Seasonal Demands and Maximising Sales in DIY Retail

DIY retailers offer an extensive assortment of products, with around 50,000 products available in-store and around 250,000 products available online. Moreover, these retailers face the challenge of managing seasonal variations in product demand. For instance, garden and balcony products experience peak demand in spring, while autumn sees a decline.

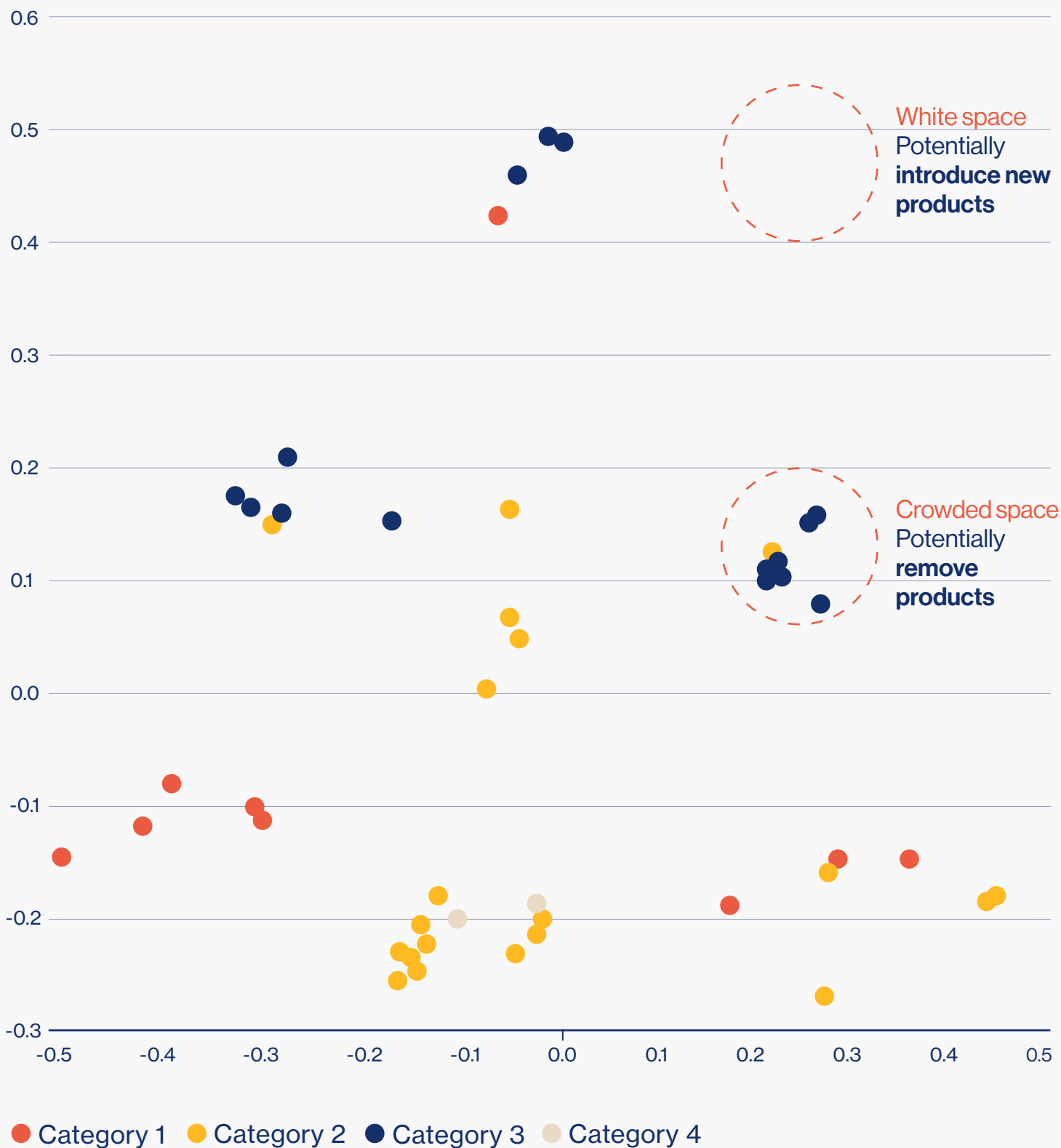
Conversely, the “workshop and tools” category witnesses a surge in demand from late summer, peaking in September and October. Winter, on the other hand, brings a dominant interest in “construction and renovation” products.

As a result, effective optimisation of both in-store and online assortments becomes crucial for DIY retailers, enabling them to maximise sales, enhance customer satisfaction, and improve overall store performance.

By strategically curating the selection available in physical stores, retailers can meet customer expectations, streamline operations, and drive profitability. In a highly competitive retail landscape where customers have numerous alternatives, providing the ideal mix of products becomes paramount.

Graphic 03:

Exemplary analysis and visualisation of a product assortment



What are the Benefits of Assortment Optimisation?

In-store assortment optimisation brings benefits such as increased sales, enhanced customer satisfaction, efficient space utilisation, inventory optimisation, and a competitive advantage for DIY retailers.

- **Increased Sales:** By analysing customer preferences, market trends, and historical sales data, retailers can optimise their in-store assortments to offer the most appealing and relevant products. This leads to increased customer engagement, higher conversion rates, and ultimately, improved sales performance.
- **Enhanced Customer Satisfaction:** By ensuring that the right products are available in-store, DIY retailers can meet customer expectations and provide a seamless shopping experience. This reduces customer frustration due to the unavailability of desired items and fosters long-term loyalty.
- **Efficient Space Utilisation:** Optimising in-store assortments allows retailers to make the most efficient use of physical space. By identifying fast-moving products, slow-moving items, and seasonal trends, retailers can allocate shelf space, accordingly, minimising waste and maximising sales potential.
- **Inventory Optimisation:** By analysing demand patterns and customer preferences, retailers can optimise their inventory levels in physical stores. This helps to reduce excess inventory, minimise stockouts, and improve inventory turnover, leading to cost savings and better-working capital management.
- **Competitive Advantage:** In-store assortment optimisation enables DIY retailers to differentiate themselves from competitors. By understanding customer preferences, identifying gaps in the market, and offering unique product combinations, retailers can attract and retain customers, gaining a competitive edge in the industry.





#03

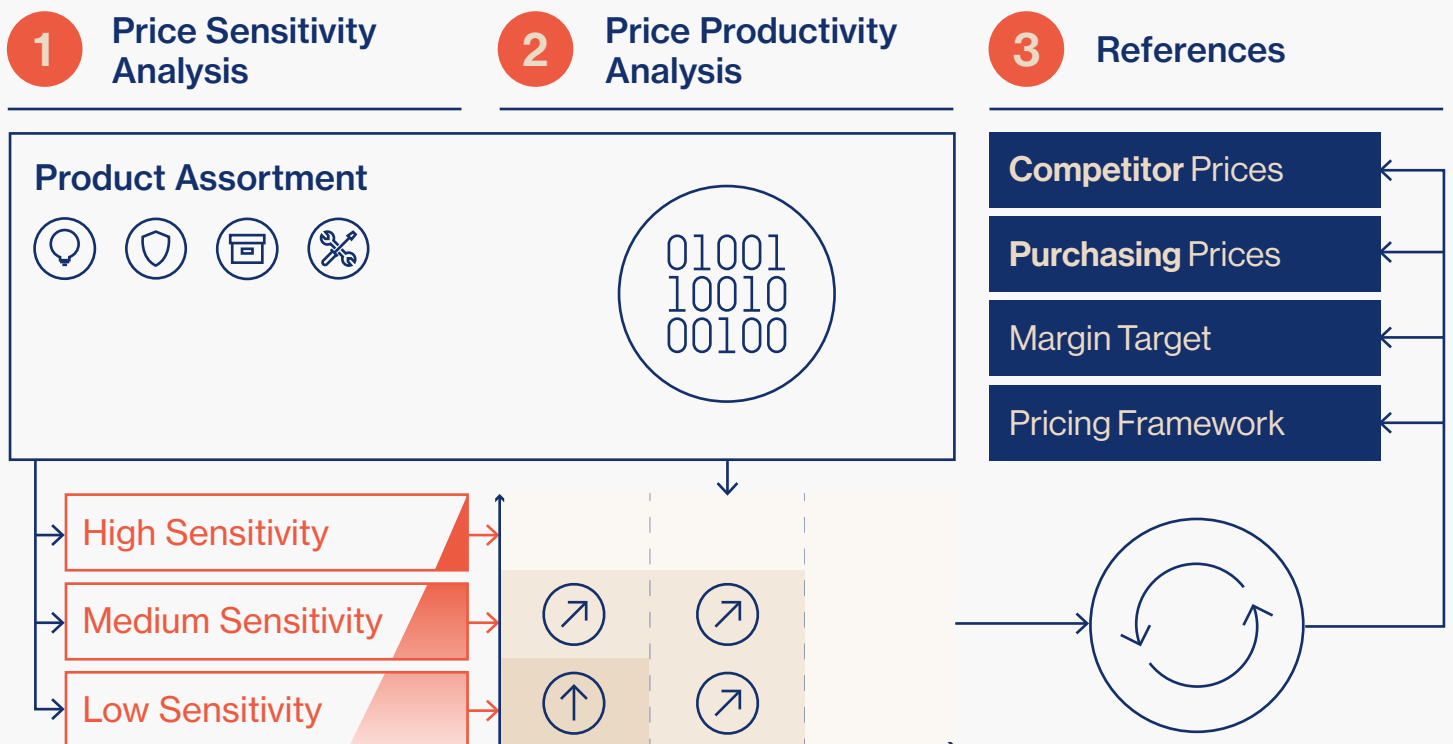
Impact Case: Price Optimisation

Elevating Sales and Profitability in Competitive DIY Retail through Data-Driven Optimisation

In the highly competitive DIY retail landscape, setting optimal prices is essential for driving sales, maximising revenue, and maintaining a competitive edge. Depending on their individual strategy price optimisation enables retailers to strike the right balance between attracting customers with competitive prices and maximising profit margins. By leveraging data science techniques, retailers can optimise pricing strategies to adapt to market dynamics, customer behaviour, and competitive factors.

Graphic 04:

Combining price sensitivity and price productivity for price optimisation



What are the Benefits of Price Optimisation?

Price optimisation brings benefits such as increased profitability, competitive advantage, improved sales performance, dynamic pricing capabilities, and positive customer perception for DIY retailers:

- **Increased Profitability:** Optimising prices ensures that products are priced appropriately to maximise profit margins. By considering factors such as product demand, market conditions, and customer behaviour, retailers can identify pricing strategies that optimise revenue while remaining competitive.
- **Competitive Advantage:** Price optimisation enables retailers to position themselves competitively in the market. By understanding customer price sensitivity, analysing competitor pricing strategies, and identifying market trends, retailers can set prices that attract customers while maintaining profitability.
- **Improved Sales Performance:** Setting prices at optimal levels can lead to increased sales volume. By identifying price elasticity and demand patterns, retailers can strategically adjust prices to encourage customer purchases, leading to improved sales performance.
- **Dynamic Pricing:** Price optimisation allows for dynamic pricing, which involves adjusting prices in real time based on factors such as demand fluctuations, inventory levels, and market conditions. This enables retailers to capitalise on pricing opportunities and maximise revenue potential.
- **Customer Perception:** Optimised pricing strategies can positively impact customer perception. By offering competitive prices, discounts, and promotions that align with customer preferences, retailers can enhance customer satisfaction and build loyalty.





#04

Impact Case: Customer Segmentation

Strategies for Personalised Experiences in DIY Retail

Understanding the diverse needs and preferences of customers is essential for DIY retailers to deliver personalised experiences and targeted marketing campaigns.

Customer segmentation allows retailers to identify different customer segments and tailor their strategies accordingly. By segmenting customers based on demographics, buying patterns, preferences, and other relevant factors, retailers can create more relevant and impactful interactions with their customer base.

For example, hobby gardeners have established themselves as an online-savvy, affluent target group, as opposed to professional users. The typical customers in this segment are women and men between the ages of 25 and 65, mostly living in residential areas, suburbs, and rural areas.

What are the Benefits of Customer Segmentation?

Customer segmentation in the DIY retail industry brings a range of benefits, including personalised marketing to target specific customer segments, enhancing the overall customer experience, enabling targeted product development, fostering customer retention through tailored strategies, and optimising resource allocation based on high-value segments.

- **Personalised Marketing:** Customer segmentation allows retailers to personalise their marketing efforts by targeting specific customer segments with tailored messages, promotions, and product recommendations. This improves customer engagement and enhances the likelihood of conversions.
- **Improved Customer Experiences:** By understanding the unique needs and preferences of different customer segments, retailers can provide a more personalised and relevant shopping experience. This leads to higher customer satisfaction, increased loyalty, and improved retention rates.
- **Targeted Product Offerings:** Customer segmentation helps retailers identify specific customer needs and preferences, enabling them to offer products that align with those segments. This reduces the risk of introducing products that do not resonate with the target market and increases the chances of success.
- **Enhanced Customer Retention:** By understanding customer segments and their behaviours, retailers can implement retention strategies targeted at specific segments. This includes loyalty programs, personalised offers, and proactive customer support, fostering long-term customer relationship.
- **Optimal Resource Allocation:** Customer segmentation enables retailers to allocate resources effectively by focusing on high-value customer segments. This ensures that marketing efforts, product assortment, and customer service initiatives are aligned with the segments that generate the most revenue and provide the highest lifetime value.





#05

Impact Case: Personalised Product Recommendations

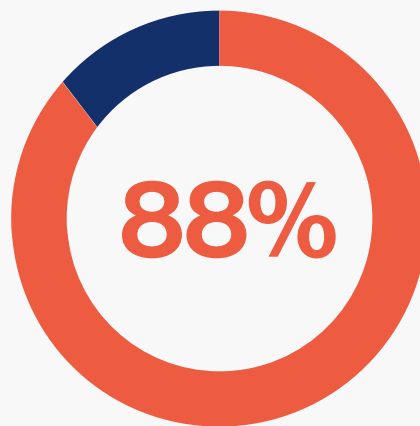
Driving Customer Engagement and Cart Value

Personalised product recommendations play a vital role in assisting customers during their shopping journey. In the DIY industry, the average online shopping cart value is **€156**. Personalised product recommendations are a key initiative to increase this value.

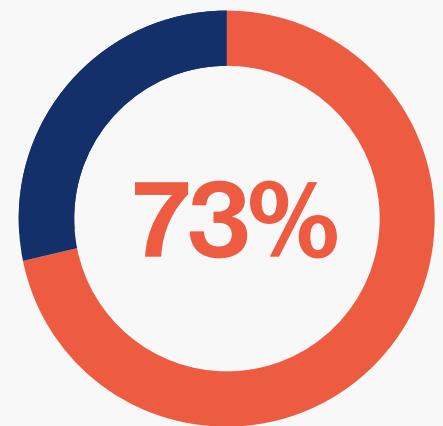
By leveraging data science techniques, DIY retailers can analyse customer data and preferences to offer tailored recommendations that align with each customer's unique needs and interests. This personalised approach not only enhances customer satisfaction but also drives increased conversions and customer loyalty.

1. Salesforce, State of the Connected Customer, 5th Edition, June 2023

The below statistics from Salesforce's State of the Connected Customer report¹ further emphasise this point.



of customers say the experience a company provides is as important as its product/services.



of customers expect companies to understand their unique needs or expectations.

What are the Benefits of Personalised Product Recommendations?

Personalised product recommendations offer a range of benefits for DIY retailers, including enhanced customer engagement, increased sales and conversions, improved customer satisfaction, optimisation of product assortment, and improved customer retention and loyalty.

- **Enhanced Customer Engagement:** By providing personalised recommendations, DIY retailers can capture the attention and interest of customers, increasing engagement and time spent on their e-commerce platforms. This leads to a more immersive shopping experience and a higher likelihood of making a purchase.
- **Increased Sales and Conversions:** Personalised product recommendations have been proven to significantly impact sales. By suggesting relevant and complementary products based on individual preferences and browsing history, retailers can effectively upsell and cross-sell, driving higher average order values and conversion rates.
- **Improved Customer Satisfaction:** When customers receive product recommendations that resonate with their preferences and needs, they feel understood and valued. This improves overall customer satisfaction and fosters a positive perception of the retailer, increasing the likelihood of repeat purchases and positive word-of-mouth.
- **Optimisation of Product Assortment:** Personalised product recommendations provide valuable insights into customer preferences and popular product combinations. Retailers can leverage this information to optimise their product assortment, ensuring that high-demand products are readily available and aligned with customer expectations.
- **Customer Retention and Loyalty:** By consistently delivering personalised recommendations, DIY retailers can build strong customer relationships and foster loyalty. Customers who receive relevant and valuable recommendations are more likely to return to the retailer for future purchases, increasing customer retention rates and lifetime value.





#06

Impact Case: Customer Sentiment Analysis

Enhancing Retail Experience by Listening to Customers

Customer sentiment analysis allows retailers to gauge customer satisfaction levels, enabling them to identify areas for improvement and enhance the overall customer experience.

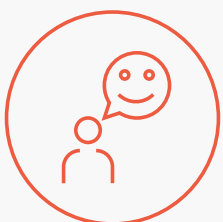
By analysing customer sentiment, retailers can gain valuable insights into how customers perceive their brand, products, and services.



What are the Benefits of Customer Sentiment Analysis?

Customer sentiment analysis offers valuable benefits for DIY retailers. It helps measure customer satisfaction, identify brand advocates and detractors, enhance product development, improve customer service, and monitor brand reputation.

- **Measure Customer Satisfaction:** Customer sentiment analysis provides a quantitative and qualitative understanding of customer satisfaction levels, enabling retailers to assess how customers perceive their brand and identify pain points for improvement.
- **Identify Brand Advocates and Detractors:** By analysing sentiment, retailers can identify both their brand advocates and detractors. This information helps them nurture relationships with satisfied customers and address concerns raised by dissatisfied customers to prevent negative word-of-mouth.
- **Enhance Product Development:** Customer sentiment analysis offers insights into customer preferences, expectations, and opinions about specific products or product categories. Retailers can use this information to refine their product offerings, develop new products, and align their strategies with customer demands.
- **Improve Customer Service:** Sentiment analysis enables DIY retailers to identify recurring issues or challenges faced by customers. By addressing these issues proactively, retailers can enhance their customer service, resulting in improved customer satisfaction and loyalty.
- **Monitor Brand Reputation:** By monitoring customer sentiment across various channels, retailers can track their brand reputation in real time. This allows them to promptly address negative sentiment and engage with customers to resolve their concerns, preserving a positive brand image





#07

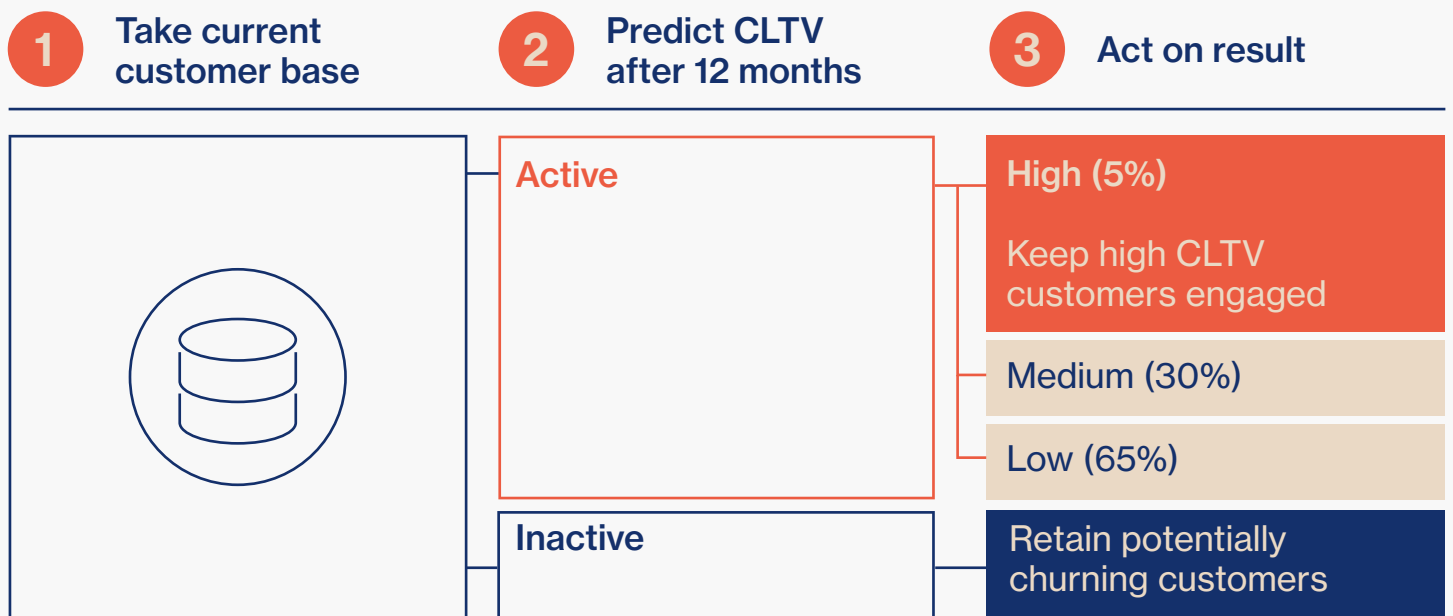
Impact Case: Customer Lifetime Modeling

Unlocking Long-term Success through Strategic Initiative

Customer lifetime modeling is of great importance for DIY retailers as it enables them to understand and predict customer behaviour over their entire lifecycle. By analysing historical customer data and applying predictive modeling techniques, retailers can estimate the potential value of each customer and make data-driven decisions to maximise customer lifetime value.

Understanding customer lifetime value helps retailers allocate resources effectively, tailor marketing strategies, and prioritise customer retention efforts. It allows DIY retailers to identify their most valuable customers, enhance customer loyalty, and optimise their business strategies for long-term success.

Graphic 05: Customer Lifetime Value Analysis



What are the Benefits of Customer Lifetime Modeling?

Customer lifetime modeling offers significant benefits for DIY retailers. It enables customer segmentation, improves customer acquisition and retention strategies, optimises resource allocation, and enhances personalisation for an improved customer experience.

- **Customer Segmentation:** Customer lifetime modeling helps retailers segment their customer base into distinct groups based on their predicted lifetime value. This segmentation enables targeted marketing efforts, personalised communication, and tailored product offerings to different customer segments.
- **Customer Acquisition:** By identifying high-value customer segments, DIY retailers can focus their acquisition efforts on acquiring similar customer profiles. This allows for more efficient marketing campaigns, higher conversion rates, and improved return on investment (ROI) for customer acquisition activities.
- **Customer Retention:** Customer lifetime modeling assists retailers in understanding the drivers of customer churn and developing proactive retention strategies. By predicting the likelihood of customer churn, retailers can implement targeted retention initiatives, such as personalised offers, loyalty programs, and exceptional customer service, to increase customer loyalty and reduce churn.
- **Resource Allocation:** Knowing the projected value of customers throughout their lifecycle helps retailers allocate resources effectively. It enables them to invest in customer acquisition, retention programs, and customer service initiatives based on the expected long-term returns, optimising resource allocation and improving overall profitability.
- **Personalisation:** Customer lifetime modeling allows DIY retailers to personalise the customer experience by understanding individual customer preferences, needs, and purchasing patterns. By tailoring offers, recommendations, and communications to each customer's specific preferences, retailers can enhance customer satisfaction and drive repeat purchases.





#08

Impact Case: Marketing Spend Optimisation

Maximising Returns through Strategic Spend Optimisation

Marketing spend (ROAS) optimisation is crucial for DIY retailers as it enables them to maximise the return on their marketing investments and allocate their budget effectively. According to ad-tech partner Solute, Google Shopping Ads are the essential advertising channel, generating one-third of all sales. However, the Microsoft network is equally important, which attracts a rather affluent target audience. Nevertheless, Amazon remains just as relevant as a marketplace and advertising platform.

By analysing the performance of different marketing channels, campaigns, and initiatives, retailers can identify the most effective strategies to drive revenue growth, increase brand awareness, and attract new customers. In an increasingly competitive market, where budgets are limited, optimising marketing spend becomes a strategic advantage. It allows DIY retailers to allocate their resources wisely, focus on the channels that yield the highest return on ad spend (ROAS), and continuously refine their marketing strategies to achieve optimal results.

What are the Benefits of Marketing Spend Optimisation?

Implementing marketing spend (ROAS) optimisation provides DIY retailers with several benefits such as improved cost efficiency, better performance tracking, targeted marketing efforts, optimised resource allocation and identification of scalable strategies:

- **Cost Efficiency:** By identifying the marketing channels and campaigns that generate the highest return on investment (ROI), retailers can optimise their marketing spend and allocate resources to the most effective channels. This helps minimise wasteful spending and improve cost efficiency.
- **Performance Tracking:** Marketing Spend Optimisation allows retailers to track and measure the performance of their marketing efforts accurately. By analysing key performance indicators (KPIs) such as ROAS, customer acquisition cost (CAC), conversion rates, and customer lifetime value (CLTV), retailers can make data-driven decisions to optimise their marketing strategies.
- **Targeted Marketing:** By understanding the effectiveness of different marketing channels and campaigns, retailers can target their marketing efforts to reach the most relevant and responsive audiences. This enables personalised messaging, targeted promotions, and improved customer engagement, resulting in higher conversion rates and customer satisfaction.
- **Resource Allocation:** Optimisation of marketing spend enables DIY retailers to allocate their budget effectively across various marketing channels and initiatives. It helps them determine the optimal distribution of resources based on the performance of each channel, ensuring maximum impact and improved ROAS.
- **Scalability:** By optimising marketing spend, retailers can identify scalable strategies that deliver consistent results. This allows for effective budget planning and scalability of marketing efforts as the business grows.



Implementing a Data Science Impact Case

Implementing a data science impact case typically involves several key steps. While the exact process will vary depending on the specific project and organisation, there is a general outline of the steps involved. However, these steps are not strictly linear and may require iterations, adjustments, and refinements throughout the process.

1. Define the problem:

The first step in implementing a data science impact case is to define the problem. Clearly articulate the specific business problem or objective. Engage in discussions with stakeholders to gather their input and expectations. Understand the requirements, goals, and desired outcomes of the project. It is crucial to have a clear understanding of what needs to be achieved and define the criteria for evaluating the success of the project.

2. Gather and prepare data:

The next step is to gather and prepare the data. Identify relevant data sources that contain the necessary information. Collect the data from these sources while ensuring quality and integrity. Pre-process the data by cleaning, transforming, and integrating it to make it suitable for analysis. This step may involve handling missing values, outliers, and performing data normalisation to ensure the data is in a consistent format.

- 3. Develop and validate the model:**

After preparing the data, the next step is to develop and validate the model. Select an appropriate modeling technique based on the problem statement and the nature of the data. This could involve techniques such as regression, classification, clustering, or time series analysis. Apply the selected algorithm or modeling technique and evaluate its performance using relevant metrics.
- 4. Deploy the model:**

Once the model is developed and validated, it needs to be deployed in a production environment or integrated into the existing infrastructure. Ensure the model is compatible with the deployment platform or system. Implement the necessary data pipelines or interfaces to feed new, unseen data to the model. Test the model's functionality and performance in the production environment to ensure it operates as expected.
- 5. Monitor and maintain:**

After deploying the model, it is crucial to continuously monitor and maintain its performance. This involves monitoring the model's predictions or insights in the deployed environment. Evaluate the model's accuracy, reliability, and any potential drift or degradation in performance. If necessary, update and retrain the model to adapt to changing data patterns or business requirements.

4

Key Takeaways

Enabling Data Science to create an Impact in DIY Retail

Data science is revolutionising the DIY retail industry by empowering retailers to make data-driven decisions, enhance customer experiences, optimise operations, and drive business growth.

By harnessing the power of advanced analytics and machine learning DIY retailers can unlock valuable insights, uncover hidden opportunities, and stay ahead in a constantly evolving market.

Embracing data science is no longer an option but a necessity for retailers looking to thrive and stay ahead of the competition. With its ability to unlock the full potential of data, data science is shaping the future of DIY retail, enabling retailers to innovate, adapt, and succeed in a dynamic and customer-centric industry.

Ready to dive into the future of retail?

Connect with our experts today
to begin your data science
transformation journey!

Metyis is a global, dynamic and forward-thinking firm operating across a wide range of industries, that develops and delivers Big Data, Digital Commerce, Marketing and Design solutions, and provides Advisory services. Metyis brings long-lasting impact and growth to its business partners and clients with a distinctive long-term partnership model. Metyis has offices in 15 locations, with a talent pool of over 1000 employees and more than 50 nationalities.



Pieter Haas
Partner

+49 151 1951 8398
pieter.haas@metyis.com



Björn Höfer
Big Data & Analytics Principal

+49 160 903 700 78
bjoern.hoefer@metyis.com

metyis.com