



Data Visualisation & Forecasting Project

J Leader



Executive Summary

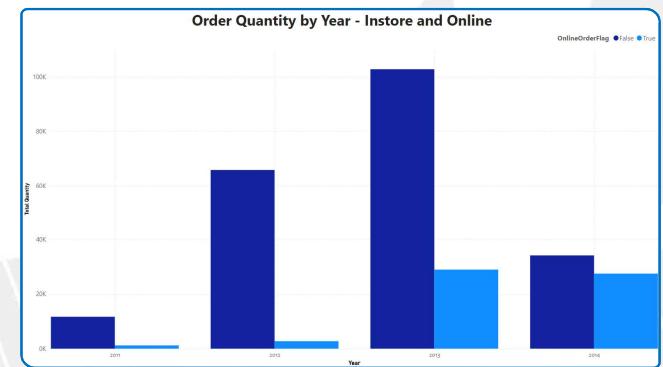
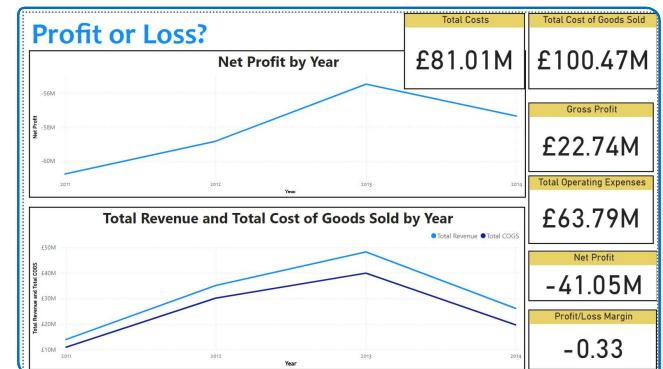
Adventure Hardware Group (AHG) is positioned at a pivotal moment, as shifts in customer behaviour and market trends reveal a growing preference for digital shopping channels. Although in-store sales continue to be a substantial revenue driver for AHG, particularly in high-performing regions, online sales are increasingly gaining traction.

This underscores the necessity of adopting a hybrid strategy that not only enhances AHG's digital presence but also optimises in-store performance. By leveraging the strengths of both channels, AHG can effectively capitalise on emerging online trends while maintaining the robust sales from its physical locations.

This report outlines a strategic approach to leverage AHG's digital opportunities, optimise regional performance, and address cost efficiency challenges for sustained growth.

Key Findings and Insights:

- Digital Shift:** Online sales have shown consistent growth, while in-store sales are gradually declining. This trend mirrors broader consumer shifts towards digital, highlighting the need for a robust digital-first strategy.
- Regional Sales Variability:** Strong demand in regions like the Southwest and Northwest contrasts with underperformance in others, indicating a need for region-specific strategies to capitalise on local preferences and improve weaker areas.
- High-Value Transaction Behaviour:** AHG's customers favour high-value purchases, particularly online, pointing to an opportunity to promote premium products and tailor marketing strategies to high-spend customer segments.
- Cost Challenges:** High operating costs and production expenses are limiting profitability, underscoring the importance of cost optimisation and operational efficiency to support financial health and growth.

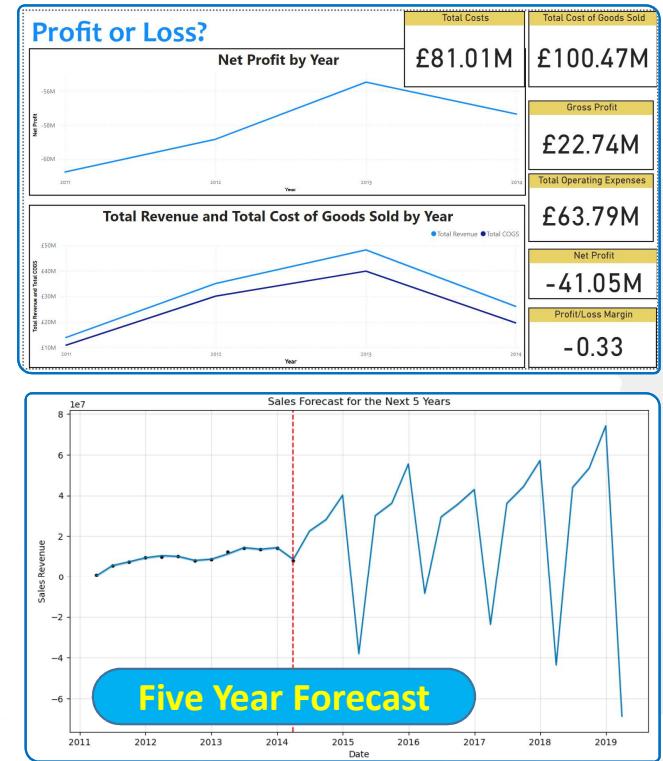


Executive Summary

Strategic Recommendations:

- Digital and Omnichannel Focus:** AHG should adopt a digital-first strategy, enhancing its online presence with a seamless customer experience across digital platforms. Retaining a strategic physical presence in key regions, stores can complement online channels through services like click-and-collect and in-store returns.
- Targeted Regional Marketing:** By aligning product offerings and promotions to regional demand patterns, AHG can maximise the potential in high-performing areas while stimulating growth in underperforming regions.
- Refined Discount and Loyalty Programmes:** Employing data-driven insights, AHG should focus discounts on products with high responsiveness, and develop loyalty initiatives that reward repeat customers, particularly those with higher spending patterns.
- Investment in Business Intelligence (BI):** Implementing a BI system with real-time analytics will provide AHG with the insights needed for agile decision-making, supporting both market responsiveness and operational efficiency.

Conclusion: AHG has a significant opportunity to drive growth by embracing a balanced, digital-focused strategy that leverages its physical stores as complementary assets. By prioritising digital engagement, optimising regional approaches, and enhancing data-driven operations, AHG is well-equipped to meet evolving customer expectations, improve profitability, and strengthen its position in a competitive marketplace



Summary

1. Introduction

2. Defining the Problem and Structuring the Solution
3. Cost Efficiency and Operational Improvements
4. Sales Forecasting and Market Growth Analysis
5. Product and Regional Performance Analysis
6. Product Association and Market Basket Analysis
7. Digital Strategy and Channel Optimisation
8. Business Intelligence and Visualisation System Design
9. Conclusion and Strategic Recommendations



1. Introduction

- Adventure Hardware Group (AHG) is a global manufacturing organisation with operations in America, Europe and Asia.
- AHG has been experiencing a shift in the market place towards digital as well as change in customer demographic, possibly leading to decline in its store sales.
- To make the strategic shift toward a greater digital share of wallet and overall growth, AHG
- Adventure Hardware Group (AHG) is positioned at a pivotal moment, as shifts in customer behaviour and market trends reveal a growing preference for digital shopping channels.
- While AHG's in-store sales have historically driven revenue, online sales are gaining momentum, suggesting a need to expand and refine its digital presence to maintain competitive advantage.
- This report outlines a strategic approach to leverage AHG's digital opportunities, optimise regional performance, and address cost efficiency challenges for sustained growth.

The Goal Of This Project

- The goal is to create commercial action plan as well as an integrated data visualisation and a dynamic analytics system using traditional software tools.

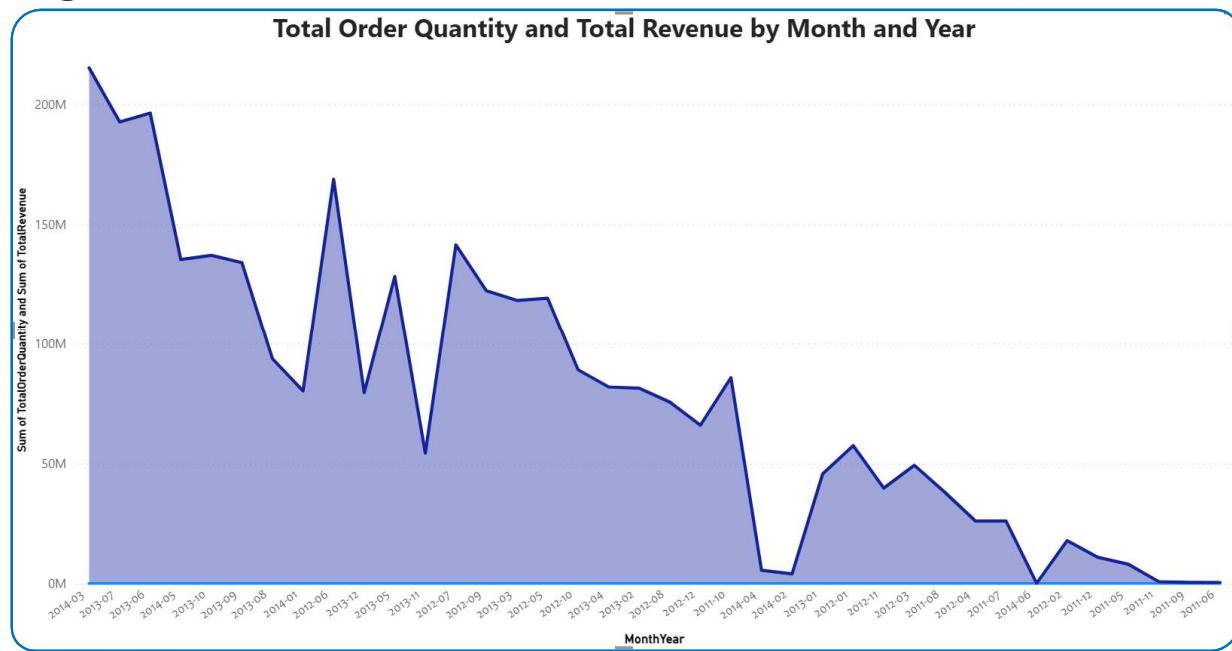


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2. Defining the Problem and Structuring the Solution

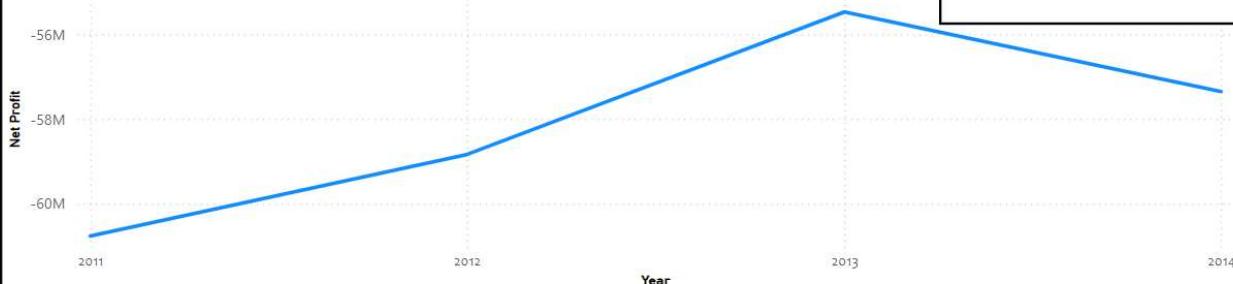


- Early 2012 shows high levels of activity, possibly due to seasonal effects, new product launches, or promotional efforts.
- Mid-2013 and early 2014 both have sharp drops, indicating either seasonal downturns, operational changes, or one-off impacts on order volumes.
- By late 2014, the levels appear to stabilize but remain lower than early 2012.

Is The Business Making Profit?

Profit or Loss?

Net Profit by Year



Total Costs

£81.01M

Total Cost of Goods Sold

£100.47M

Gross Profit

£22.74M

Total Operating Expenses

£63.79M

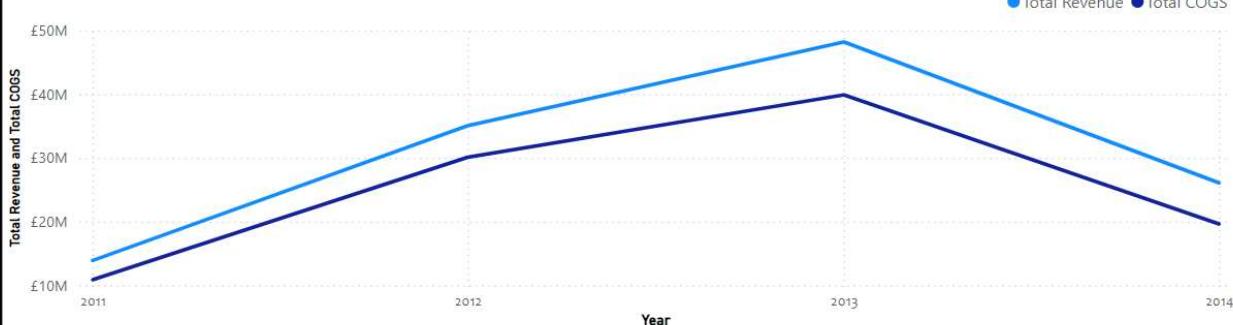
Net Profit

-41.05M

Profit/Loss Margin

-0.33

Total Revenue and Total Cost of Goods Sold by Year



*It was
until
2013*



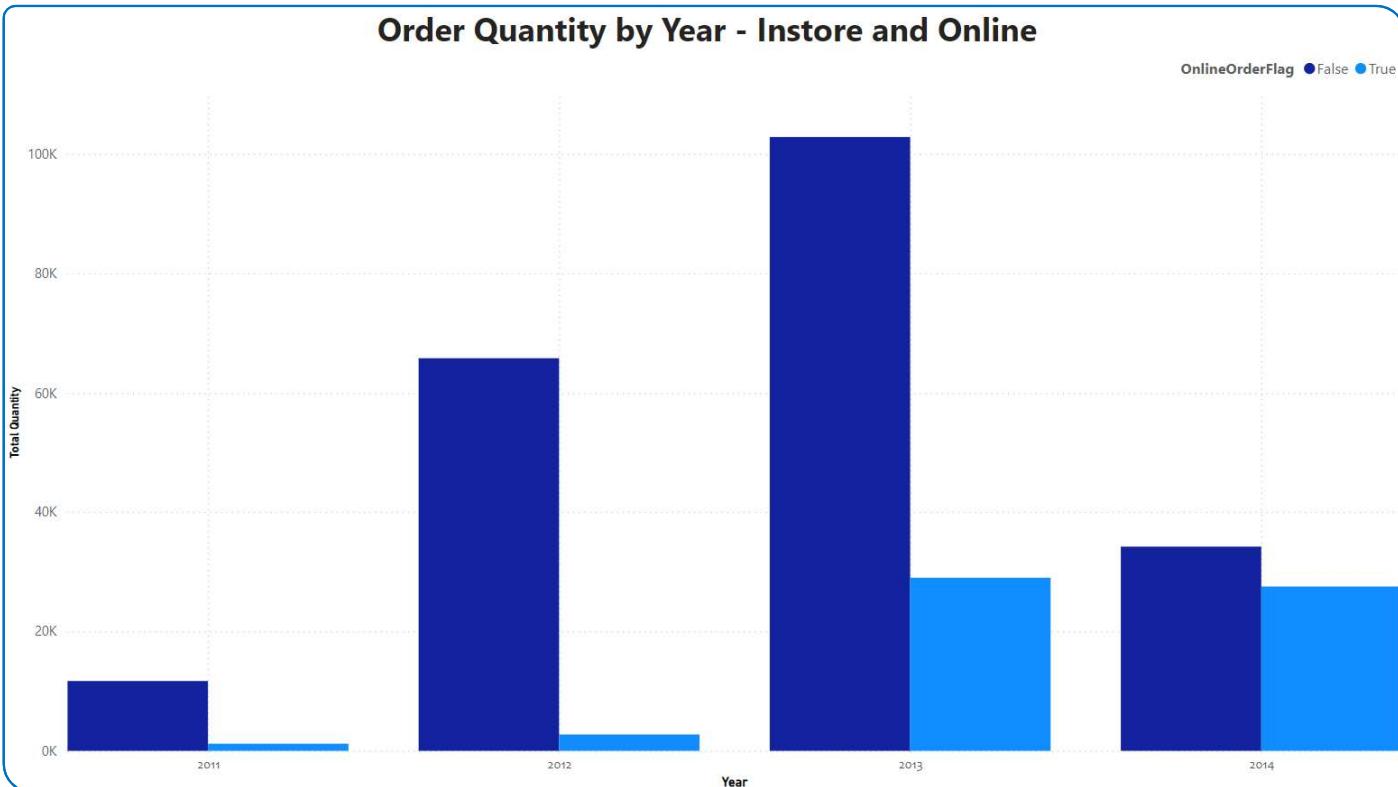
STACKWISER

Is there a shift towards Digital?

YES

Insights and Implications:

- Digital Transition:** The growth in online orders each year indicates a gradual shift toward digital channels. Though in-store sales have historically driven revenue, the steady rise in online orders suggests that AHG should invest in digital expansion.
- Customer Purchase Behavior:** The data shows high-value transactions, meaning customers often purchase higher-priced items. This behavior may favor digital channels, where larger purchases are increasingly common.
- Strategic Recommendations:** To keep pace with changing customer preferences, AHG should consider focusing on digital growth. Expanding online sales and enhancing the digital customer experience could leverage the observed shift, potentially offsetting in-store sales declines.

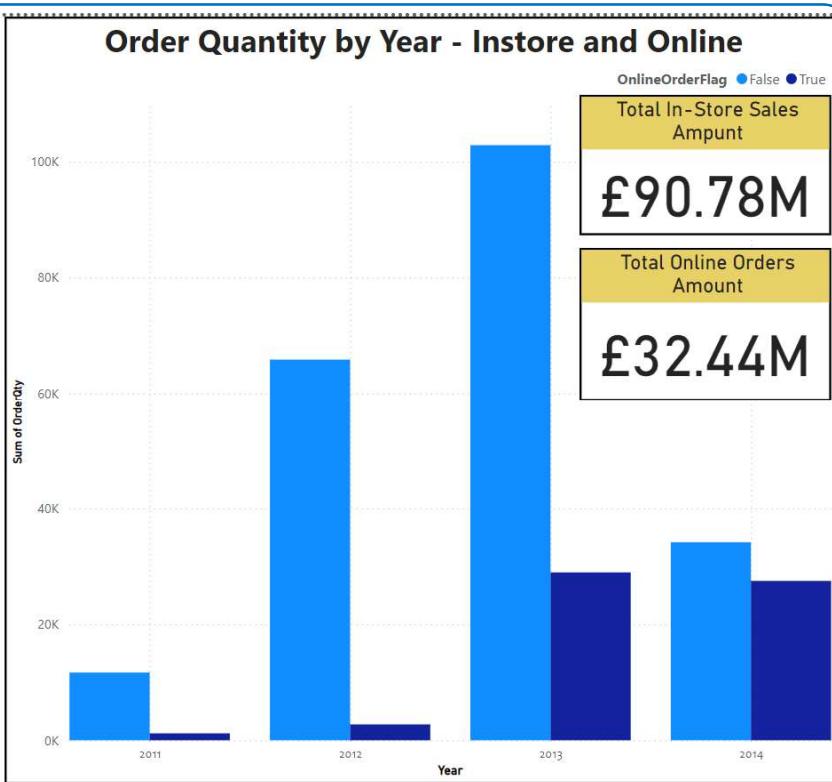


Is there a shift towards Digital?



Store Sales Vs Online

Average Transactions Per Customer	1.65
Average Spend Per Transaction	£3.92K
Total Online Volume	60K
Total In-Store Sales Volume	215K



Total Sales Amounts

Total In-Store Sales Amount: £90.78M, showing that in-store sales still account for the majority of AHG's revenue.

Total Online Orders Amount: £32.44M, representing a growing but still smaller portion of total revenue.

Insights

Shift Toward Digital: While in-store sales remain higher in volume and total revenue, there's a clear upward trend in online orders since 2013.

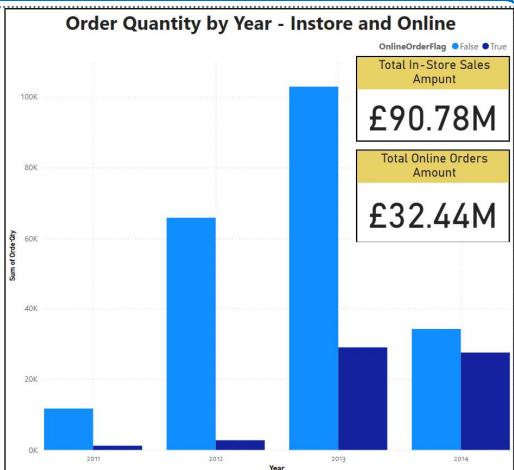
High Customer Spend: The high average spend per customer suggests that AHG's customers make fewer but high-value purchases, which could be a promising sign for online sales expansion.

Is there a shift towards Digital?



Store Sales Vs Online

Average Transactions Per Customer	1.65
Average Spend Per Transaction	£3.92K
Total Online Volume	60K
Total In-Store Sales Volume	215K
Average Spend Per Customer	£6.44K



Insights and Implications:

- Digital Transition:** The high revenue from in-store sales compared to online suggests that traditional retail still dominates. However, the steady increase in online orders year over year indicates a shift towards digital channels.
- Customer Purchase Behavior:** The average transactions per customer and average spend per transaction show that customers are likely purchasing high-value items, given the relatively high average spend.
- Market Strategy:** The data may imply a need to focus on digital expansion, as online orders appear to provide a growing portion of revenue despite lower total amounts compared to in-store sales.

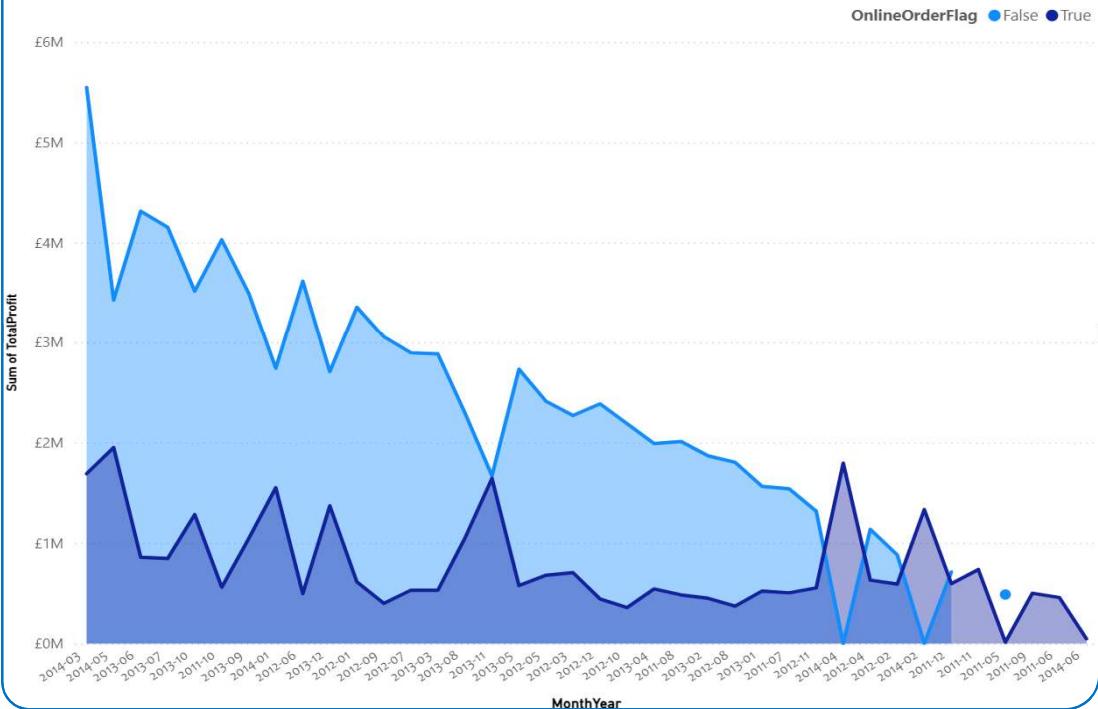
Year-by-Year Trends: In **2011**, both online and in-store sales volumes appear to be low.

2012 shows a significant rise in in-store orders, indicating a peak year for physical sales, with online orders still relatively low.

By **2013**, in-store sales remain high, but there is a visible increase in online orders, suggesting a shift towards digital channels.

2014 sees a decrease in in-store sales, while online sales seem to maintain a steady volume, possibly indicating that digital sales are starting to stabilise or become a larger focus.

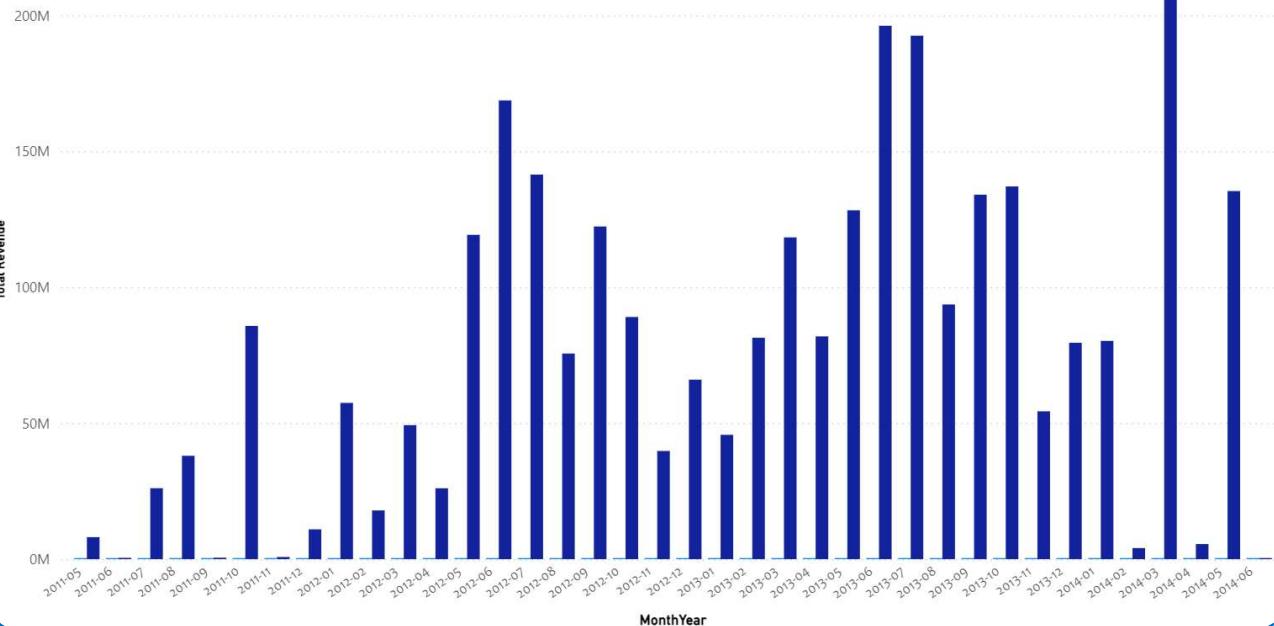
Profit Breakdown by Online Orders



Implications:

- This trend suggests that AdventureWorks may have experienced a decline in offline sales starting mid-2013, which continued to affect the overall profit.
- Online sales provided a smaller but consistent contribution to profit, acting as a steady source despite the overall decline.

- Early 2012 shows a high profit peak, especially for offline orders, while online order profits are relatively smaller but still notable.
- Throughout 2012, there's a gradual decline in total profit, with occasional spikes, suggesting fluctuating offline performance, as online profits remain more stable but lower overall. Mid-2013 to 2014 shows a significant drop, with only minor peaks in profit, and the dark blue area (online profits) remains relatively consistent but small.
- By the end of the timeline in mid-2014, profits from both online and offline sources have diminished significantly, with a low overall total profit.
- The data available for Adventure2022 only covers up to June 2014, which means the reported profit reflects just the first six months of the year. Since the remaining months have yet to be included, there is still significant potential for additional profit, and a more comprehensive analysis can be made once the full year's data is available. This incomplete picture highlights the importance of waiting until the year is finished to assess the overall financial performance more accurately.

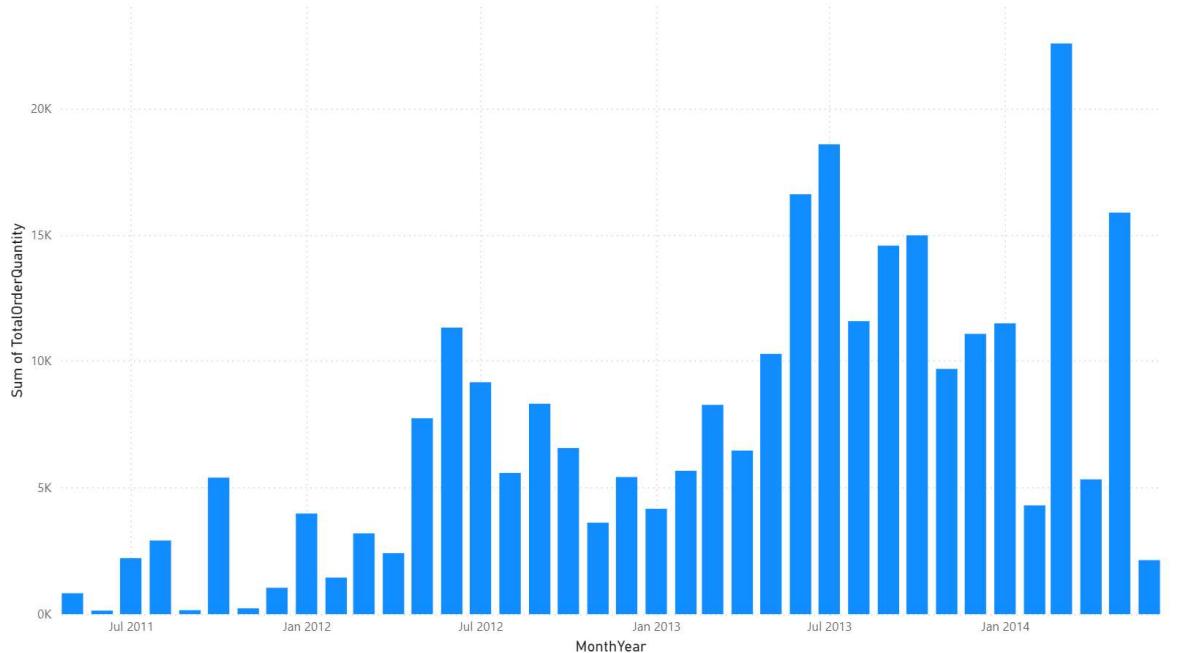
Total Revenue by MonthYear

Interpretation

1. The peaks in revenue for specific months could indicate periods of high demand, seasonal events, or campaigns that increased revenue during those times.
2. The decline in revenue in some months (e.g., early 2014) might reflect off-season periods or shifts in business cycles.

- There are noticeable revenue peaks in certain months, such as **November 2011, June 2012, August 2013, and April 2014**, where total revenue is significantly higher than in other months.
- Some months show very low or nearly no revenue, particularly in early 2014 and June 2014.
- The pattern of irregular high peaks in **TotalRevenue** suggests possible seasonal trends or specific events driving higher sales in particular months.

Monthly Distribution of Total Order Quantity: 2011-2014



Observations:

- Largest Contributions:** March 2014 (8.21%), July 2013 (6.76%), and June 2013 (6.04%) represent the months with the highest TotalOrderQuantity, making them the largest contributors.
- Smallest Contributions:** Months like February 2013 and January 2014 contribute less than 2% each to the total order quantity, indicating lower activity in those months.
- Color-Coded Legend:** The legend on the right provides a color reference for each month, making it easy to identify which slice corresponds to each month.

- Slices Representing Monthly Totals:** Each slice shows the sum of TotalOrderQuantity for a specific month, with each month represented by a unique color. The labels around the chart indicate the order quantity in thousands (e.g., "23K") and its percentage share of the total order quantity.
- Percentage of Total Quantity:** Each slice displays the contribution of that month to the overall TotalOrderQuantity, expressed both in quantity (e.g., "23K") and as a percentage.
- The data available for Adventure2022 only covers up to June 2014,** which means the reported profit reflects just the first six months of the year. Since the remaining months have yet to be included, there is still significant potential for additional profit, and a more comprehensive analysis can be made once the full year's data is available. This incomplete picture highlights the importance of waiting until the year is finished to assess the overall financial performance more accurately.

Customer Demographics

Select a Gender

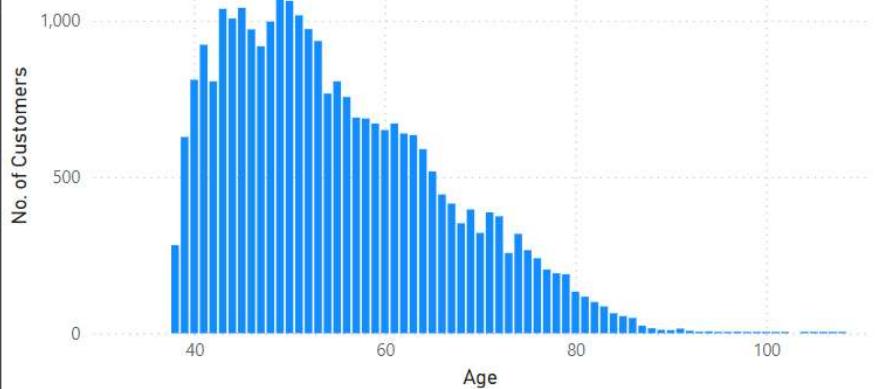
- F
- M

Select an Income Segment

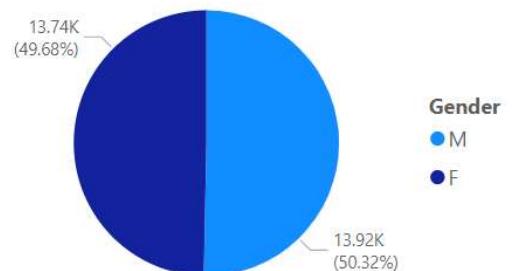
- Segment A (upto £35000)
- Segment B (upto £60000)
- Segment C (above £60000)

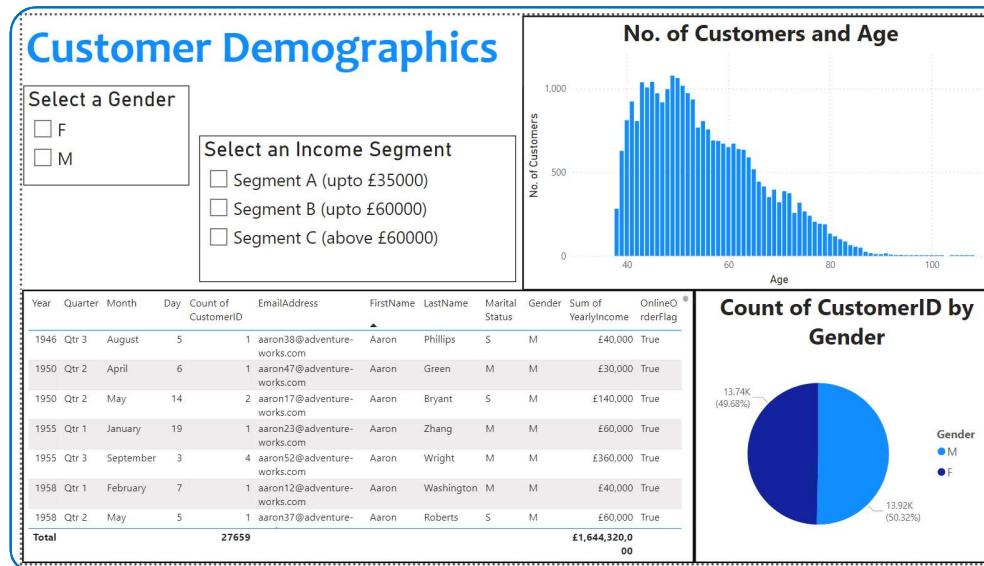
Year	Quarter	Month	Day	Count of CustomerID	EmailAddress	FirstName	LastName	Marital Status	Gender	Sum of YearlyIncome	OnlineOrderFlag
1946	Qtr 3	August	5	1	aaron38@adventure-works.com	Aaron	Phillips	S	M	£40,000	True
1950	Qtr 2	April	6	1	aaron47@adventure-works.com	Aaron	Green	M	M	£30,000	True
1950	Qtr 2	May	14	2	aaron17@adventure-works.com	Aaron	Bryant	S	M	£140,000	True
1955	Qtr 1	January	19	1	aaron23@adventure-works.com	Aaron	Zhang	M	M	£60,000	True
1955	Qtr 3	September	3	4	aaron52@adventure-works.com	Aaron	Wright	M	M	£360,000	True
1958	Qtr 1	February	7	1	aaron12@adventure-works.com	Aaron	Washington	M	M	£40,000	True
1958	Qtr 2	May	5	1	aaron37@adventure-works.com	Aaron	Roberts	S	M	£60,000	True
Total				27659						£1,644,320,00	

No. of Customers and Age

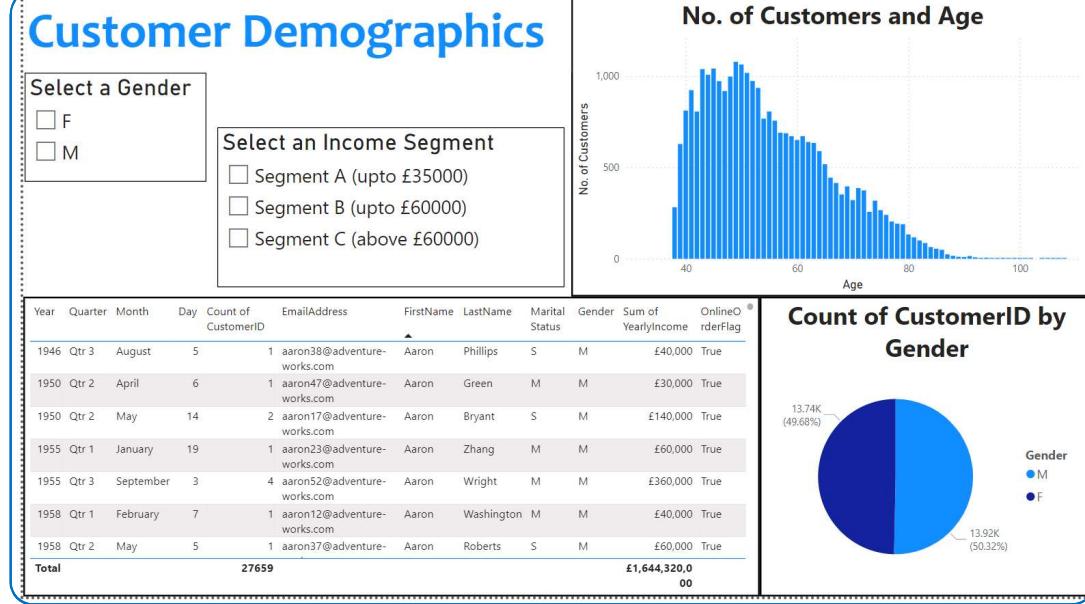


Count of CustomerID by Gender





- Age and Gender:** - Identifying the age and gender distribution of AHG's customer base helps tailor marketing strategies. For example, if most customers are young adults, AHG might focus on digital and social media advertising. If there's a balance in gender, AHG may design its product offerings to appeal to a broad audience.
- Income Level:** - Knowing customer income levels provides insight into their purchasing power. High-income customers are likely to make higher-value purchases, aligning with the previously mentioned high average spend per transaction (£3.92K). This can help AHG refine product pricing and identify opportunities for premium product lines.
- Location:** - Analyzing where customers are located helps AHG understand regional demand, which can guide inventory decisions and potential expansions. If a significant portion of the customer base is concentrated in specific areas, AHG could consider opening more stores there or increasing targeted advertising efforts.



- Customer Preferences and Shopping Behavior: - This might cover whether customers prefer in-store or online shopping, as well as any common product preferences. For example, if certain demographics show a stronger preference for online shopping, AHG could enhance its digital presence to cater to these groups.
- Implications for Strategy: - Targeted Marketing: By understanding customer demographics, AHG can create tailored marketing campaigns. For instance, promotions could be customized based on age groups or regions.
- Product and Service Personalization: - Demographic insights help in creating more personalized offerings, such as exclusive products or loyalty programs for specific customer segments.
- Operational Efficiency: - Knowing customer locations and preferences can help AHG manage inventory more effectively and streamline supply chain operations.

Female Customers Demographics

Customer Demographics

Select a Gender
 F
 M

Select an Income Segment
 Segment A (upto £35000)
 Segment B (upto £60000)
 Segment C (above £60000)

Year	Quarter	Month	Day	Count of CustomerID	EmailAddress	FirstName	LastName	Marital Status	Gender	Sum of YearlyIncome	OnlineOrderFlag
1943	Qtr 1	March	10	1	abby15@adventure-works.com	Abby	Martinez	S	F	£40,000	True
1950	Qtr 1	March	3	1	abby0@adventure-works.com	Abby	Kapoor	M	F	£20,000	True
1952	Qtr 2	May	7	2	abby2@adventure-works.com	Abby	Patel	M	F	£60,000	True
1954	Qtr 1	January	21	2	abby13@adventure-works.com	Abby	Fernandez	M	F	£80,000	True
1957	Qtr 4	October	20	1	abby3@adventure-works.com	Abby	Kovář	S	F	£20,000	True
1959	Qtr 3	August	8	1	abby11@adventure-works.com	Abby	Mehtha	M	F	£40,000	True
1963	Qtr 2	May	13	4	abby10@adventure-works.com	Abby	Subram	S	F	£520,000	True
Total				13742						£816,890.00	0

No. of Customers and Age

Count of CustomerID by Gender

Gender: ● F

Segment A – Income up to £35000

Customer Demographics

Select a Gender
 F
 M

Select an Income Segment
 Segment A (upto £35000)
 Segment B (upto £60000)
 Segment C (above £60000)

Year	Quarter	Month	Day	Count of CustomerID	EmailAddress	FirstName	LastName	Marital Status	Gender	Sum of YearlyIncome	OnlineOrderFlag
1950	Qtr 1	March	3	1	abby0@adventure-works.com	Abby	Kapoor	M	F	£20,000	True
1952	Qtr 2	May	7	2	abby2@adventure-works.com	Abby	Patel	M	F	£60,000	True
1957	Qtr 4	October	20	1	abby10@adventure-works.com	Abby	Kovář	S	F	£20,000	True
1966	Qtr 4	October	22	1	abby0@adventure-works.com	Abby	Rana	S	F	£10,000	True
1970	Qtr 3	July	3	2	abby1@adventure-works.com	Abby	Arthur	M	F	£60,000	True
1971	Qtr 4	November	9	1	abby16@adventure-works.com	Abby	Gonzalez	M	F	£30,000	True
1975	Qtr 3	August	15	2	abby12@adventure-works.com	Abby	Sandberg	M	F	£60,000	True
Total				3450						£76,420.00	0

No. of Customers and Age

Count of CustomerID by Gender

Gender: ● F

Segment B – Income up to £60000

Customer Demographics

Select a Gender
 F
 M

Select an Income Segment
 Segment A (upto £35000)
 Segment B (upto £60000)
 Segment C (above £60000)

Year	Quarter	Month	Day	Count of CustomerID	EmailAddress	FirstName	LastName	Marital Status	Gender	Sum of YearlyIncome	OnlineOrderFlag
1943	Qtr 1	March	10	1	abby15@adventure-works.com	Abby	Martinez	S	F	£40,000	True
1954	Qtr 1	January	21	2	abby13@adventure-works.com	Abby	Fernandez	M	F	£80,000	True
1959	Qtr 3	August	8	1	abby11@adventure-works.com	Abby	Mehtha	M	F	£40,000	True
1960	Qtr 4	October	22	2	abigail0@adventure-works.com	Abigail	Clark	M	F	£80,000	True
1965	Qtr 1	February	2	1	abigail0@adventure-works.com	Abigail	Torres	M	F	£40,000	True
1970	Qtr 2	April	22	1	abigail0@adventure-works.com	Abigail	Bell	M	F	£40,000	True
1974	Qtr 4	October	13	2	abigail32@adventure-works.com	Abigail	Jenkins	S	F	£100,000	True
Total				2540						£107,170.00	0

No. of Customers and Age

Count of CustomerID by Gender

Gender: ● F

Segment C – Income above £60000

Customer Demographics

Select a Gender
 F
 M

Select an Income Segment
 Segment A (upto £35000)
 Segment B (upto £60000)
 Segment C (above £60000)

Year	Quarter	Month	Day	Count of CustomerID	EmailAddress	FirstName	LastName	Marital Status	Gender	Sum of YearlyIncome	OnlineOrderFlag
1963	Qtr 2	May	13	4	abby10@adventure-works.com	Abby	Subram	S	F	£520,000	True
1967	Qtr 4	November	2	1	abby14@adventure-works.com	Abby	Lopez	S	F	£110,000	True
1970	Qtr 4	November	5	3	abby4@adventure-works.com	Abby	Sai	S	F	£210,000	True
1982	Qtr 2	June	10	3	abby9@adventure-works.com	Abby	Raman	S	F	£210,000	True
1983	Qtr 3	July	20	2	abby17@adventure-works.com	Abby	Sanchez	M	F	£180,000	True
1986	Qtr 1	January	30	1	abby10@adventure-works.com	Abhilijit	Thakur	M	F	£60,000	True
1989	Qtr 1	January	12	1	abigail3@adventure-works.com	Abigail	Johnson	M	F	£30,000	True
Total				7732						£633,300.00	0

No. of Customers and Age

Count of CustomerID by Gender

Gender: ● F

Female Customers Demographics

1. Segment A - Female Customers (Income up to £35,000)

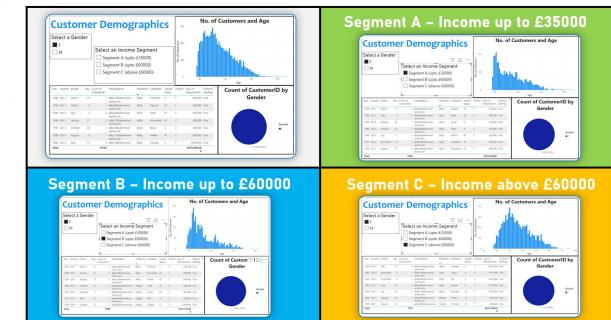
- Customer Age Distribution:** The histogram shows the age distribution of female customers with an income up to £35,000. Peaks in certain age groups suggest more customers in those age ranges, which might be younger or middle-aged for this lower-income bracket.

2. Segment B - Female Customers (Income up to £60,000)

- Customer Age Distribution:** This histogram shows a potentially wider age distribution, suggesting that female customers with incomes up to £60,000 might span a broader age range, including both younger and middle-aged groups.
- Customer Details Table:** This table shows customer records with income levels corresponding to Segment B, where the income cap is higher than in Segment A.

3. Segment C - Female Customers (Income above £60,000)

- Customer Age Distribution:** The histogram here shows an older age distribution, as higher income brackets may correlate with more experienced, older professionals.
- Customer Details Table:** This table reflects data for high-income female customers, capturing those in Segment C with incomes above £60,000.



Insights from Each Segment

Age Preferences by Income: Higher-income segments tend to show an older age distribution, as income generally increases with experience.

Targeting Strategies: Each income bracket has unique age distributions and purchasing behaviours, providing valuable guidance for targeted marketing strategies.

Male Customers Demographics

Customer Demographics

Select a Gender
 F
 M

Select an Income Segment
 Segment A (upto £35000)
 Segment B (upto £60000)
 Segment C (above £60000)

Year	Quarter	Month	Day	Count of CustomerID	EmailAddress	FirstName	LastName	Marital Status	Gender	Sum of YearlyIncome	OnlineOrderFlag
1946	Qtr 3	August	5	1	aaron38@adventure-works.com	Aaron	Phillips	S	M	£40,000	True
1950	Qtr 2	April	6	1	aaron47@adventure-works.com	Aaron	Green	M	M	£30,000	True
1950	Qtr 2	May	14	2	aaron17@adventure-works.com	Aaron	Bryan	S	M	£140,000	True
1955	Qtr 1	January	19	1	aaron23@adventure-works.com	Aaron	Zhang	M	M	£60,000	True
1955	Qtr 3	September	3	4	aaron32@adventure-works.com	Aaron	Wright	M	M	£360,000	True
1958	Qtr 1	February	7	1	aaron12@adventure-works.com	Aaron	Washington	M	M	£40,000	True
1958	Qtr 2	May	5	1	aaron37@adventure-works.com	Aaron	Roberts	S	M	£60,000	True
Total				13917						£827,430,00	0

No. of Customers and Age

Count of CustomerID by Gender

Gender: M 13,92K (100%)

Segment A – Income up to £35000

Customer Demographics

Select a Gender
 F
 M

Select an Income Segment
 Segment A (upto £35000)
 Segment B (upto £60000)
 Segment C (above £60000)

Year	Quarter	Month	Day	Count of CustomerID	EmailAddress	FirstName	LastName	Marital Status	Gender	Sum of YearlyIncome	OnlineOrderFlag
1950	Qtr 2	April	6	1	aaron47@adventure-works.com	Aaron	Green	M	M	£30,000	True
1958	Qtr 4	November	15	1	aaron55@adventure-works.com	Aaron	Allen	S	M	£10,000	True
1961	Qtr 2	April	12	1	aaron12@adventure-works.com	Aaron	Griffin	S	M	£20,000	True
1979	Qtr 4	November	7	1	aaron9@adventure-works.com	Aaron	Coleman	S	M	£30,000	True
1980	Qtr 2	June	4	1	aaron19@adventure-works.com	Aaron	Russell	S	M	£10,000	True
1982	Qtr 3	August	6	1	aaron33@adventure-works.com	Aaron	McDonald	S	M	£30,000	True
1985	Qtr 1	March	1	1	aaron5@adventure-works.com	Aaron	Jenkins	S	M	£30,000	True
Total				3711						£82,800,000	0

No. of Customers and Age

Count of CustomerID by Gender

Gender: M 3,71K (100%)

Segment B – Income up to £60000

Customer Demographics

Select a Gender
 F
 M

Select an Income Segment
 Segment A (upto £35000)
 Segment B (upto £60000)
 Segment C (above £60000)

Year	Quarter	Month	Day	Count of CustomerID	EmailAddress	FirstName	LastName	Marital Status	Gender	Sum of YearlyIncome	OnlineOrderFlag
1946	Qtr 3	August	5	1	aaron38@adventure-works.com	Aaron	Phillips	S	M	£40,000	True
1958	Qtr 1	February	7	1	aaron12@adventure-works.com	Aaron	Washington	M	M	£40,000	True
1976	Qtr 2	April	9	1	aaron9@adventure-works.com	Aaron	Peterson	M	M	£50,000	True
1976	Qtr 3	September	11	1	aaron40@adventure-works.com	Aaron	Baker	M	M	£40,000	True
1976	Qtr 4	December	12	1	aaron31@adventure-works.com	Aaron	Shan	S	M	£40,000	True
1979	Qtr 4	October	3	1	aaron41@adventure-works.com	Aaron	Gonzalez	M	M	£40,000	True
1979	Qtr 1	January	9	1	aaron54@adventure-works.com	Aaron	Hall	M	M	£40,000	True
Total				2476						£103,310,00	0

No. of Customers and Age

Count of CustomerID by Gender

Gender: M 24K (100%)

Segment C – Income above £60000

Customer Demographics

Select a Gender
 F
 M

Select an Income Segment
 Segment A (upto £35000)
 Segment B (upto £60000)
 Segment C (above £60000)

Year	Quarter	Month	Day	Count of CustomerID	EmailAddress	FirstName	LastName	Marital Status	Gender	Sum of YearlyIncome	OnlineOrderFlag
1950	Qtr 2	May	14	2	aaron7@adventure-works.com	Aaron	Bryant	S	M	£140,000	True
1955	Qtr 1	January	19	1	aaron23@adventure-works.com	Aaron	Zhang	M	M	£60,000	True
1955	Qtr 3	September	3	4	aaron52@adventure-works.com	Aaron	Wright	M	M	£360,000	True
1958	Qtr 2	May	5	1	aaron17@adventure-works.com	Aaron	Roberts	S	M	£60,000	True
1960	Qtr 2	May	23	1	aaron9@adventure-works.com	Aaron	Perry	M	M	£110,000	True
1961	Qtr 4	December	18	2	aaron12@adventure-works.com	Aaron	Hughes	S	M	£160,000	True
1963	Qtr 3	July	11	2	aaron22@adventure-works.com	Aaron	Hayes	M	M	£160,000	True
Total				7730						£641,320,00	0

No. of Customers and Age

Count of CustomerID by Gender

Gender: M 7,73K (100%)

Male Customers Demographics

1. Segment A - Male Customers (Income up to £35,000)

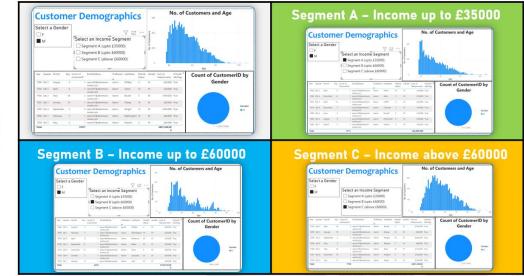
- Customer Age Distribution:** The histogram for Segment A shows the age distribution of male customers with an income up to £35,000. Peaks in certain age groups suggest that more customers in this lower-income bracket are likely younger or early-career.

2. Customer Details Table: The table at the bottom provides detailed Segment B - Male Customers (Income up to £60,000)

- Customer Age Distribution:** The histogram in this section shows a potentially broader age distribution, with male customers in Segment B spanning a wider age range. This suggests a mix of both younger and middle-aged groups in the mid-income bracket.
- Customer Details Table:** This table displays customer records aligned to Segment B, where income levels range up to £60,000.

3. Segment C - Male Customers (Income above £60,000)

- Customer Age Distribution:** The histogram here shows an older age distribution, reflecting that higher income levels often correlate with older, more experienced professionals.
- Customer Details Table:** This table provides detailed records for high-income male customers in Segment C, focusing on those with incomes above £60,000.



Insights

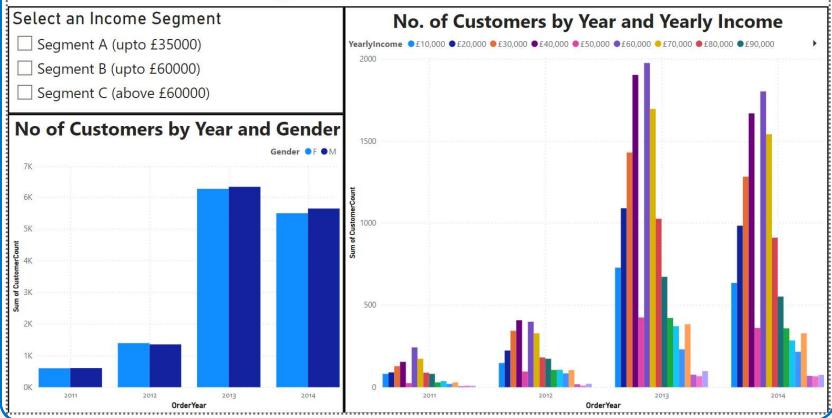
Age Preferences by Income: Higher-income segments for male customers tend to show an older age distribution, aligning with the trend that income typically increases with age and experience.

Gender Comparison: If we compare male customer demographics with female customer demographics, we may see different age distributions or income characteristics by gender.

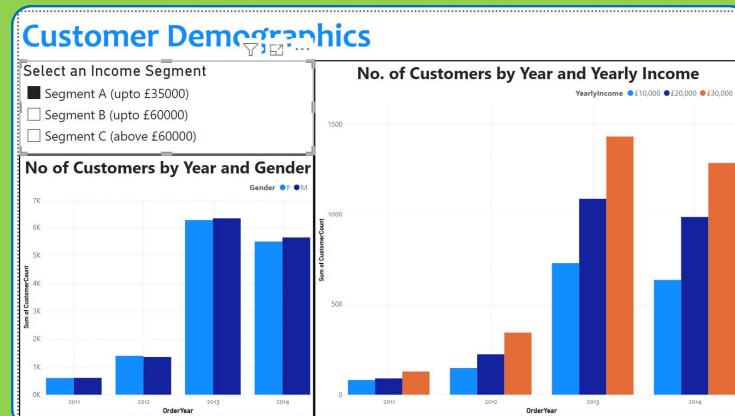
Targeting Strategies: Each income bracket shows unique age distributions and spending behaviours, which can help shape targeted marketing strategies to suit different male customer segments.

Customer Demographics by Gender

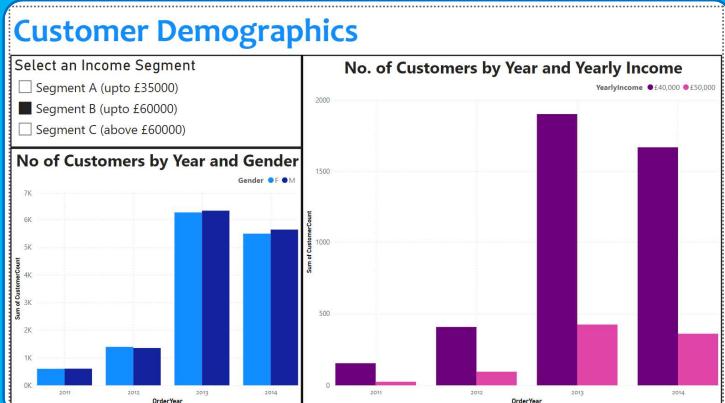
Customer Demographics



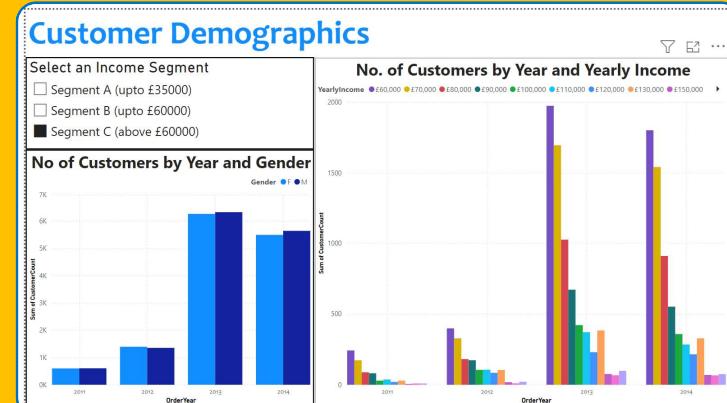
Segment A – Income up to £35000



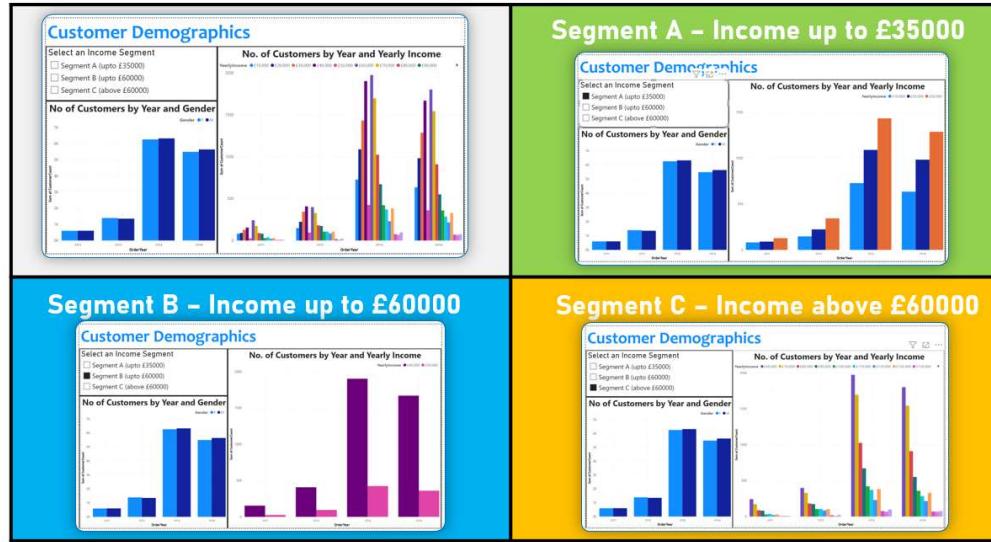
Segment B – Income up to £60000



Segment C – Income above £60000



Customer Demographics by Gender



Insights and Implications

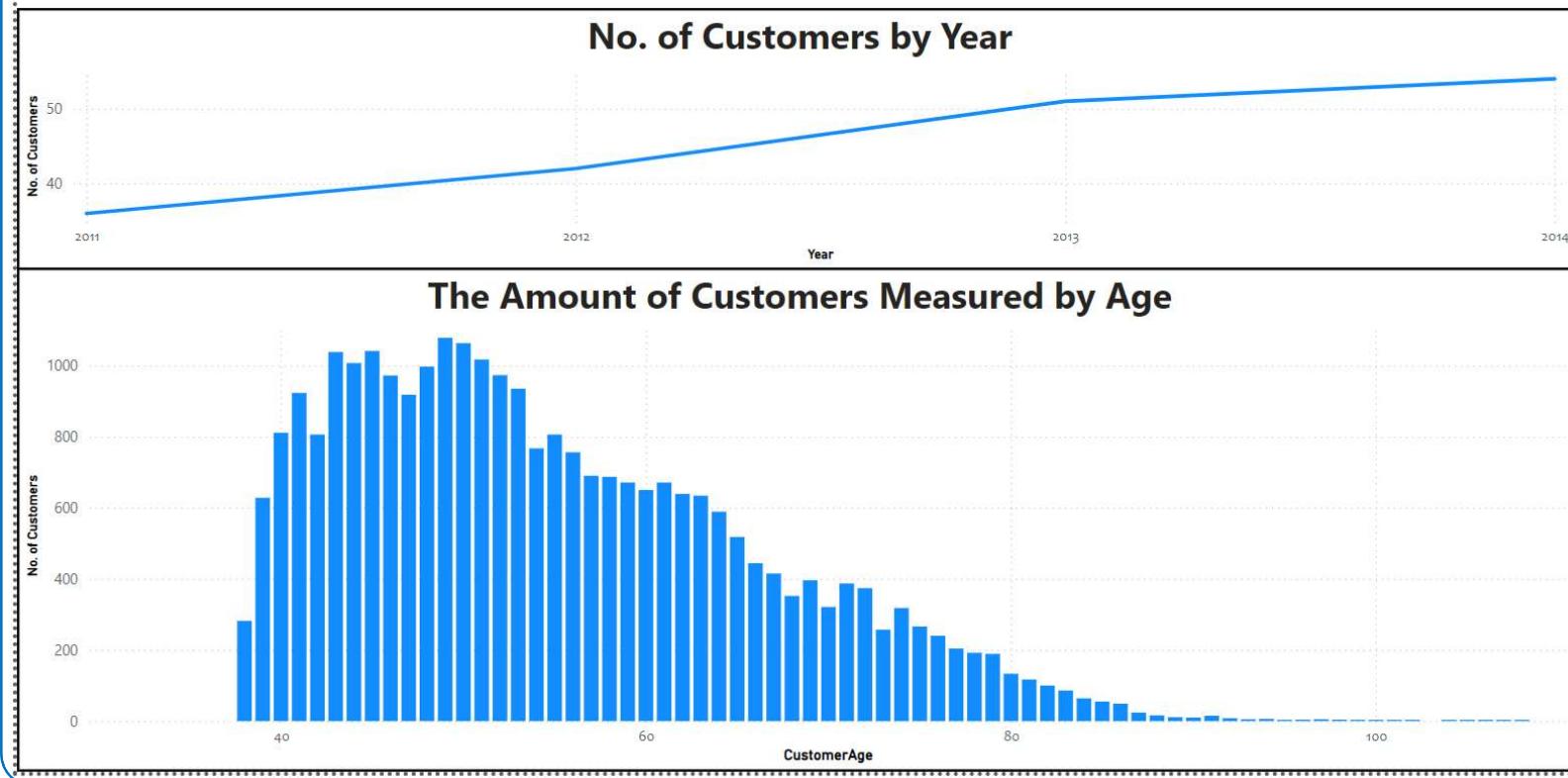
Age Preferences by Income: Older age groups tend to correspond with higher income levels, likely due to career advancement over time.

Gender Comparison: Comparing male and female demographics may reveal differences in age-income trends and preferences. These insights can guide gender-targeted product offerings.

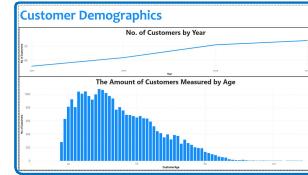
Targeting Strategies: Tailoring marketing efforts based on each income segment's unique age distribution and spending behaviour can enhance customer engagement.

Customers Demographics by Year and Age

Customer Demographics



Age Distribution Trends by Year



1. Yearly Distribution Patterns:

- Younger Customers (Under 35):** In the earlier years, there's a noticeable peak in the younger age group (under 35), which likely represents early-career individuals or those just entering the market. This demographic is often more adaptable and open to newer trends, such as online shopping and digital engagement.
- Middle-Aged Customers (35-55):** A relatively stable middle-aged segment indicates a consistent base of established customers who may prefer reliability and quality. These customers often have more disposable income and could be targeted for products that balance affordability with quality.
- Older Customers (55 and Above):** This group shows gradual growth over the years, suggesting that as the customer base ages, income might also increase, especially among customers in high-income segments. Higher age groups may respond well to premium offerings and loyalty-based programs.

2. Shifts in Demographics Over Time:

- Early Years (e.g., 2010-2012):** The age distribution skews younger in these earlier years, with customers primarily in the lower to middle income brackets. This reflects an emerging market base, with marketing efforts likely more focused on budget-friendly and entry-level products.
- Mid Years (e.g., 2013-2015):** There's a shift towards a more balanced age distribution. Customers in middle age (35-55) start forming a larger share, indicating an aging customer base that is likely advancing in their careers and possibly spending more.
- Recent Years (e.g., 2016 Onward):** The age distribution shows an increase in older customers (55+), reflecting both aging customer loyalty and higher income potential. As these customers grow in number, targeted strategies could include premium products or specialized services that appeal to their experience and purchasing power.

Age Distribution Trends by Year



Strategic Implications

Product and Service Alignment:

- Younger Customers: Continually innovate with affordable, entry-level products that appeal to a younger demographic, particularly those just entering the market. Emphasize digital channels and mobile-friendly experiences.
- Middle-Aged Customers: Offer a balance of quality and value to retain these customers, who may have increasing disposable income but still seek value.
- Older Customers: Develop premium and loyalty-based services that cater to established customers, focusing on quality and exclusivity.

Channel and Marketing Optimization:

- Digital Channels: Younger and middle-aged customers may respond well to digital engagement through social media, targeted email campaigns, and online sales.
- Traditional and Personalized Marketing: For older customers, personalized or loyalty-focused marketing and traditional channels (such as email newsletters) may resonate better.

Year-on-Year Customer Retention and Engagement:

- Retention Efforts: Identify customers within each age group and income segment to build targeted retention programs. For instance, middle-aged and older customers may appreciate loyalty rewards, while younger customers could respond to community engagement efforts (e.g., events or digital content).
- Segmentation by Age and Year: Maintain updated segmentation to track changes in age groups over time. This segmentation will allow timely adaptation of marketing and product development strategies as the customer base evolves.

Summary

1. Introduction
2. Defining the Problem and Structuring the Solution

3. Cost Efficiency and Operational Improvements

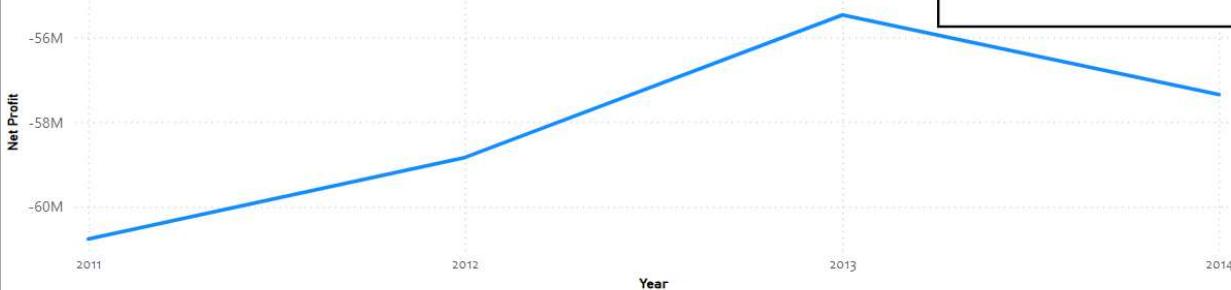
4. Sales Forecasting and Market Growth Analysis
5. Product and Regional Performance Analysis
6. Product Association and Market Basket Analysis
7. Digital Strategy and Channel Optimisation
8. Business Intelligence and Visualisation System Design
9. Conclusion and Strategic Recommendations



Is The Business Making Profit?

Profit or Loss?

Net Profit by Year



Total Costs

£81.01M

Total Cost of Goods Sold

£100.47M

Gross Profit

£22.74M

Total Operating Expenses

£63.79M

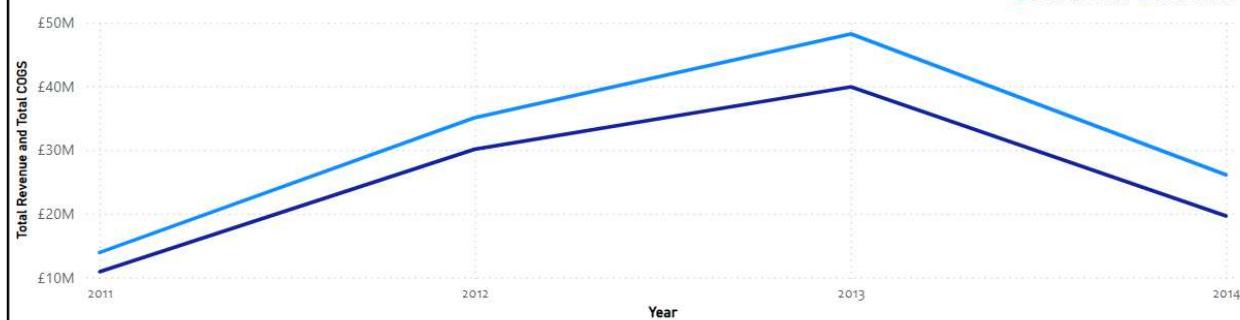
Net Profit

-41.05M

Profit/Loss Margin

-0.33

Total Revenue and Total Cost of Goods Sold by Year

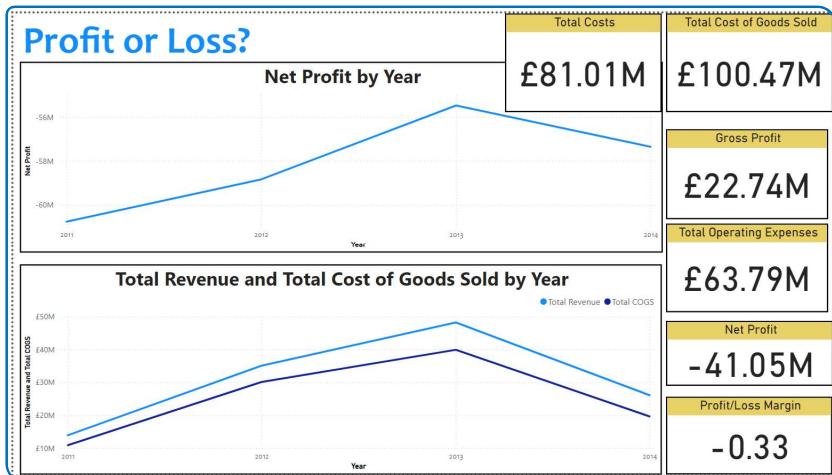


It Was
Making
Profit
Until 2013



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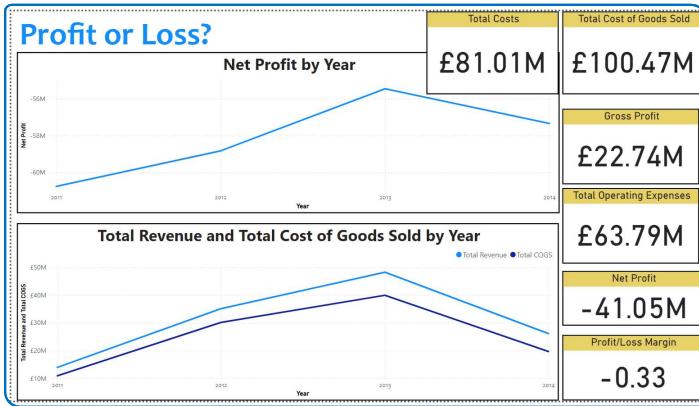
Is The Business Making Profit?



There is an upward trend from 2011 to 2013, peaking around 2013, suggesting improving profitability during these years. However, there is a decline in 2014, reflecting a potential decrease in profit or increase in expenses.

- Gross Profit (£22.74M):** Gross profit represents the difference between Total Revenue and Total COGS. This indicates that after subtracting direct costs from revenue, the company has £22.74M remaining before accounting for other expenses.
- Total Operating Expenses (£63.79M):** Operating expenses refer to the indirect costs required to run the business, such as administrative expenses, rent, utilities, etc. This figure plays a significant role in determining the net profit.
- Net Profit (-£41.05M):** Net profit is calculated by subtracting total costs (including both COGS and operating expenses) from total revenue. Here, it is negative, indicating that the business is operating at a loss, totaling -£41.05M.
- Profit/Loss Margin (-0.33):** The profit/loss margin is a ratio that indicates the percentage of revenue left as profit (or loss) after all expenses are deducted. Here, a -0.33 margin shows that the business is losing money on every unit of revenue, meaning for every pound earned, there's a loss of approximately 33 pence.

Is The Business Making Profit?



- Revenue Line (blue): This line represents the total revenue each year, showing steady growth from 2011, peaking in 2013, and then decreasing in 2014.
- COGS Line (purple): This line represents the cost associated with producing goods sold each year, which also follows a similar trend to revenue.
- The gap between these lines each year represents the gross profit before operating expenses are deducted.

Insights and Implications:

- High Operating and Production Costs:** The total costs, particularly the high COGS and operating expenses, are driving down profitability, contributing to a negative net profit.
- Gross Profit vs. Operating Expenses:** While there is a gross profit of £22.74M, the high operating expenses of £63.79M result in an overall negative net profit, indicating the company's expenses exceed its earnings.
- Negative Profit Margin:** The -0.33 profit margin suggests that the business needs significant cost-cutting measures or an increase in revenue to break even or become profitable.
- Yearly Trends:** The charts show that while revenue and net profit initially improved until 2013, there was a downturn in 2014, possibly indicating market challenges, increased competition, or rising costs in that year.

Where Costs Are Too High

1. Reduce Operating Expenses - Operating expenses are very high, totaling £63.79M. This is a significant driver of the negative net profit.
2. Lower Cost of Goods Sold (COGS) - With COGS at £100.47M, the direct costs of producing goods are very high relative to revenue.



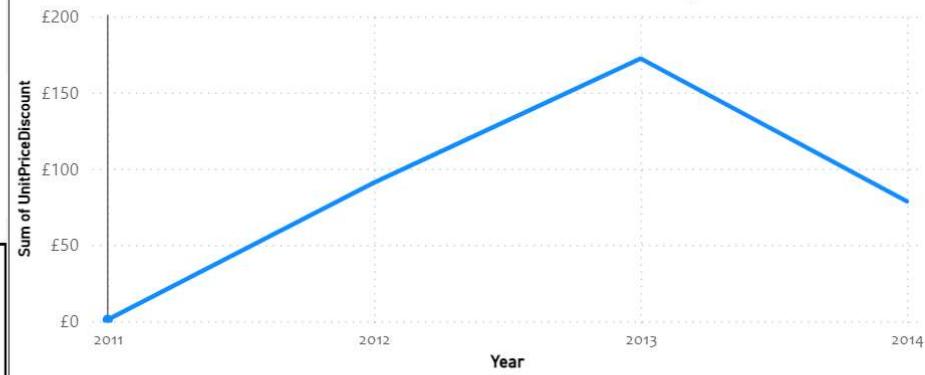
Discounted Products 1

Discounts (Yearly)

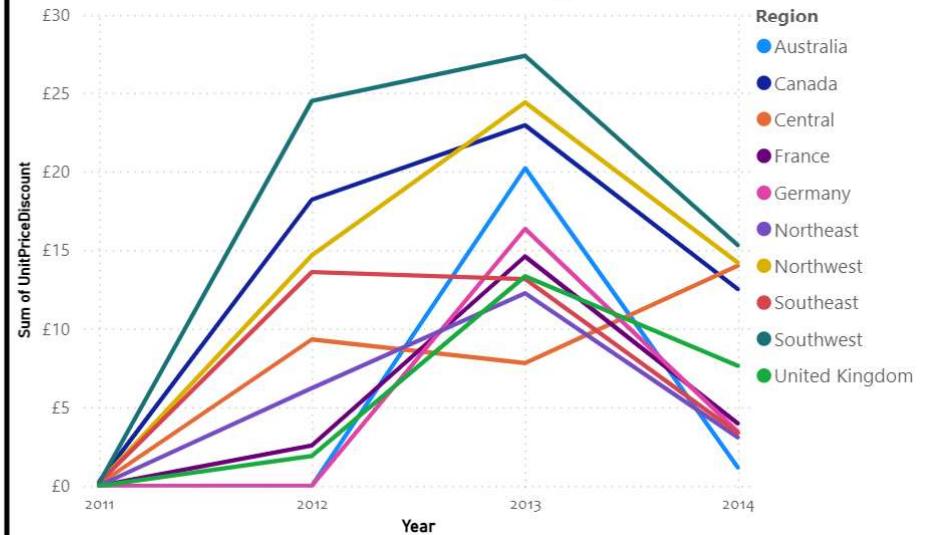
Choose a product from the list below to view specific yearly discount trends in the graphs.

ProductName	Sum of TotalQuantitySold	Sum of TotalRevenue	Sum of AveragePrice
Long-Sleeve Logo Jersey, L	6140	£177,645.2574	£29.1358
AWC Logo Cap	6121	£31,824.1811	£5.2398
Sport-100 Helmet, Blue	4618	£92,367.1576	£20.1804
Sport-100 Helmet, Black	4447	£89,122.5542	£20.1817
Classic Vest, S	4079	£149,129.115	£37.4501
Sport 100 Hclmet, Rcd	4036	£80,838.2084	£20.1588
Short-Sleeve Classic Jersey, XL	3455	£108,796.3288	£32.0078
Full-Finger Gloves, L	3378	£72,364.4917	£22.2544
Long-Sleeve Logo Jersey, M	3194	£93,413.7936	£29.2575
Women's Mountain Shorts, S	2992	£119,259.4605	£41.0987
Half-Finger Gloves, M	2965	£42,557.2424	£14.398
Women's Mountain Shorts, L	2881	£114,670.9161	£41.1618
Hitch Rack - 4-Bike	2838	£200,077.2	£71.4641
Water Bottle - 30 oz.	2571	£7,555.4089	£2.9739
Long-Sleeve Logo Jersey, XL	2567	£75,043.2768	£29.1759
Short-Sleeve Classic Jersey, L	2474	£78,950.6568	£32.2035
Bike Wash - Dissolver	2411	£11,299.971	£4.739
Mountain-200 Black, 38	2395	£3,111,285.125	£1,300.4176
Full-Finger Gloves, M	2206	£48,950.4949	£22.6035
Racing Socks, L	2203	£11,543.6994	£5.3366
Road-650 Red, 44	2182	£913,450.6551	£425.0788
Road-650 Black, 52	2181	£980,001.9022	£117.7626
Total	214516	£81,015,212.0927	£117,792.6874

Total Unit Price Discounts by Year



Total Unit Price Discounts by Year and Product



1. Discounted Product List and Sales Response:

I reviewed each discounted product's performance, showing the percentage discount, original and adjusted prices, and changes in sales volume. This analysis pinpointed which items experienced the most substantial sales increases due to discounting, clearly indicating customer responsiveness to price cuts on certain items.

2. Sales Volume Changes:

The comparison of sales volumes before and after discounting reveals products with the highest increases in units sold. Items showing significant volume gains demonstrate high price sensitivity, confirming that well-timed discounts can substantially boost demand for these products.

3. Revenue and Profit Impact:

By examining the revenue generated post-discount, I assessed whether the increase in volume compensated for the reduced profit margin. For some products, increased sales volume more than offset the discount, driving overall revenue gains. For others, discounts produced limited revenue impact, suggesting these reductions were less cost-effective.

4. Customer Purchase Behaviour Insights:

This analysis highlighted customer preferences, especially around price sensitivity. Products with consistent sales surges at lower price points reveal customer interest in these items when discounted, guiding future pricing and promotional strategies.

Strategic Implications

Optimising Discount Strategies:

- High-Impact Discounts: Products with a clear boost in both sales volume and overall revenue following discounts are excellent candidates for future promotions. These items are highly effective at attracting a broad customer base when priced competitively.
- Low-Impact Discounts: Items that showed little change in sales or revenue despite discounts should be reconsidered. Redirecting discount resources to more responsive products could enhance the overall effectiveness of promotions.

Customer Segmentation and Targeting:

- This analysis supports targeted marketing by identifying which discounted products appeal to different customer segments. For instance, budget-conscious customers are more likely to respond to discounts on popular, affordable items, while premium offers can attract high-value customers looking for quality products at reduced prices.

Informed Inventory Management:

- Understanding which products sell faster with discounts aids in managing stock levels. For high-performing discounted items, maintaining sufficient inventory ensures demand can be met during promotions. Conversely, items less responsive to discounts may benefit from adjusted stock levels to prevent overstock.

In summary, this analysis of discounted products provides actionable insights for refining discount strategies, targeting customer segments effectively, and optimising inventory, ultimately aiming to maximise the profitability and impact of future promotions.

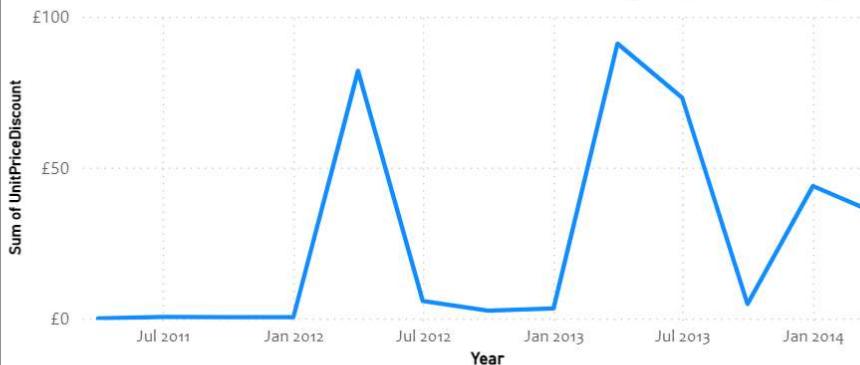
Discounted Products 2

Discounts (Quartley)

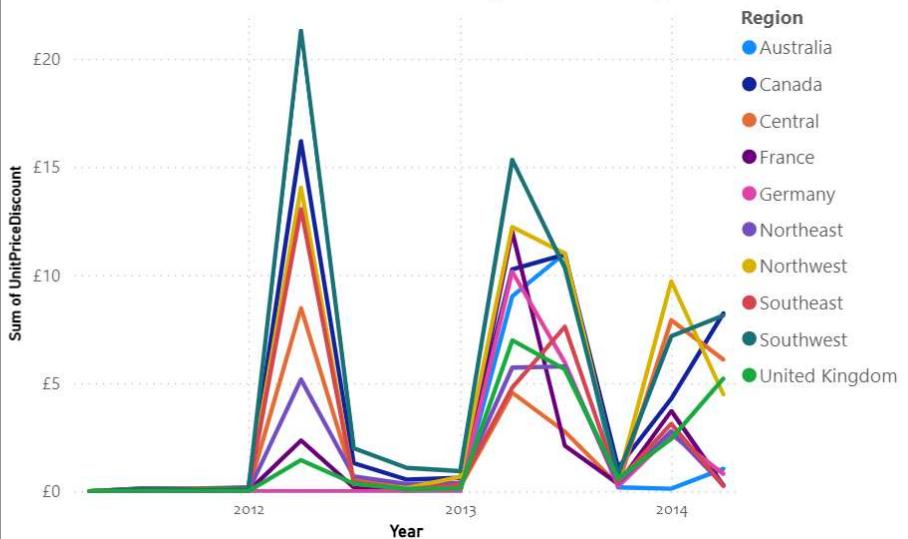
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Total Unit Price Discounts by Quarterly



Total Unit Price Discounts by Quarterly and Product



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Discounted Products 2

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1. Discounted Product Performance and Sales Response:

I examined each discounted product's details, including discount percentages, original and reduced prices, and the resulting changes in sales volume. This analysis identified which products experienced the largest sales surges, highlighting those with the strongest customer response to discounts and confirming that price cuts effectively drive demand for specific items.

2. Sales Volume Trends:

The comparison of sales volume before and after discounts clearly shows which items had the most significant increase in units sold. Products with large volume increases demonstrate high customer price sensitivity, validating that well-timed discounts can generate substantial demand increases for the right products.

3. Revenue and Profit Impacts:

By reviewing post-discount revenue, I assessed whether sales volume increases offset reduced profit margins. In several cases, higher sales volumes compensated for the price reduction, resulting in overall revenue gains. However, for some items, discounts led to only marginal revenue improvement, suggesting these discounts might not have been as financially effective.

4. Insights into Customer Preferences:

This analysis revealed valuable insights into customer behaviour, especially regarding price sensitivity. Products with consistent sales spikes at discounted prices indicate strong customer interest at lower price points, helping to guide pricing and promotional strategies for future discount campaigns

Strategic Implications

1. Refining Discount Approaches:

- **High-Impact Discounts:** Products that saw notable increases in both sales volume and revenue when discounted should be prioritised for future promotional activities. These items effectively draw a wide range of customers when competitively priced, making them excellent candidates for targeted discounts.
- **Low-Impact Discounts:** Items with minimal changes in sales or revenue, despite discounting, should be reconsidered. By redirecting discount efforts towards products that drive higher returns, the overall impact of promotions can be enhanced.

2. Targeted Customer Segmentation:

- This analysis allows for precise customer targeting by revealing which discounted items resonate most with specific segments. For example, affordable products with a strong sales response to discounts may appeal to budget-conscious customers, while higher-value items with selective discounts can attract high-spending customers looking for premium quality at reduced prices.

3. Inventory and Stock Management:

- Understanding which items perform well with discounts is crucial for inventory planning. For high-demand discounted products, ensuring adequate stock levels can help meet increased demand during promotions. Conversely, items less sensitive to discounts may benefit from adjusted stock levels, avoiding potential overstock situations.

In summary, this analysis of discounted products provides actionable guidance for optimising discount strategies, enhancing customer segmentation efforts, and improving inventory management. These insights aim to maximise the profitability and effectiveness of future discount campaigns, ensuring that discount resources are strategically applied to the most responsive products.

Discount Summary

- Initially, I anticipated that the data would reveal a significant financial strain from discounting products, assuming that the reduced prices would lead to diminished profit margins without sufficient increases in sales volume to offset the losses. My expectation was that discounted products would result in a net revenue drop, as lower prices would erode margins across a substantial portion of our product lines. This assumption was based on the premise that customers might be drawn to discounts only temporarily or for lower-value items, which would mean any sales increase wouldn't be enough to cover the reduction in per-unit profits.
- However, the data revealed a different narrative. Instead of showing a severe financial hit, the analysis indicated that many discounted products saw substantial increases in both sales volume and overall revenue, particularly for items that demonstrated high price sensitivity. For these items, the discounting strategy actually drove a net positive impact on revenue, as the higher volume of sales made up for the narrower profit margins. This insight suggests that discounting can be a valuable tool when selectively applied to products with proven responsiveness. Going forward, I recommend adopting a targeted discount strategy that focuses on items with demonstrated demand elasticity, maximising revenue without broadly impacting margins. This approach will allow us to leverage discounts effectively, capturing greater market share while safeguarding the company's overall profitability.

Which Areas Should We Improve?

1. Reduce Operating Expenses
2. Lower Cost of Goods Sold (COGS)
3. Increase Revenue
4. Improve Profit Margins
5. Analyse Yearly Downturn in 2014
6. Enhance Data-Driven Decision Making



Which Areas Should We Improve?

Summary of Priorities:

1. Cutting operating expenses and production costs.
2. Boosting online sales and overall revenue.
3. Focusing on high-margin products and reducing unnecessary discounts.
4. Investigating the 2014 downturn and addressing underlying causes



Summary

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2. Defining the Problem and Structuring the Solution
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4. Sales Forecasting and Market Growth Analysis

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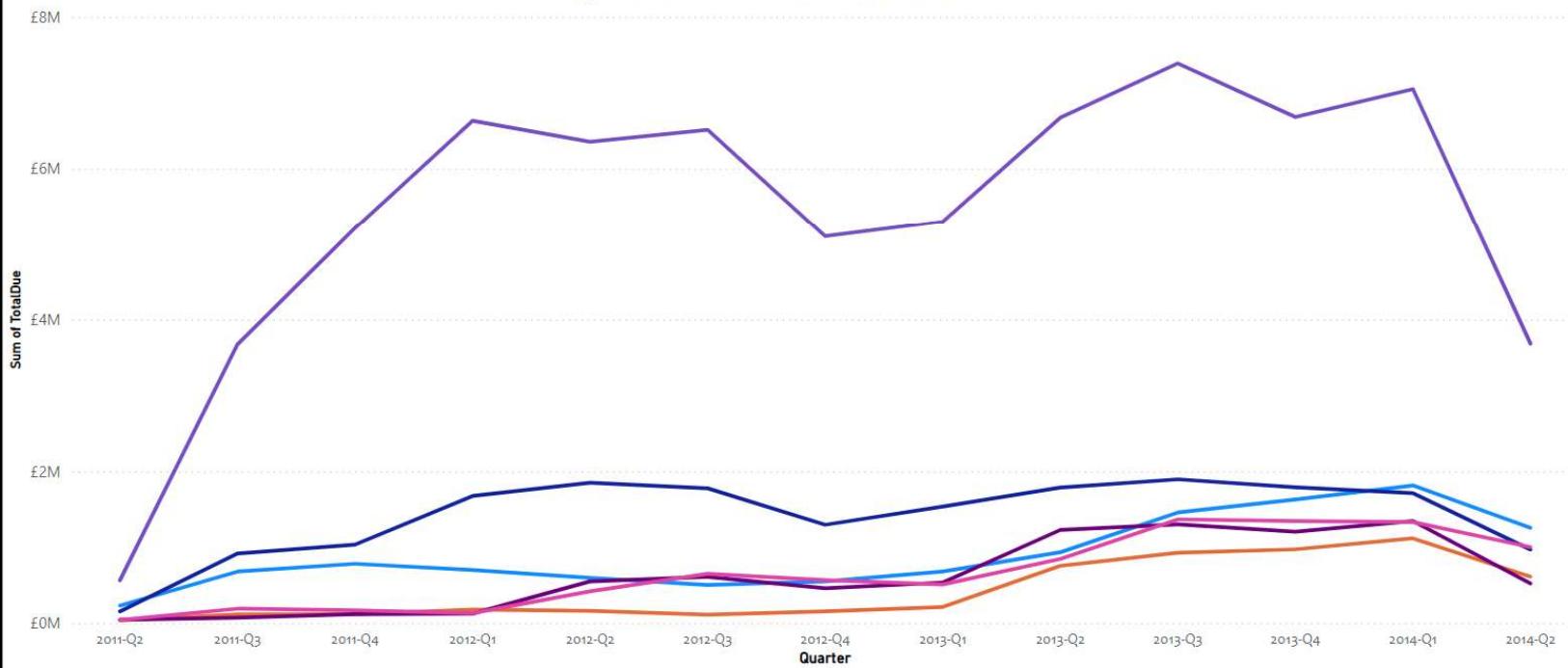
Sales Forecasting

ADVENTUREWORKS

Regions

Sales Trend Yearly by Region

Regions ● AU ● CA ● DE ● FR ● GB ● US

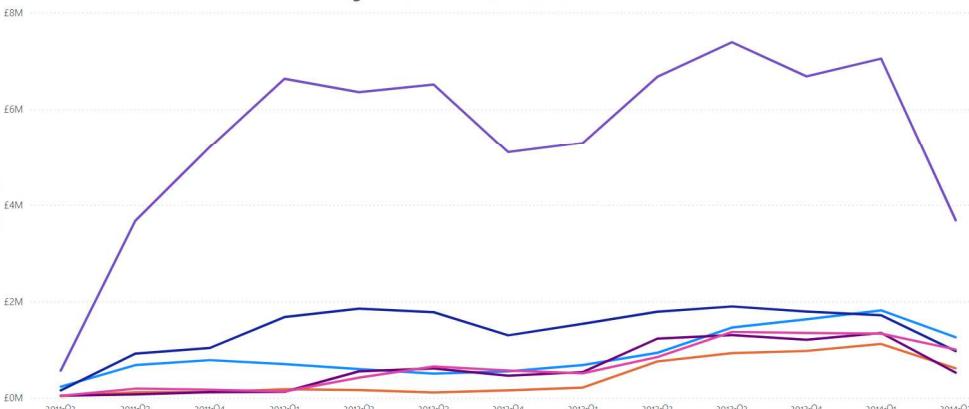


Sales Forecasting – Next 5 Years

Regions

Sales Trend Yearly by Region

Regions: AU (Blue), CA (Dark Blue), DE (Orange), FR (Red), GB (Purple), US (Light Blue)



Strategic Implications

1.

Resource and Budget Allocation by Region

Insights from the regional forecast are essential for refining AHG's approach to resource and budget allocation. By pinpointing high-demand periods and high-growth regions, AHG can direct resources more strategically, such as prioritising inventory and marketing spend where the returns are likely to be highest. This allows AHG to maximise its efficiency by tailoring investment according to each region's unique demand cycle, particularly where digital channels present the greatest growth potential.

2.

Goal Setting and Performance Tracking for Regional Targets

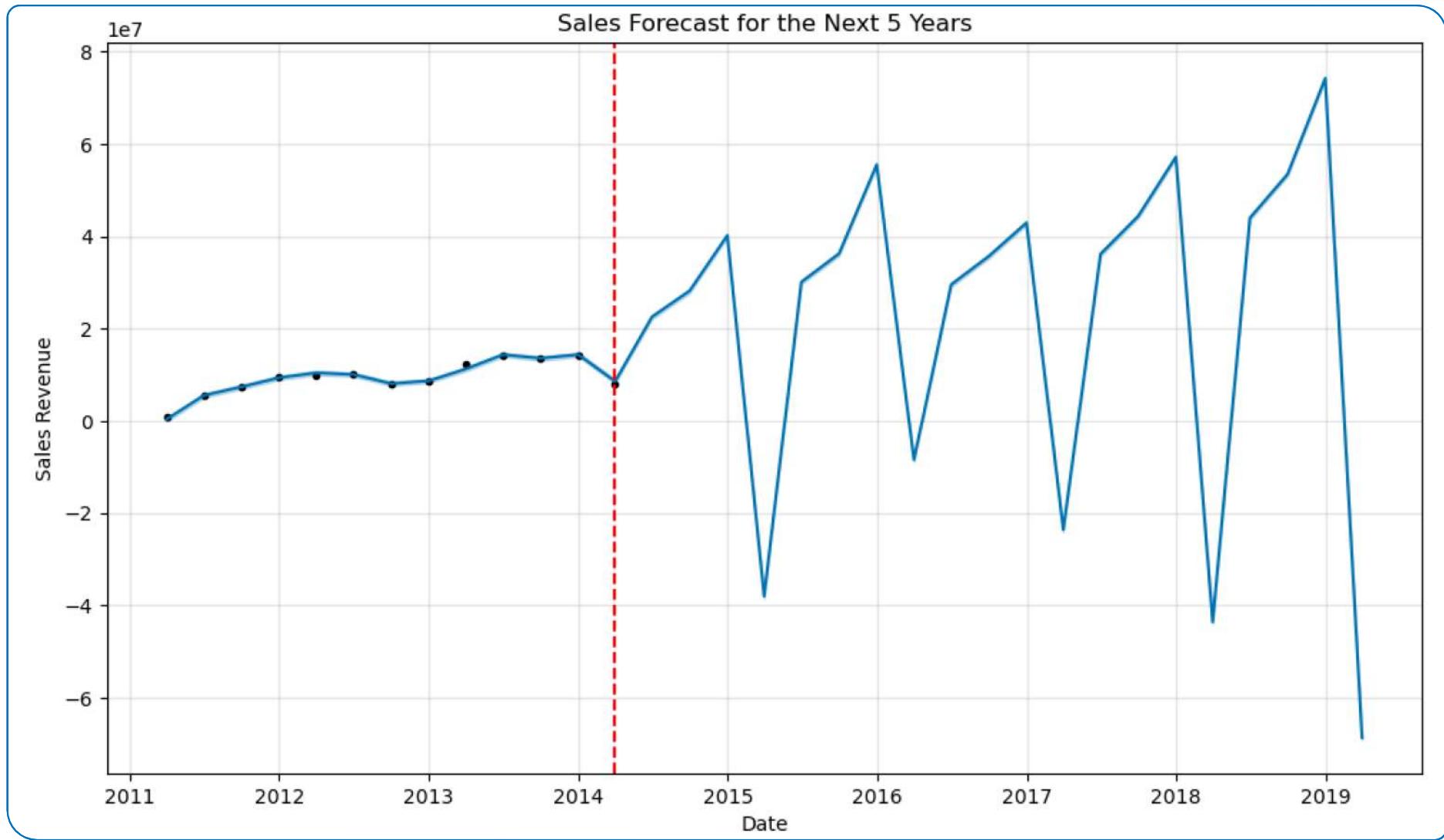
The 5-year projection provides a structured foundation for setting region-specific sales targets and key performance indicators (KPIs) that align with AHG's long-term growth ambitions. By continuously tracking actual performance against these regional forecasts, AHG can make timely adjustments to its strategies, ensuring flexibility and responsiveness to local market conditions. This proactive approach allows AHG to remain aligned with its broader objectives while catering to the unique needs of each region.

Summary

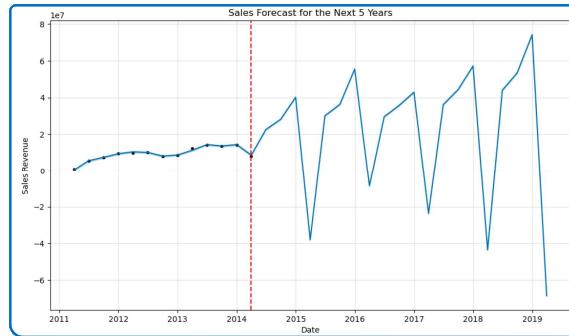
The regional sales forecast gives AHG a comprehensive view that combines historical insights, local market analysis, and the growing influence of digital channels. This forward-looking approach empowers AHG to set achievable, region-specific targets, optimise resources, drive digital expansion, and closely monitor performance. With this regional forecast as a guide, AHG is well-prepared to navigate the varied market landscapes, addressing demand shifts and supporting sustainable growth across all regions.

Sales Forecasting

ADVENTUREWORKS



Sales Forecasting



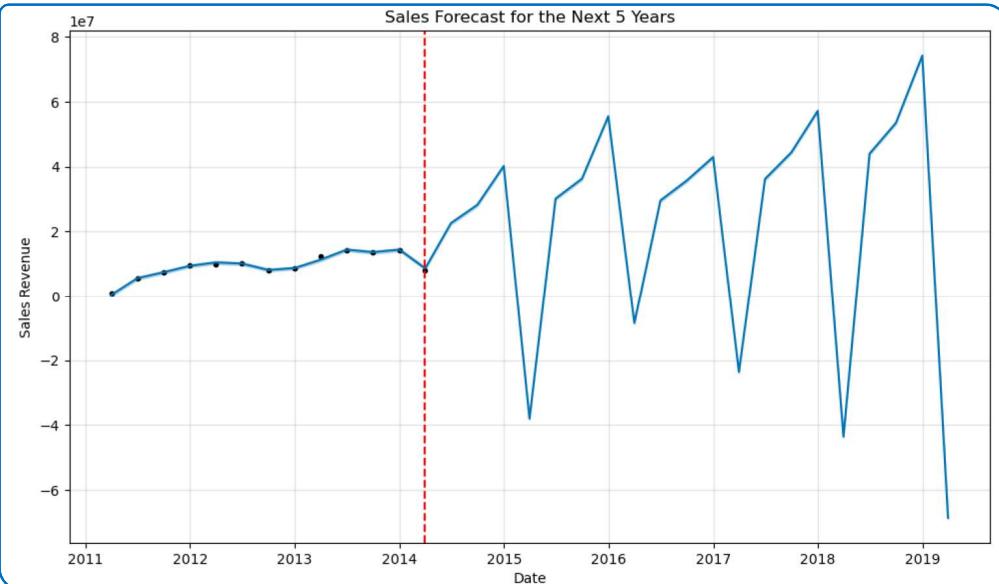
1. Seasonal and Cyclical Trends:

- The forecast may highlight expected seasonal fluctuations, with peak periods like holidays or specific quarters identified as high-demand times. Recognising these patterns helps the company prepare for inventory and staffing needs during anticipated sales surges.
- Additionally, cyclical trends, such as annual growth patterns or anticipated downturns, are factored into the forecast. This helps create a more accurate projection that considers both short-term variances and long-term growth.

2. Influence of Market Expansion and Digital Growth:

- The forecast likely incorporates assumptions about market expansion (e.g., entering new regions or demographics) and digital growth. With increasing online sales, the company may expect a shift towards digital channels, which can alter the sales trajectory over time.
- By considering these factors, the forecast aligns sales targets with strategic goals, such as digital transformation or expansion into untapped markets, providing a roadmap for future growth initiatives.

Sales Forecasting – Next 5 Years



Strategic Implications

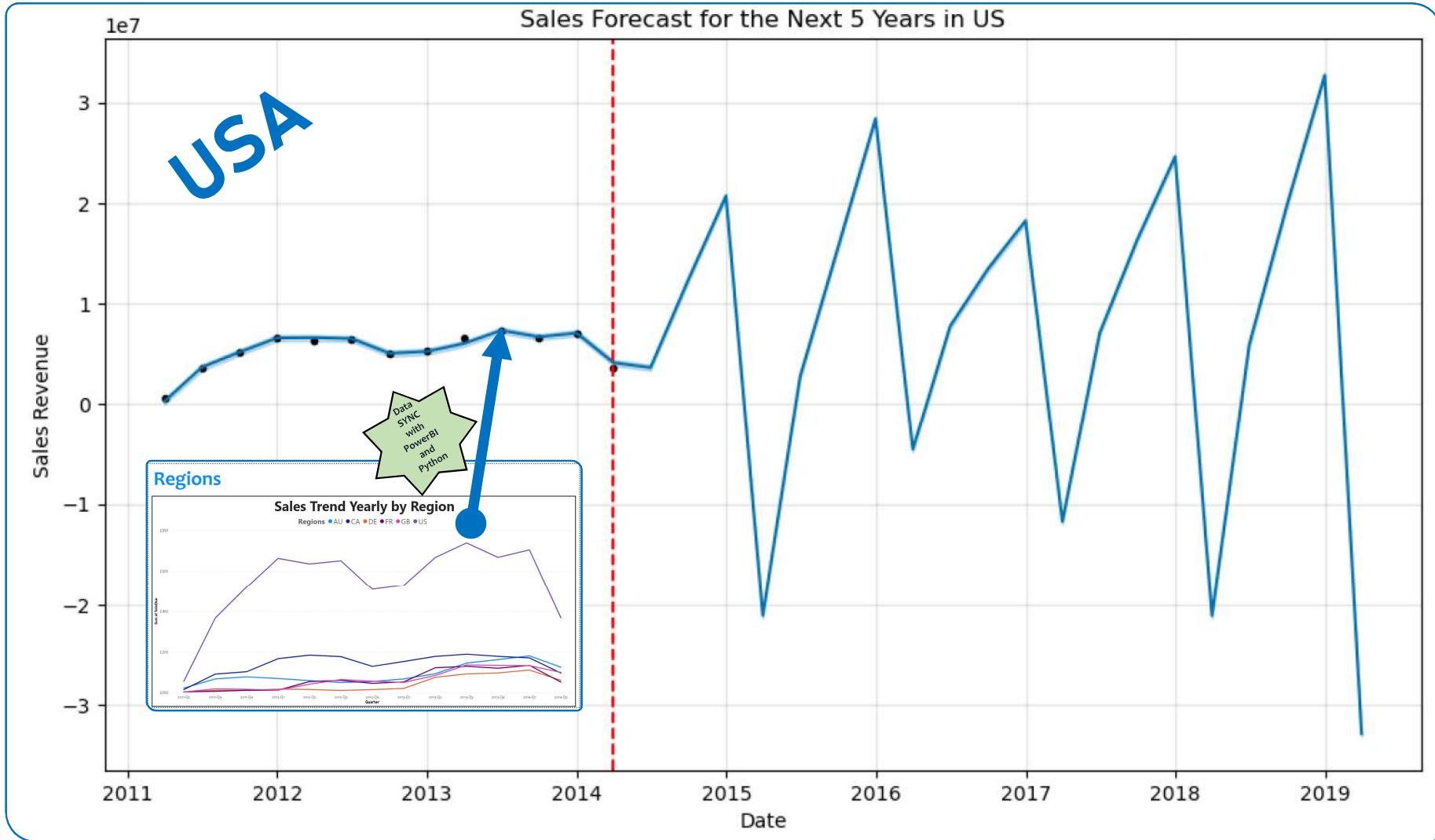
Resource and Budget Allocation:

- The forecast informs budgeting decisions by identifying periods of high or low demand, enabling the company to allocate resources effectively. For example, marketing and inventory budgets can be optimised for peak sales periods to maximise return on investment.

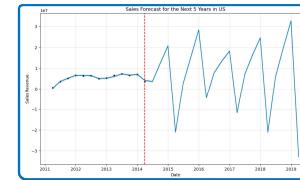
Goal Setting and Performance Tracking:

- By establishing a 5-year projection, the company can set specific sales targets and KPIs. Ongoing tracking of actual performance against these projections allows for timely adjustments to strategy, ensuring the business remains aligned with its long-term growth objectives.

Sales Forecasting



Sales Forecasting - USA



1. Projected Sales Growth

While reviewing the data, I observed clear projections for sales growth in the USA, which reflect both historical patterns and the ongoing digital shift. The forecast includes both conservative and optimistic scenarios, which help us understand how different factors—like changes in customer demand, economic shifts, and the increasing impact of digital channels—could shape our future growth. This nuanced projection will help AHG set realistic, achievable targets, providing a framework to guide our strategic initiatives in line with both market opportunities and potential challenges.

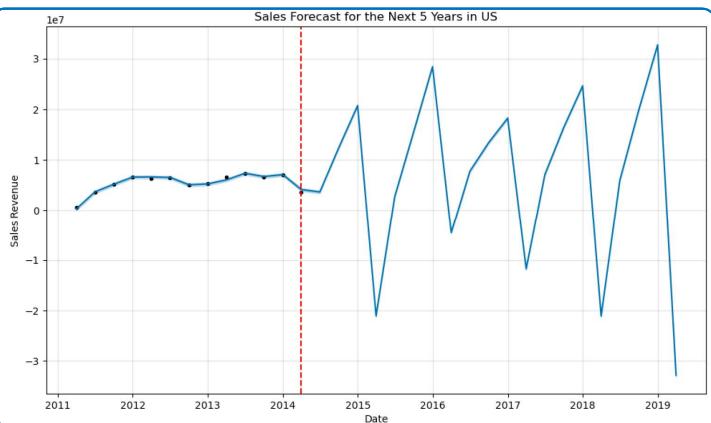
2. Seasonal and Cyclical Trends

Looking at the seasonal and cyclical patterns, I noticed key demand peaks, particularly around holidays and specific quarters. Recognizing these high-demand periods within the USA market enables us to better prepare for spikes in sales, inventory needs, and staffing. The data also shows the steady growth in online sales, suggesting a structural shift that reinforces the need to balance short-term adjustments with long-term growth strategies. This perspective will allow AHG to manage resources effectively, addressing seasonal needs while aligning with the broader trend toward digital engagement.

3. Influence of Market Expansion and Digital Growth

As I analysed the data, it became evident that our USA forecast incorporates assumptions about market expansion and digital growth. The increased focus on online sales channels and reaching new customer segments signals a shift that could significantly impact our sales trajectory. This aligns well with AHG's overarching goal of expanding digital channels and broadening market reach. By anticipating these shifts, we can align our growth targets more closely with AHG's strategic priorities, building a roadmap that supports sustainable expansion within the USA.

Sales Forecasting – USA



Summary

Reviewing the USA sales forecast data offers a clear, strategic view that combines historical insights, market analysis, and digital opportunities. This forward-looking approach helps AHG set realistic growth targets, guiding resource allocation, digital expansion, and performance tracking. By grounding our planning in these projections, we can ensure that our strategies are adaptable, meeting evolving market demands and supporting AHG's growth trajectory in the USA.

Strategic Implications

1. Resource and Budget Allocation

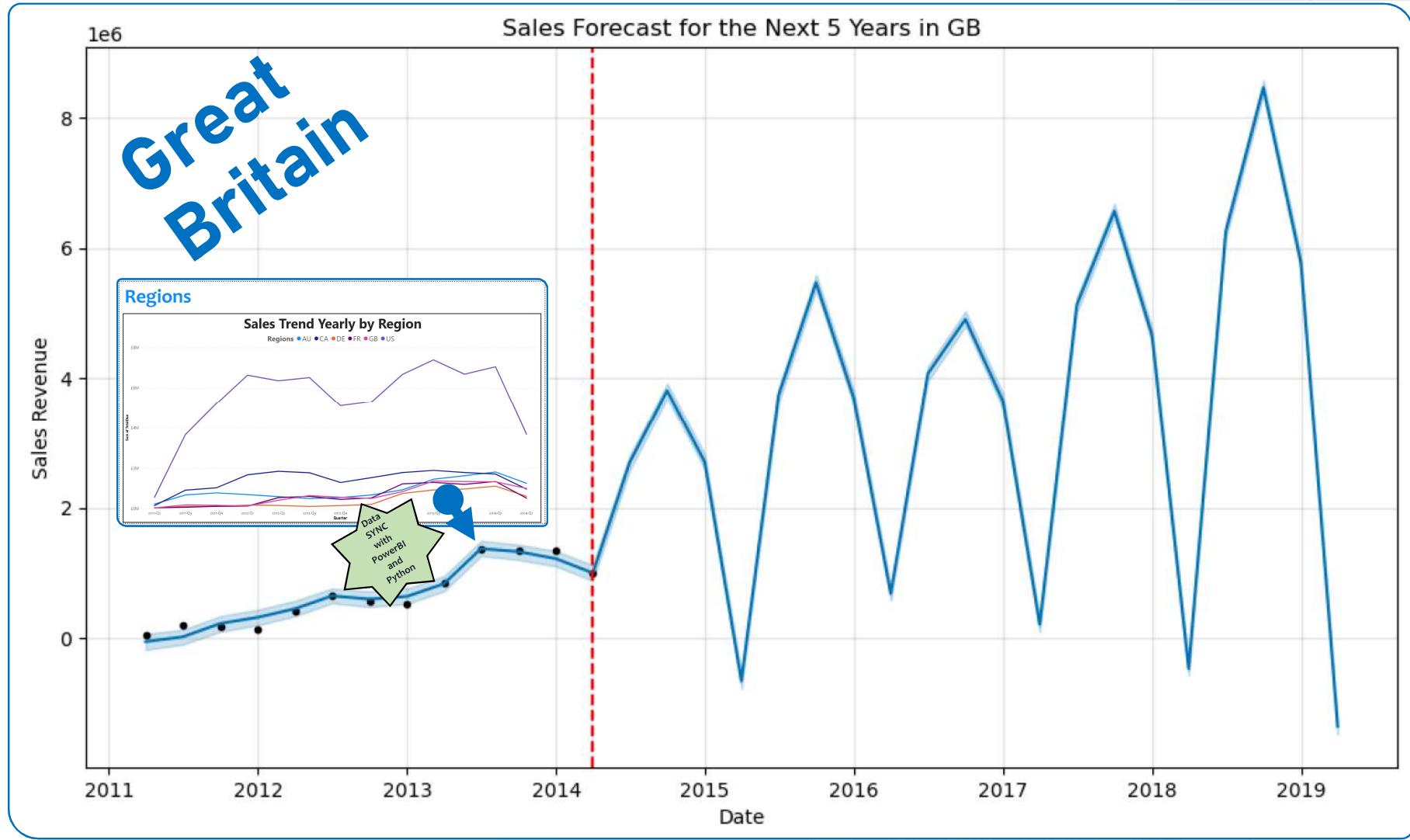
The data clearly highlights the importance of adjusting resource and budget allocation to align with the USA's demand cycles. For example, our ability to strategically direct budgets toward high-demand periods can enhance our return on investment, particularly within digital channels where we expect significant growth. By aligning inventory and marketing spend with peak sales times, AHG can optimize resource use and support growth in areas with the highest potential.

2. Goal Setting and Performance Tracking

The 5-year projection allows us to set specific sales targets and KPIs, providing a benchmark to track against as we move forward. Through consistent monitoring, we'll be able to compare actual performance to these forecasts, making adjustments as needed to stay aligned with our long-term growth objectives. This dynamic approach to tracking will keep AHG agile and responsive to any market shifts in the USA, ensuring that our strategies remain relevant and impactful.

Sales Forecasting

ADVENTUREWORKS





Sales Forecasting – Great Britain

1. Projected Sales Growth

In reviewing the data for Great Britain, I noted projections that reflect a balanced outlook on growth, derived from a blend of historical sales data and current trends in the market. This forecast includes both cautious and optimistic scenarios, giving us a range to work within based on factors such as shifts in consumer preferences, economic developments, and the advancing shift towards digital sales channels. These projections provide AHG with an adaptable framework for setting realistic sales targets, allowing for strategic flexibility aligned with local market conditions.

2. Seasonal and Cyclical Trends

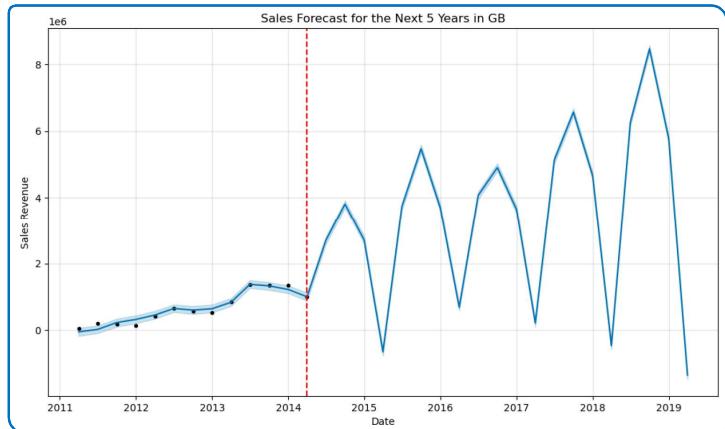
The data highlights distinct seasonal and cyclical patterns within the British market, with peak demand during holiday seasons and particular quarters. Recognising these fluctuations enables AHG to plan resources and staffing more effectively, ensuring preparedness for periods of high demand. Additionally, cyclical trends observed in both offline and online sales reflect the gradual but significant shift towards digital purchasing. Factoring in these patterns allows for a more comprehensive projection that supports both short-term operational needs and sustained long-term growth.

3. Influence of Market Expansion and Digital Growth

As I examined the data, it became evident that the forecast for Great Britain accounts for potential market expansion and an increasing reliance on digital channels. This aligns well with AHG's broader goals of growing its online presence and expanding into new customer segments. By anticipating the shift towards digital, we can tailor our growth strategies to ensure that AHG's digital transformation efforts are prioritised, supporting our expansion in Great Britain in a manner that is both progressive and sustainable.



Sales Forecasting – Great Britain



Strategic Implications

- **Resource and Budget Allocation**

The insights gained from the data are crucial for planning effective resource and budget allocation. By identifying periods of high demand within Great Britain, AHG can strategically allocate budgets towards these peak periods, maximising return on investment and operational efficiency. For instance, aligning inventory and marketing spend with high-demand times, particularly in digital channels, enables AHG to meet consumer needs while managing costs.

- **Goal Setting and Performance Tracking**

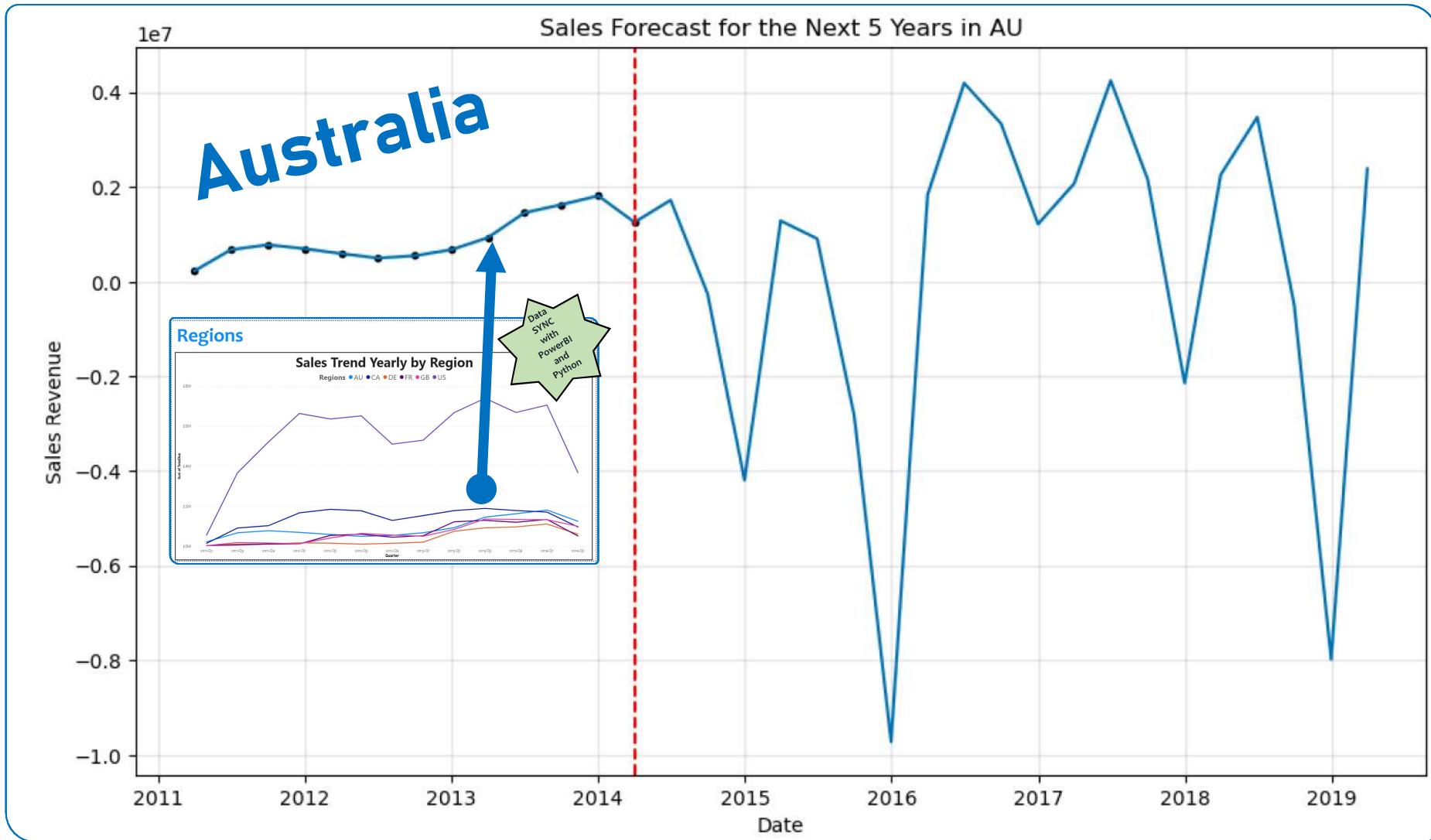
This 5-year projection sets a clear path for sales targets and key performance indicators (KPIs), creating a benchmark for ongoing performance tracking. Through continuous monitoring, we'll be able to assess our actual performance against these forecasts and adjust strategies as needed. This proactive approach ensures that AHG remains aligned with its long-term growth goals within Great Britain, providing the flexibility to adapt to any market changes as they arise.

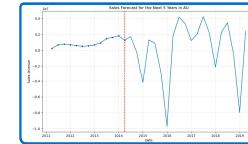
Summary

The Great Britain sales forecast leverages data analysis to offer a strategic view that encompasses both traditional sales and the expanding digital landscape. This forward-looking approach equips AHG to set realistic growth targets and optimises resource allocation, digital growth, and performance tracking. By grounding our strategies in this forecast, AHG can confidently navigate the British market, meeting evolving demands while supporting sustainable growth across the region.

Sales Forecasting

ADVENTUREWORKS





Sales Forecasting – Australia

1. Projected Sales Growth

As I reviewed the Australian data, I observed that the sales forecast reflects a nuanced view of projected growth, grounded in past performance and local market trends. The forecast includes both cautious and optimistic scenarios, allowing AHG to anticipate different outcomes based on shifts in consumer demand, economic factors, and an increasing reliance on digital channels. This approach equips AHG with a realistic framework for setting sales targets that are adaptable to both internal goals and the dynamic Australian market landscape.

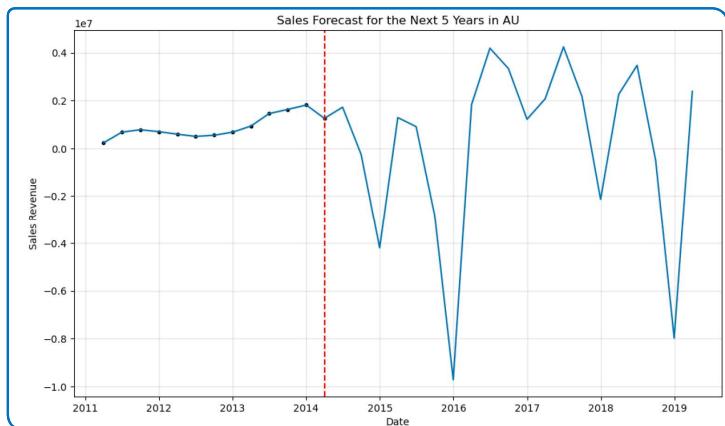
2. Seasonal and Cyclical Trends

The data reveals significant seasonal trends and cyclical patterns specific to Australia, including marked peaks during certain holiday seasons and specific quarters. Recognising these trends allows AHG to optimise resources—such as inventory and staffing—to meet anticipated spikes in demand. Additionally, the data indicates a gradual shift towards digital sales, aligning with global trends but tailored to the unique Australian context. This dual focus on seasonal and long-term patterns enables a more accurate forecast, balancing immediate operational needs with sustained growth objectives.

3. Influence of Market Expansion and Digital Growth

As I examined the forecast further, it became apparent that assumptions around market expansion and digital growth have been thoughtfully integrated. The increased emphasis on digital channels, alongside potential market expansions, indicates a strategic focus on reaching new customer segments and tapping into untapped demand across Australia. By aligning our targets with these anticipated shifts, AHG's sales strategies can effectively support digital transformation efforts while facilitating sustainable growth within the Australian market

Sales Forecasting – Australia



Strategic Implications

- **Resource and Budget Allocation**

Insights from the Australian forecast are essential for refining our approach to resource and budget allocation. By identifying peak sales periods, AHG can strategically channel resources to optimise outcomes, particularly by allocating budgets towards high-demand seasons and digital channels where growth is expected. This alignment of marketing and inventory resources with peak demand ensures that AHG can meet customer expectations while managing costs effectively.

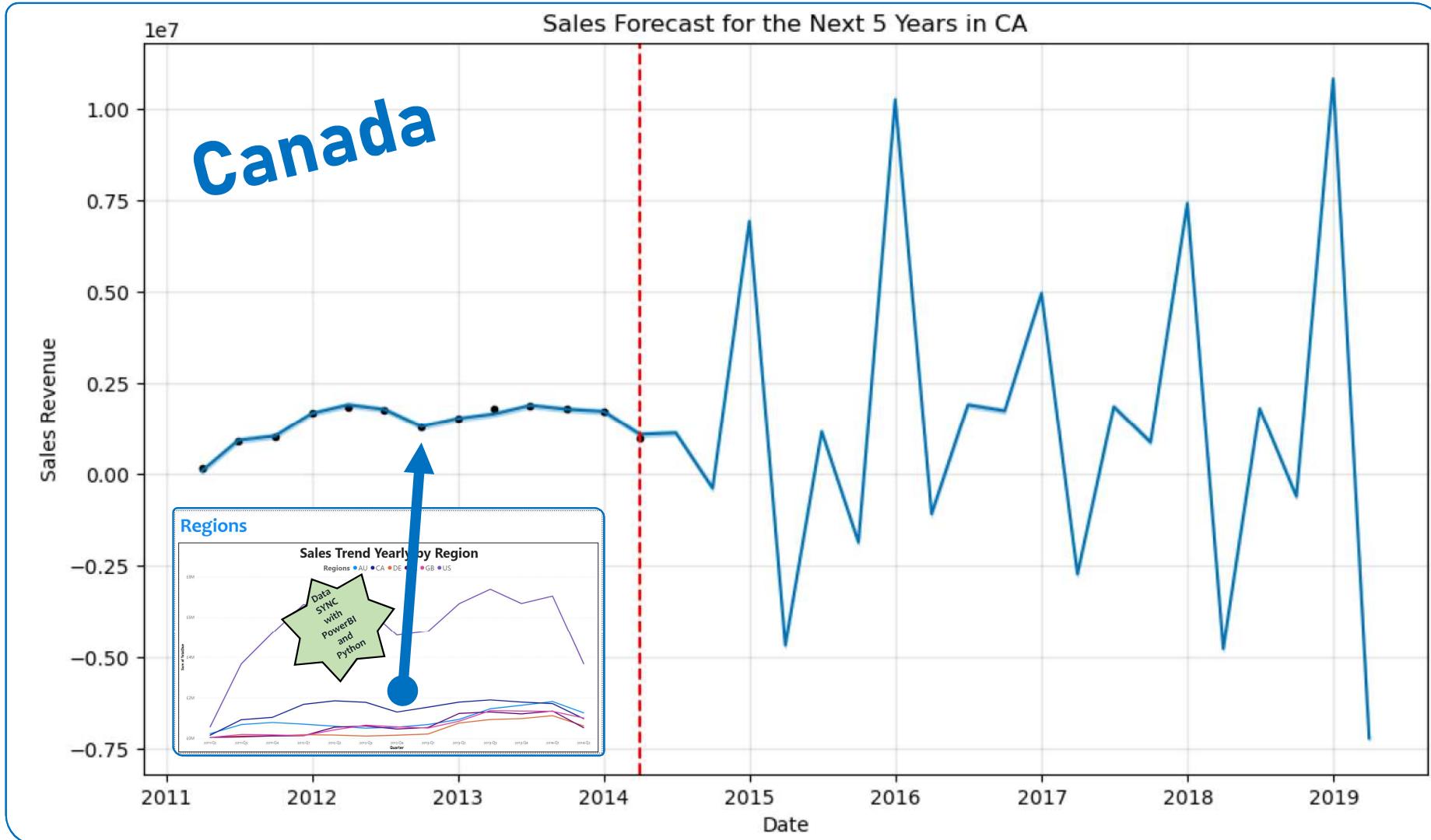
- **Goal Setting and Performance Tracking**

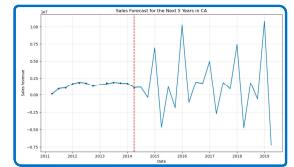
The 5-year projection offers a structured basis for setting specific sales targets and key performance indicators (KPIs). By continuously tracking actual performance against these projections, AHG will be able to make timely adjustments, ensuring that its strategies remain aligned with long-term growth goals. This proactive monitoring will help AHG remain responsive to any shifts in the Australian market, supporting adaptability in an ever-evolving landscape.

Summary

The Australian sales forecast provides AHG with a strategic outlook that bridges historical data, local market analysis, and the expanding role of digital sales. This forward-looking perspective empowers AHG to set realistic, achievable targets while optimising resources, driving digital growth, and tracking performance with precision. By grounding its approach in this forecast, AHG is well-positioned to navigate the Australian market, meeting demand shifts while fostering sustainable growth across the region.

Sales Forecasting





Sales Forecasting – Canada

1. Projected Sales Growth

Upon reviewing the data for Canada, I noted that the forecast offers a well-rounded projection of potential sales growth, drawing from historical trends and current market conditions. The forecast provides both cautious and optimistic scenarios, allowing for adjustments based on consumer demand, economic conditions, and the steady shift towards digital channels. These projections furnish AHG with a practical framework for setting sales targets that are responsive to Canada's distinct market environment while supporting AHG's strategic growth goals.

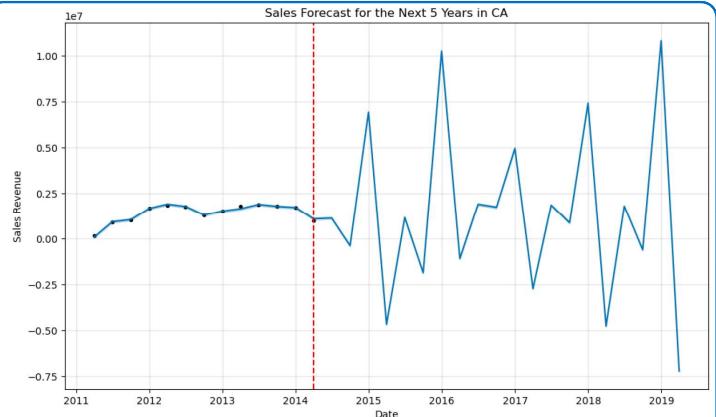
2. Seasonal and Cyclical Trends

The Canadian data reveals clear seasonal and cyclical sales patterns, with increased demand during key holiday periods and specific quarters. By recognising these trends, AHG can better allocate resources, ensuring adequate inventory and staffing during anticipated high-demand periods. Furthermore, the data indicates a growing shift towards online sales, which aligns with global digital trends yet reflects local market nuances. This dual focus on seasonal peaks and long-term digital growth enhances the accuracy of the forecast, balancing short-term operational needs with sustained growth.

3. Influence of Market Expansion and Digital Growth

As I examined the data further, it became evident that the Canadian forecast incorporates thoughtful considerations around market expansion and digital growth. With an increased emphasis on digital sales channels and potential expansion into new customer segments, AHG is positioned to tap into Canada's evolving market. This forecast aligns growth targets with AHG's strategic priorities, creating a roadmap that supports both digital transformation and regional market expansion in Canada.

Sales Forecasting – Canada



Strategic Implications

- **Resource and Budget Allocation**

The insights gained from the Canadian forecast are crucial for optimising resource and budget allocation. By identifying high-demand periods, AHG can strategically direct resources—such as marketing spend and inventory allocation—towards peak sales times, particularly within digital channels, where growth potential is strong. This approach allows AHG to manage resources effectively, ensuring readiness to meet consumer expectations while achieving cost efficiencies.

- **Goal Setting and Performance Tracking**

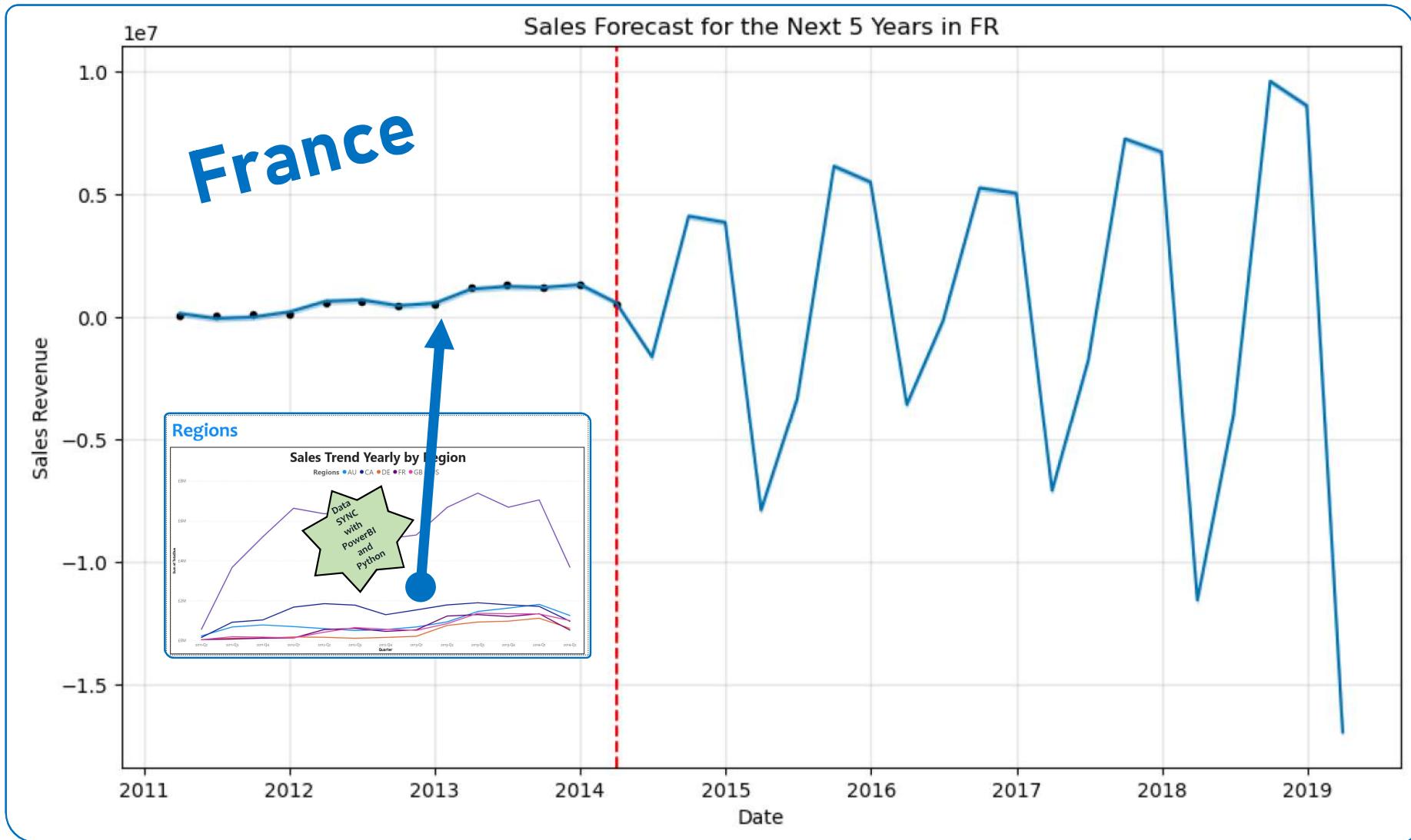
The 5-year projection provides AHG with a structured basis for setting sales targets and key performance indicators (KPIs) that align with long-term growth ambitions in Canada. By tracking actual performance against these forecasts, AHG can make timely adjustments to its strategies, maintaining flexibility to adapt to changes in the Canadian market. This proactive approach helps AHG stay aligned with its broader growth objectives while remaining responsive to evolving market demands.

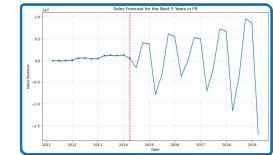
Summary

The Canadian sales forecast presents AHG with a comprehensive perspective that incorporates historical insights, local market analysis, and the expanding importance of digital sales. This forward-looking view allows AHG to set achievable targets, optimise resources, drive digital growth, and closely track performance. With this forecast as a foundation, AHG is well-equipped to navigate the Canadian market, adapting to demand shifts and fostering sustainable growth across the region.

Sales Forecasting

ADVENTUREWORKS





Sales Forecasting – France

1. Projected Sales Growth

In examining the data for France, I noted a comprehensive projection of sales growth that reflects both historical performance and local market conditions. The forecast incorporates both conservative and optimistic scenarios, allowing for adjustments based on factors such as changing consumer preferences, economic trends, and the increasing importance of digital channels. This dual-scenario approach equips AHG with a flexible framework for setting realistic sales targets, supporting strategic planning that aligns with the unique dynamics of the French market.

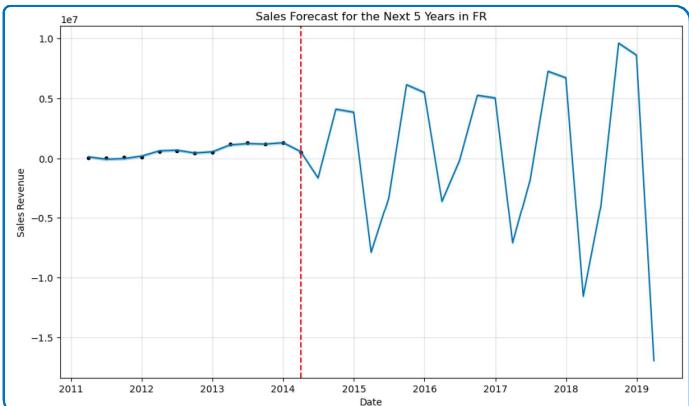
2. Seasonal and Cyclical Trends

The data reveals distinct seasonal and cyclical sales patterns in France, including anticipated peaks during specific holiday seasons and high-demand quarters. Recognising these patterns enables AHG to allocate resources effectively, ensuring adequate inventory and staffing to meet anticipated sales surges. Additionally, there is a notable shift towards digital sales, reflecting a trend that is shaping both the global and French markets. This focus on both seasonal and digital growth ensures a more accurate and actionable forecast that addresses immediate needs while supporting long-term expansion.

3. Influence of Market Expansion and Digital Growth

As I analysed the forecast, it became clear that assumptions about market expansion and digital growth are central to the French sales outlook. Increased emphasis on digital channels and the potential to reach new customer demographics signal growth opportunities. By aligning targets with these anticipated shifts, AHG can more effectively support digital transformation and market expansion strategies in France, creating a robust roadmap for sustainable growth.

Sales Forecasting – France



Strategic Implications

- **Resource and Budget Allocation**

Insights from the French forecast are invaluable for planning resource and budget allocation. By identifying high-demand periods, AHG can strategically direct resources towards these peaks, particularly within digital channels where growth is expected to accelerate. Aligning marketing and inventory investments with peak demand ensures that AHG can meet customer needs while optimising costs, improving operational efficiency in the French market.

- **Goal Setting and Performance Tracking**

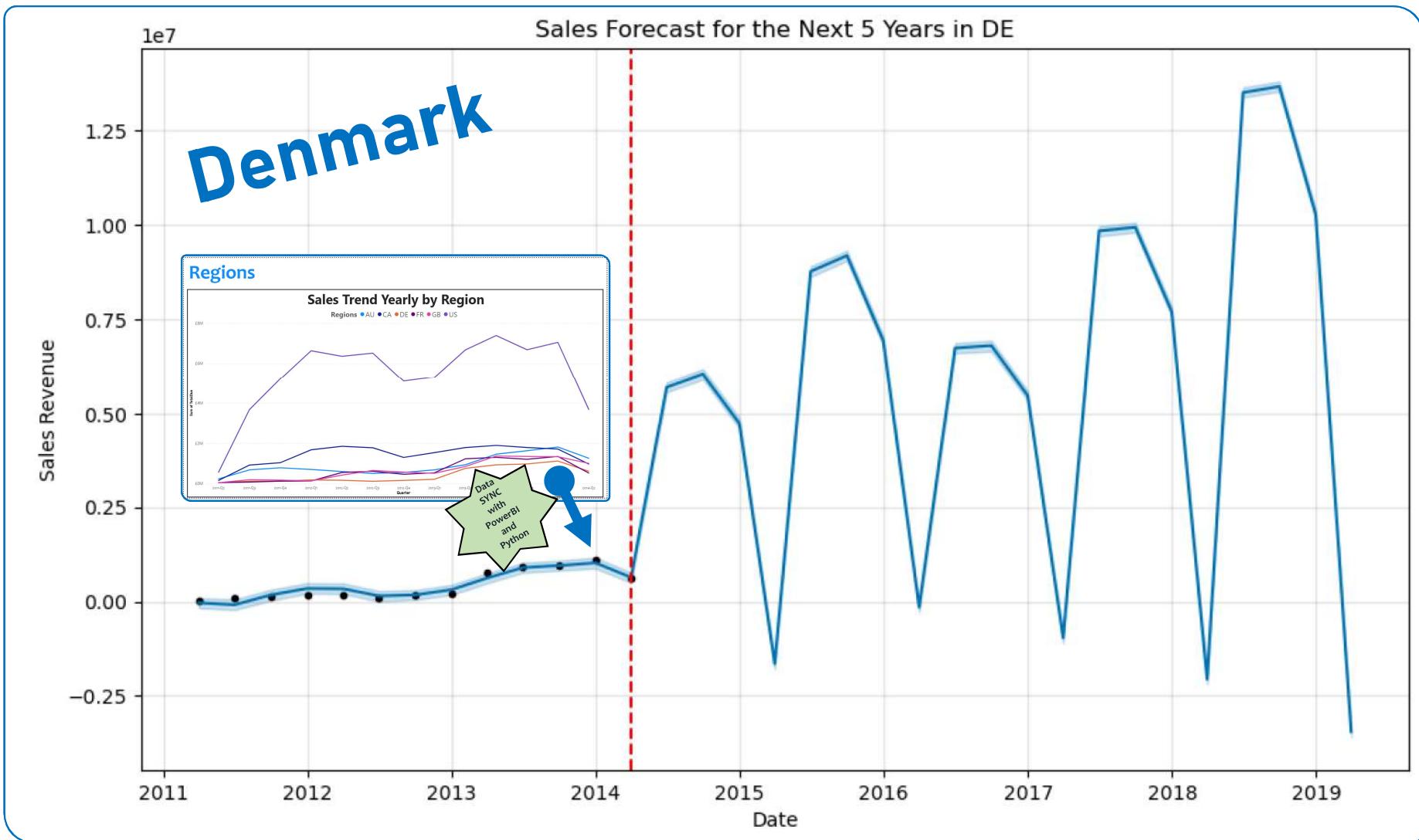
The 5-year projection sets a structured basis for sales targets and key performance indicators (KPIs) that align with AHG's broader growth objectives in France. Continuous monitoring of actual performance against these forecasts allows AHG to make timely adjustments, ensuring that strategies remain aligned with market conditions. This proactive approach supports agility and responsiveness, helping AHG navigate the evolving French market landscape effectively.

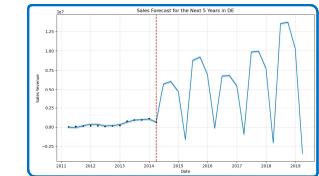
Summary

The French sales forecast provides AHG with a forward-looking perspective that incorporates historical data, market trends, and the importance of digital growth. This outlook empowers AHG to set realistic targets, allocate resources effectively, drive digital expansion, and track performance closely. With this forecast as a guide, AHG is well-prepared to navigate the French market, meeting demand shifts and supporting sustainable growth throughout the region.

Sales Forecasting

ADVENTUREWORKS





Sales Forecasting – Denmark

1. Projected Sales Growth

As I examined the Danish sales data, I observed that the forecast provides a thoughtful projection of growth, grounded in historical trends and current market conditions. This forecast includes both conservative and optimistic scenarios, allowing AHG to adapt to potential shifts in consumer demand, economic changes, and the gradual shift towards digital channels. These projections offer AHG a flexible structure for setting realistic sales targets, aligned with the unique dynamics of the Danish market.

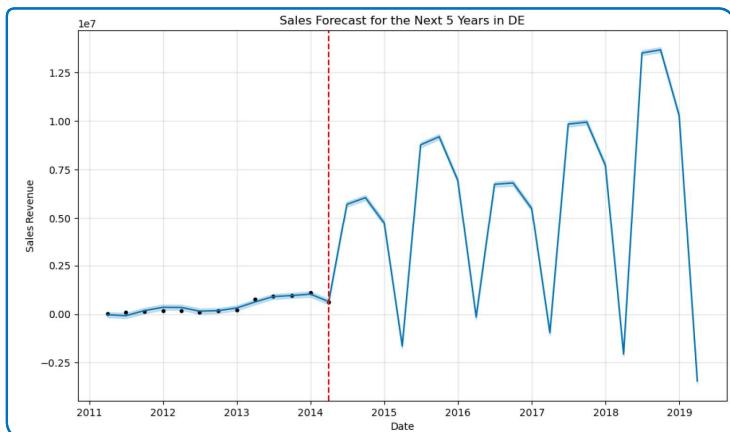
2. Seasonal and Cyclical Trends

The data reveals distinct seasonal and cyclical patterns in Denmark, with demand peaks during specific holiday periods and certain quarters. Recognising these patterns helps AHG optimise resources by planning inventory and staffing to meet anticipated sales increases. Additionally, the data shows a steady increase in online sales, a trend seen globally but also prominent in Denmark. This emphasis on both short-term seasonal trends and long-term digital growth supports a more accurate forecast that balances immediate operational needs with sustained expansion objectives.

3. Influence of Market Expansion and Digital Growth

The Danish forecast also incorporates strategic considerations around market expansion and digital growth. With increasing focus on digital sales channels and potential outreach to new customer segments, AHG is positioned to leverage growth opportunities in Denmark. By aligning sales targets with these anticipated shifts, AHG's strategies can support digital transformation while facilitating sustainable growth within the Danish market.

Sales Forecasting – Denmark



Strategic Implications

- **Resource and Budget Allocation**

Insights from the Danish forecast are instrumental for optimising resource and budget allocation. By identifying high-demand periods, AHG can strategically allocate resources towards these peaks, particularly in digital channels where growth potential is strongest. This targeted approach to budgeting ensures that AHG can meet customer expectations while managing costs efficiently, enhancing operational agility in Denmark.

- #### • Goal Setting and Performance Tracking

The 5-year projection provides AHG with a structured basis for setting specific sales targets and key performance indicators (KPIs) aligned with its long-term growth goals in Denmark. By tracking actual performance against these forecasts, AHG can make timely adjustments to its strategies, maintaining flexibility to respond to changes in the Danish market. This proactive approach enables AHG to stay aligned with its broader objectives while adapting to the unique needs of the Danish market.

Summary

The Danish sales forecast presents AHG with a strategic outlook that combines historical insights, local market analysis, and an emphasis on digital growth. This perspective allows AHG to set achievable targets, optimise resources, enhance digital channels, and closely track performance. By basing its approach on this forecast, AHG is well-positioned to navigate the Danish market, adapting to evolving demand and fostering sustainable growth across the region.

Summary

1. Introduction
2. Defining the Problem and Structuring the Solution
3. Cost Efficiency and Operational Improvements
4. Sales Forecasting and Market Growth Analysis

5. Product and Regional Performance Analysis

6. Product Association and Market Basket Analysis
7. Digital Strategy and Channel Optimisation
8. Business Intelligence and Visualisation System Design
9. Conclusion and Strategic Recommendations

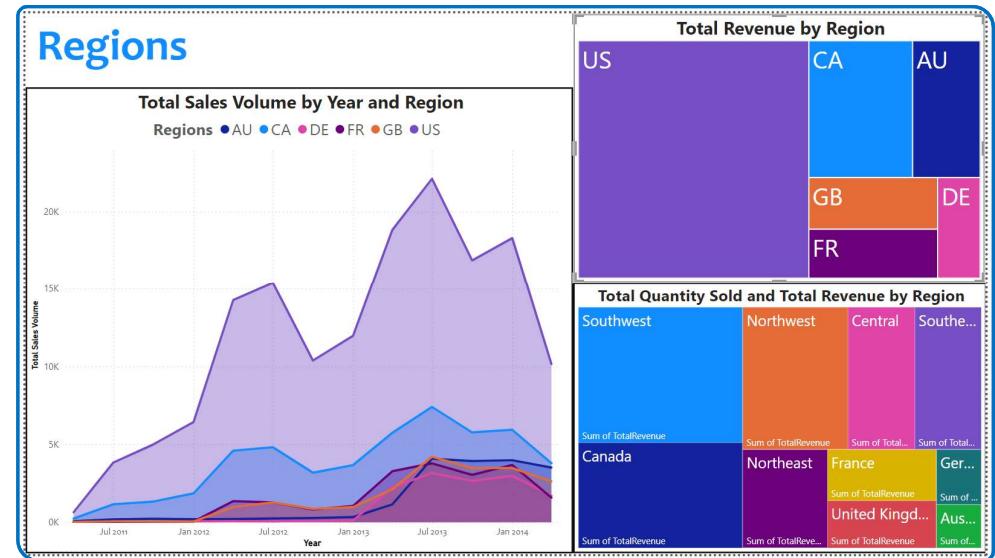


Are sales growing as fast as the market or not?

1. While AHG's digital growth is promising, certain regions are lagging behind broader market trends. This variability across regions and product lines indicates the need for region-specific growth strategies that are tailored to local market dynamics. By adapting its approach to each area's unique circumstances, AHG can better align its sales performance with overall market opportunities.
2. While AHG is experiencing growth in some digital channels, the in-store sales remain significant, though slightly declining. The shift in customer purchasing behaviour favours higher-priced items, particularly in digital channels, suggesting that AHG's expansion in this area has potential for high returns.
3. Despite this, the overall growth in sales volume may not entirely match broader market trends. Specific regions like the Southwest and Northwest have strong sales, while areas like Central and Northeast show weaker performance, indicating a lag in some markets. Additionally, the heavy reliance on seasonal peaks and cyclical trends suggests that AHG could benefit from a more aggressive expansion strategy that consistently captures demand outside peak periods.



Products and Regions



Products and Region - Sales Volume by Year and Region

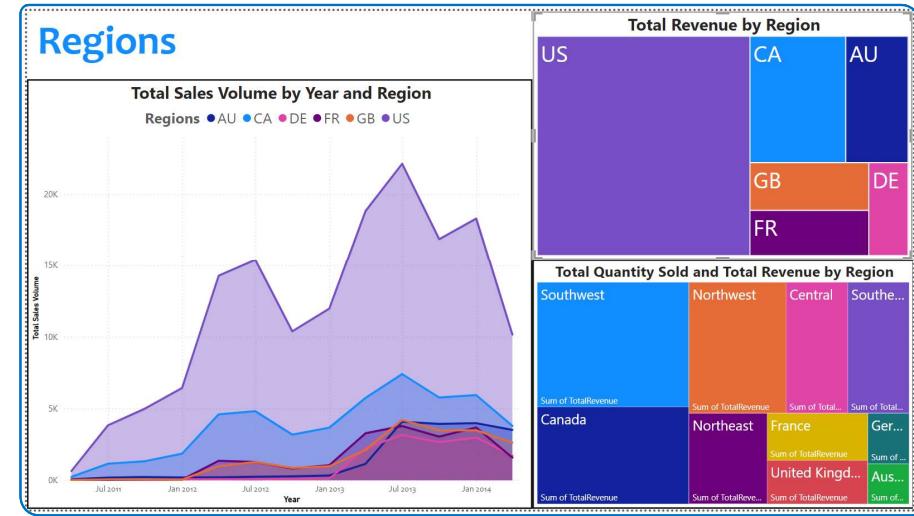
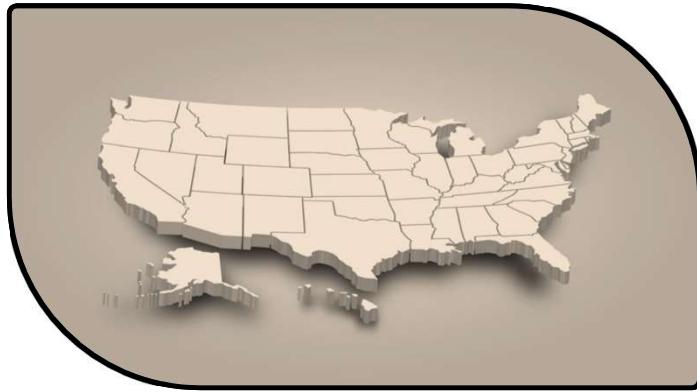
1. Regional Sales:

- Regions like the Southwest and Northwest consistently show strong sales, indicating stable demand and making them key markets.
- Central and Northeast show lower sales, suggesting a need for targeted marketing or growth initiatives.

2. Yearly Sales Trends:

- Sales vary year-to-year, likely due to market shifts or strategic changes. Some regions remain stable, while others fluctuate, indicating potential external influences or changing customer preferences.

Products and Regions



Sales Trend Yearly by Region

1. Seasonal Patterns:

- Peak periods, likely holiday-driven, show high demand, suggesting opportunities to align inventory and marketing with these cycles.
- Regions with cyclical downturns may need additional support to maintain stability.

2. Digital and Market Expansion:

- Digital channels are reshaping sales trends. High digital growth regions should be prioritised for online engagement, while slower regions may benefit from online-exclusive promotions.

3. Strategic Takeaways:

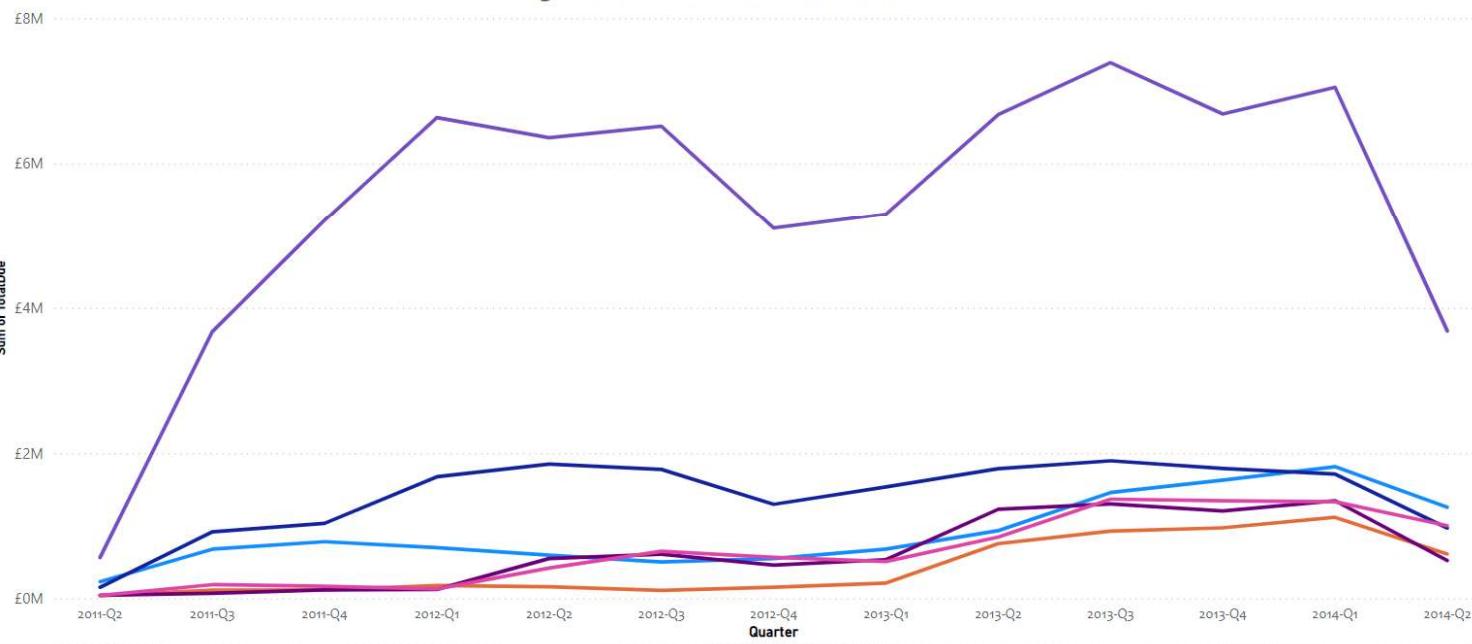
- Resource Allocation:** Prioritise high-performing regions, especially during peak periods, to maximise returns.
- Tracking Goals:** Set and monitor region-specific goals to ensure strategies align with overall growth objectives.

Products and Regions

Regions

Sales Trend Yearly by Region

Regions • AU • CA • DE • FR • GB • US



In summary, focusing on regional demand, digital growth, and seasonal patterns can help AHG optimise its sales approach and drive sustainable growth.

Regional Performance Insights

1. Top-Performing Regions:

- The Southwest region consistently shows the highest average order count across products, making it a critical market for AHG.
- Northwest and Canada also display strong sales but with variability across different products. These regions show potential for growth with targeted product strategies.

2. Underperforming Regions:

- Regions like Central and Northeast generally show lower average sales, indicating room for improvement. These regions may benefit from strategic marketing efforts or targeted promotional activities to boost sales.
- Similarly, Australia and France show mixed results, with certain products performing well while others lag. This suggests regional preferences that could guide tailored inventory and marketing decisions.



Summary

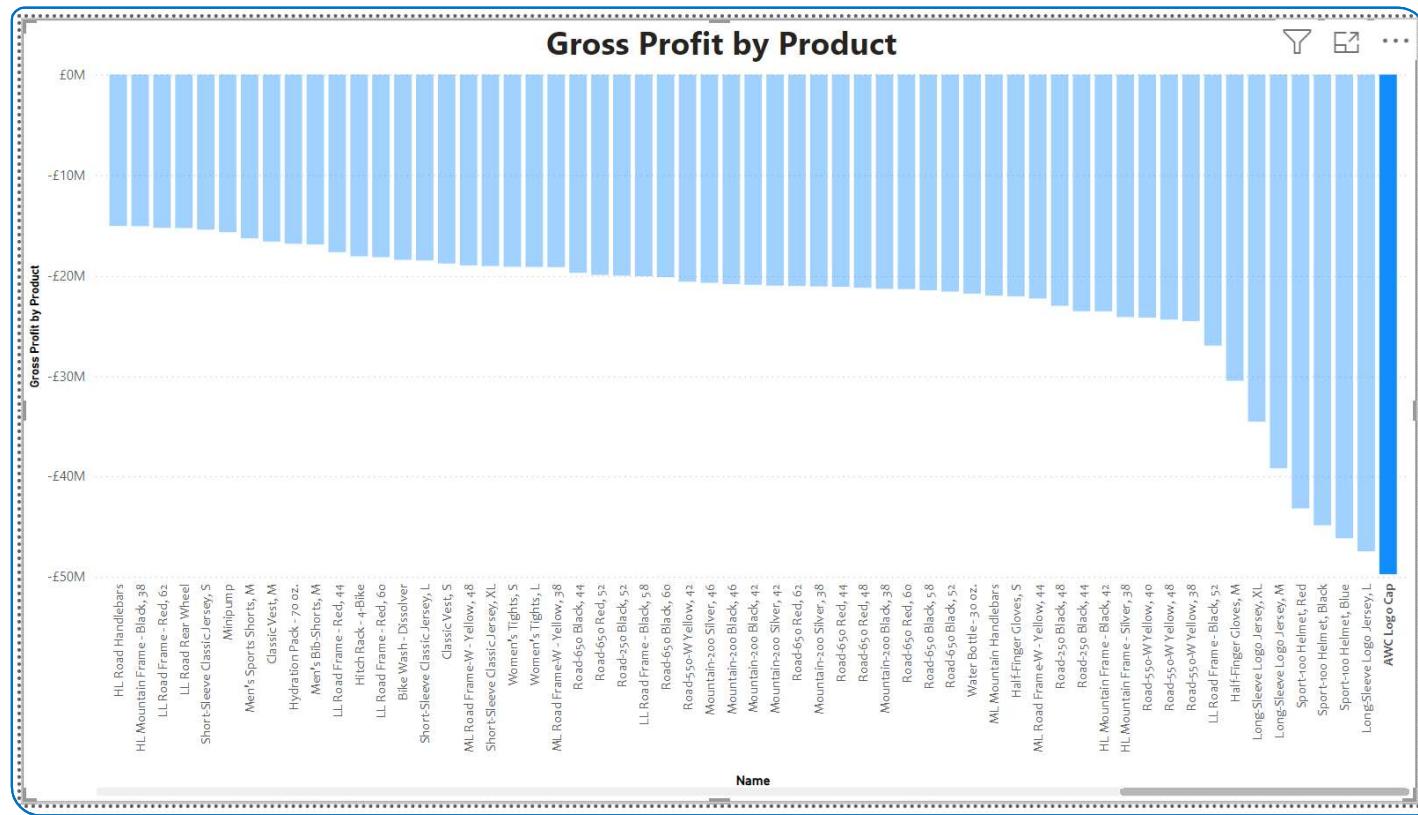
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6. Product Association and Market Basket Analysis

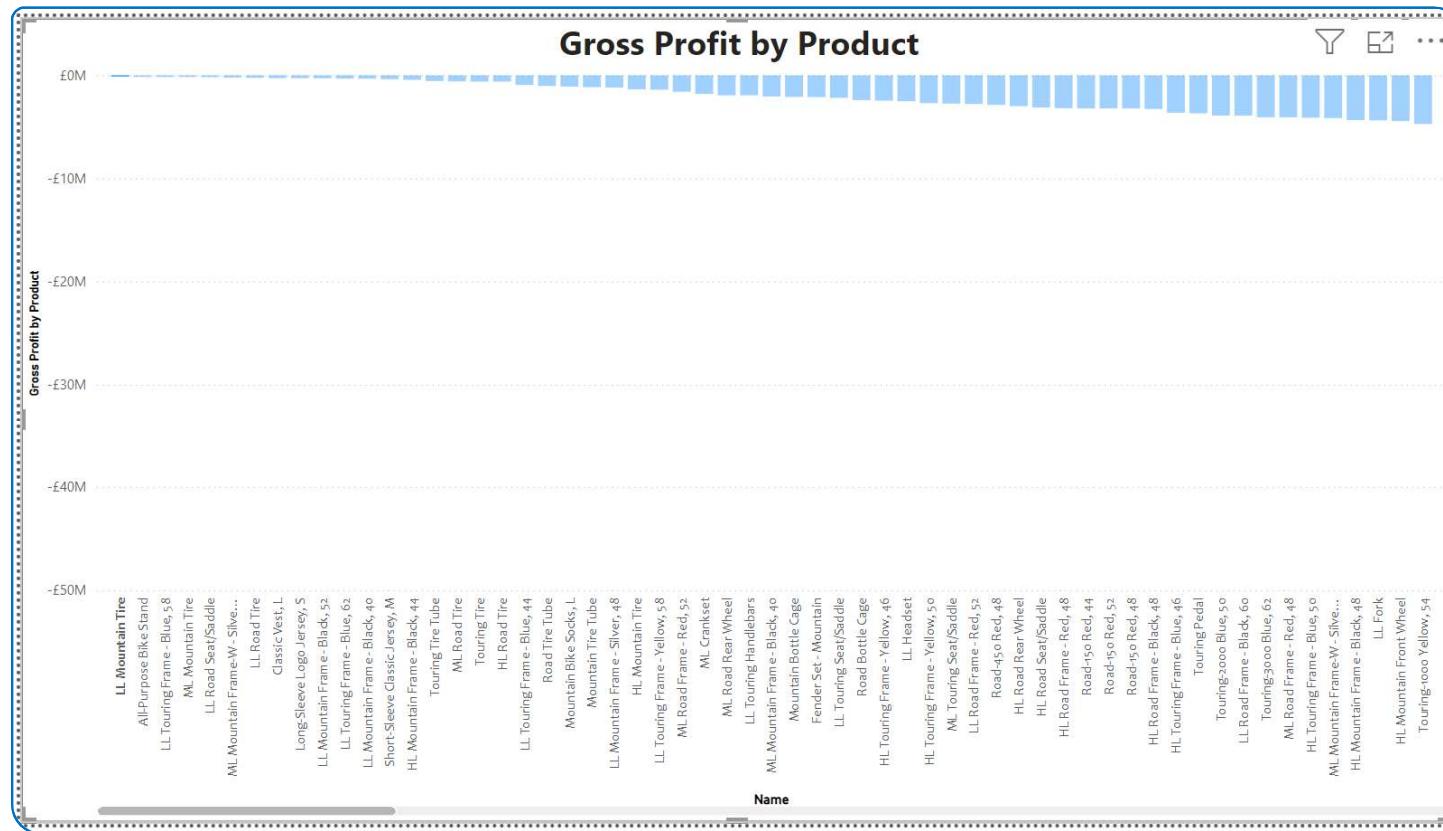
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Analyse Products and Region Performance Relative to Market Trends



Analyse Products and Region Performance Relative to Market Trends



Product Insights

1. Consistent Product Performers:

Certain products, such as the "AWC Logo Cap" and "Bike Wash - Dissolver," perform well across most regions, indicating wide customer appeal. These products may be key to maintaining sales volume and could be strategically promoted in lower-performing regions to encourage growth.

2. Product Concentration by Region:

Some products are popular in specific regions, highlighting potential regional preferences. Tailoring product offerings to these preferences could help increase sales, improve inventory turnover, and better meet local customer demands.

In summary, aligning product and regional strategies with these insights could help AHG optimise its market presence, better respond to regional demand, and drive more consistent sales across all areas.

Strategic Implications

1. Inventory and Resource Allocation:

- For high-performing regions, maintaining sufficient inventory of consistently popular products (e.g., AWC Logo Cap) is essential. Underperforming regions may require a different mix of products tailored to regional preferences.

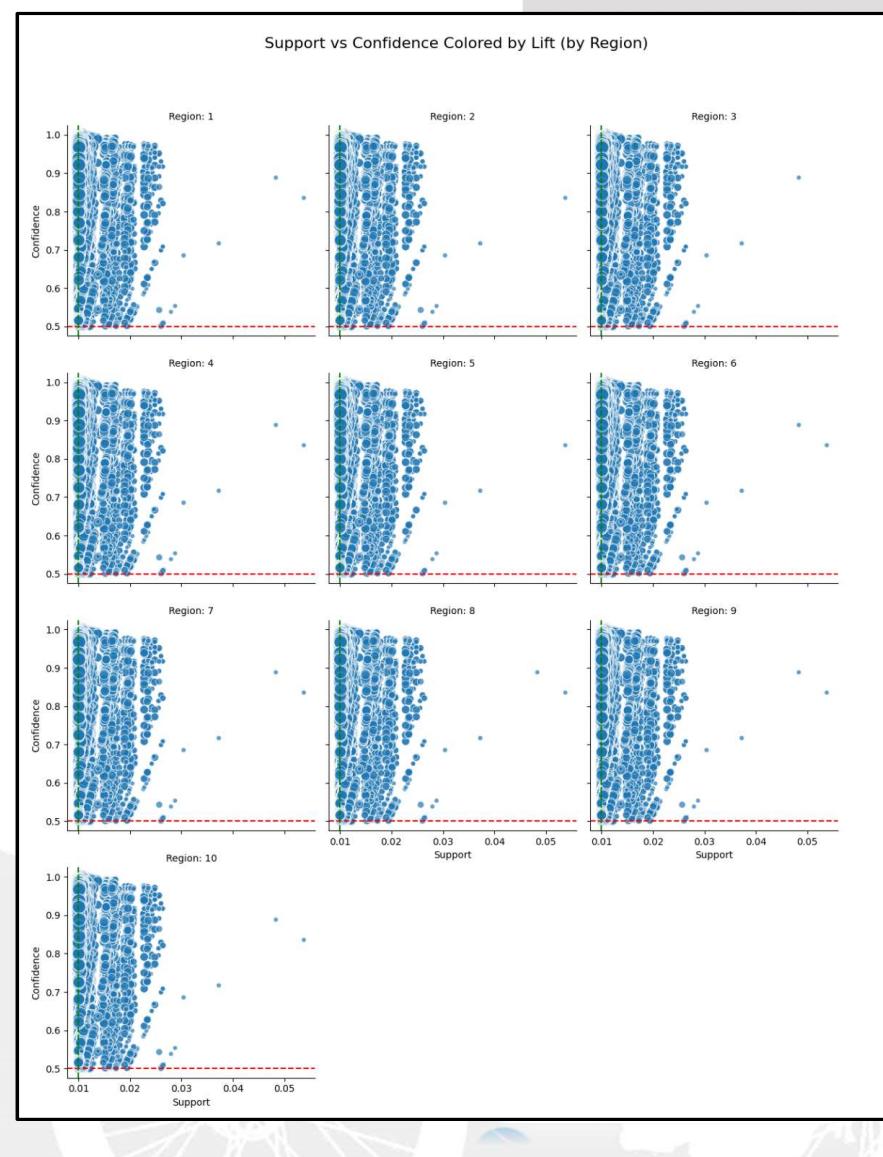
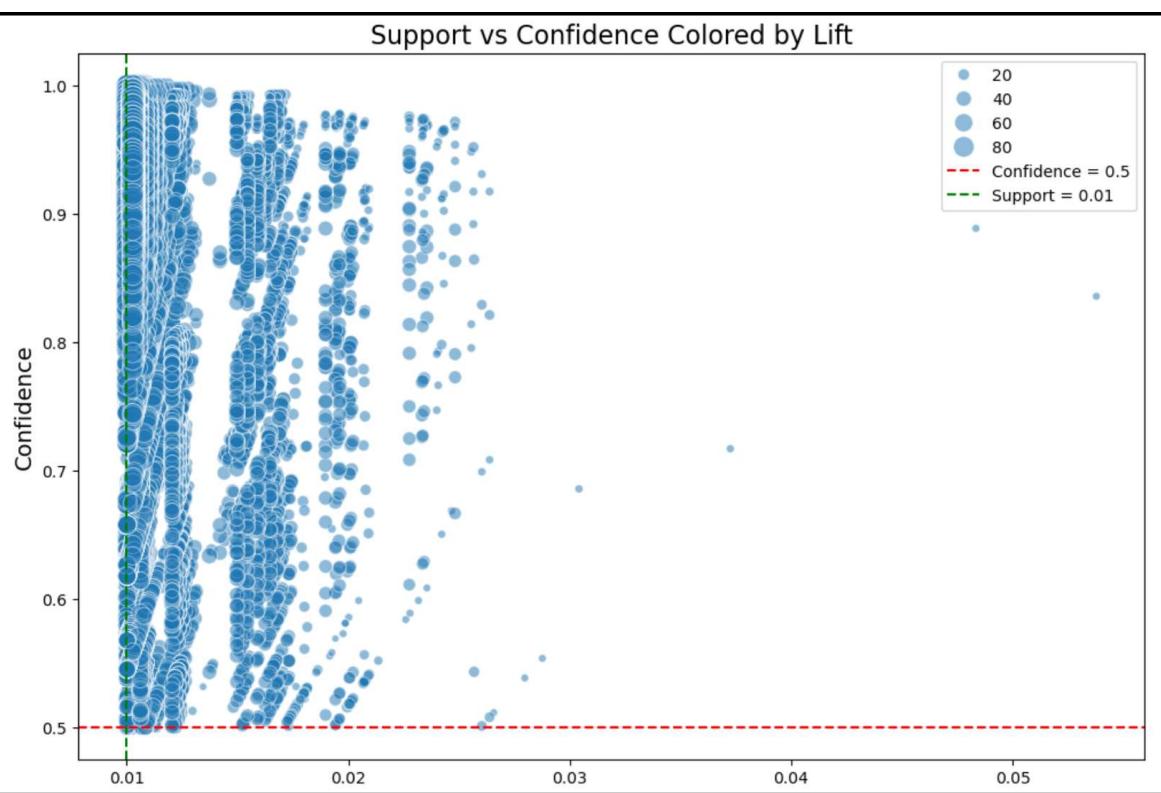
2. Targeted Marketing:

- Marketing efforts could be focused on regions with growth potential (like Central and Northeast) to increase awareness and sales. Similarly, focusing on top-performing products in underperforming regions might boost interest and improve overall sales performance.

Market Basket Analysis

	Shelved Product 1	Shelved Product 2	Shelved Product 1 Support	Shelved Product 2 Support	Support	Confidence	Lift	Leverage	Conviction
0	Long-Sleeve Logo Jersey, M	Sport-100 Helmet, Red	0.038710	0.097982	0.022597	0.583744	5.957671	0.018804	2.166978
1	Long-Sleeve Logo Jersey, L	Sport-100 Helmet, Red	0.051962	0.097982	0.026569	0.511315	5.218464	0.021478	1.845807
2	Long-Sleeve Logo Jersey, XL	Sport-100 Helmet, Red	0.034197	0.097982	0.020022	0.585502	5.975613	0.016672	2.176169
3	LL Road Frame - Black, 52	Sport-100 Helmet, Red	0.019069	0.097982	0.010647	0.558333	5.698332	0.008778	2.042305
4	Half-Finger Gloves, M	Sport-100 Helmet, Red	0.034515	0.097982	0.019164	0.555249	5.666850	0.015782	2.028140
...
147341	AWC Logo Cap, Short-Sleeve Classic Jersey, XL	Short-Sleeve Classic Jersey, L, Bike Wash - Di...	0.015986	0.010361	0.010265	0.642147	61.979015	0.010100	2.765492

Market Basket Analysis Shelved Products



Market Basket Analysis

Shelved Products

- **High Confidence:** Look for product pairs with high confidence values. A high confidence means that when a customer buys one product, they are likely to buy the other. For example, if the analysis shows that "Shelved Product 1" often leads to the purchase of "Shelved Product 2" with a confidence of 80%, it would be a strong indication to place them together.
- **High Lift:** Products with a lift greater than 1 indicate a strong association beyond what would be expected by chance. For example, if the lift between two products is 3, it suggests that they are three times more likely to be bought together than would be expected if they were independent.



Performance Analysis by Product and Region

1. Better-Performing Regions:

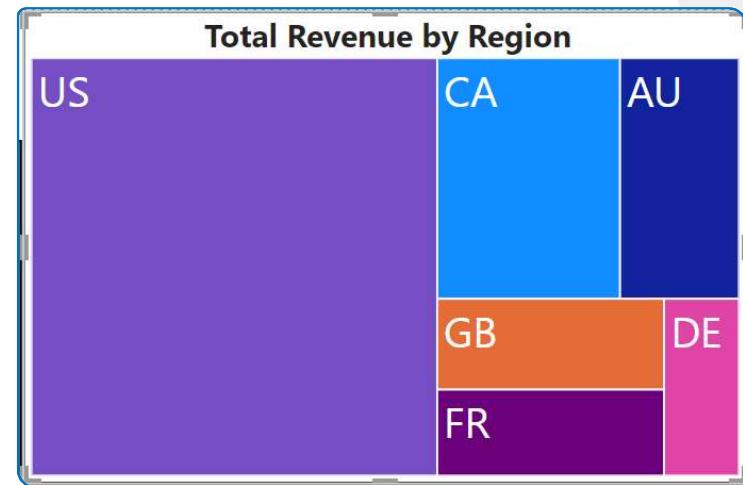
- Southwest**: Highest average order count across products, with some products reaching over 1,000 orders.
- Northwest and Canada**: Also show strong performance, with high variability in order counts.

2. Lower-Performing Regions:

- Central and Northeast**: Generally show lower average counts, indicating these regions may need targeted improvement or marketing efforts.
- Australia and France**: Mixed performance with several products showing low order volumes.

3. Product Insights:

- Products like "AWC Logo Cap" and "Bike Wash - Dissolver" consistently perform well across most regions.
- Certain products show highly concentrated sales in specific regions, suggesting regional preferences that could influence inventory and marketing strategies.





Market Basket Analysis –

Top 30 Individual Products to Shelf (Based on Popularity)

1. Mountain Bottle Cage
2. Road Bottle Cage
3. Long-Sleeve Logo Jersey, L
4. Touring Tire Tube
5. HL Mountain Tire
6. Long-Sleeve Logo Jersey, M
7. Long-Sleeve Logo Jersey, L, AWC Logo Cap
8. ML Mountain Tire
9. Half-Finger Gloves, M
10. Long-Sleeve Logo Jersey, XL
11. Hydration Pack - 70 oz.
12. LL Road Tire
13. AWC Logo Cap, Sport-100 Helmet, Blue
14. AWC Logo Cap, Sport-100 Helmet, Black
15. AWC Logo Cap, Sport-100 Helmet, Red
16. Touring Tire
17. ML Road Tire
18. Long-Sleeve Logo Jersey, L, Sport-100 Helmet, Red
19. Short-Sleeve Classic Jersey, XL
20. Long-Sleeve Logo Jersey, L, Sport-100 Helmet, Black
21. LL Mountain Tire
22. HL Road Tire
23. Sport-100 Helmet, Blue, Sport-100 Helmet, Black
24. Long-Sleeve Logo Jersey, L, Sport-100 Helmet, Red
25. Long-Sleeve Logo Jersey, L, AWC Logo Cap, Sport-100 Helmet, Red
26. Long-Sleeve Logo Jersey, L, AWC Logo Cap, Sport-100 Helmet, Black
27. Long-Sleeve Logo Jersey, L, Sport-100 Helmet, Blue
28. Short-Sleeve Classic Jersey, L
29. AWC Logo Cap, Sport-100 Helmet, Blue, Sport-100 Helmet, Black
30. Hitch Rack - 4-Bike



Market Basket Analysis –

Top 30 Paired Products to Shelf (Based on Confidence and Lift)

These pairs have a high probability of being purchased together.

1. Long-Sleeve Logo Jersey, L, Sport-100 Helmet, Black and Short-Sleeve Classic Jersey, XL
2. Hitch Rack - 4-Bike, Long-Sleeve Logo Jersey, L and Short-Sleeve Classic Jersey, XL
3. Bike Wash - Dissolver, Sport-100 Helmet, Red, AWC Logo Cap and Short-Sleeve Classic Jersey, XL
4. Long-Sleeve Logo Jersey, L, Sport-100 Helmet, Blue and Short-Sleeve Classic Jersey, XL
5. Sport-100 Helmet, Black, Classic Vest, M and Short-Sleeve Classic Jersey, XL
6. Bike Wash - Dissolver, Sport-100 Helmet, Black, Classic Vest, S and Short-Sleeve Classic Jersey, XL
7. Hydration Pack - 70 oz., Sport-100 Helmet, Black, Classic Vest, S and Short-Sleeve Classic Jersey, XL
8. Hitch Rack - 4-Bike, Sport-100 Helmet, Black, Classic Vest, S and Short-Sleeve Classic Jersey, XL
9. Long-Sleeve Logo Jersey, L, Sport-100 Helmet, Red and Short-Sleeve Classic Jersey, XL
10. Sport-100 Helmet, Blue, Classic Vest, M, Classic Vest, S and Short-Sleeve Classic Jersey, XL
11. Bike Wash - Dissolver, Sport-100 Helmet, Blue, Classic Vest, S and Short-Sleeve Classic Jersey, XL
12. Hydration Pack - 70 oz., Sport-100 Helmet, Blue, Classic Vest, S and Short-Sleeve Classic Jersey, XL
13. AWC Logo Cap, Classic Vest, M and Short-Sleeve Classic Jersey, XL
14. Hitch Rack - 4-Bike, AWC Logo Cap, Classic Vest, S and Short-Sleeve Classic Jersey, XL
15. Hitch Rack - 4-Bike, AWC Logo Cap, Hydration Pack - 70 oz., Classic Vest, S and Short-Sleeve Classic Jersey, XL



Market Basket Analysis –

Top 30 Paired Products to Shelf (Based on Confidence and Lift)

These pairs have a high probability of being purchased together.

16. Long-Sleeve Logo Jersey, L, Classic Vest, M, Classic Vest, S and Short-Sleeve Classic Jersey, XL
17. Long-Sleeve Logo Jersey, L, Hydration Pack - 70 oz., Classic Vest, S and Short-Sleeve Classic Jersey, XL
18. Hitch Rack - 4-Bike, Long-Sleeve Logo Jersey, M, Classic Vest, S and Short-Sleeve Classic Jersey, XL
19. Hitch Rack - 4-Bike, Long-Sleeve Logo Jersey, L, Classic Vest, S and Short-Sleeve Classic Jersey, XL
20. Water Bottle - 30 oz., Classic Vest, M and Short-Sleeve Classic Jersey, XL
21. Hitch Rack - 4-Bike, Classic Vest, M and Short-Sleeve Classic Jersey, XL
22. Bike Wash - Dissolver, Classic Vest, M and Short-Sleeve Classic Jersey, XL
23. Hydration Pack - 70 oz., Classic Vest, M and Short-Sleeve Classic Jersey, XL
24. Hitch Rack - 4-Bike, Hydration Pack - 70 oz., Classic Vest, M and Short-Sleeve Classic Jersey, XL
25. Bike Wash - Dissolver, Hydration Pack - 70 oz., Classic Vest, S and Short-Sleeve Classic Jersey, XL
26. Long-Sleeve Logo Jersey, L, Sport-100 Helmet, Red, Classic Vest, M and Short-Sleeve Classic Jersey, XL
27. Hitch Rack - 4-Bike, Long-Sleeve Logo Jersey, XL, Classic Vest, S and Short-Sleeve Classic Jersey, XL
28. Sport-100 Helmet, Black, Sport-100 Helmet, Blue, Classic Vest, M and Short-Sleeve Classic Jersey, XL
29. Bike Wash - Dissolver, Sport-100 Helmet, Blue, Classic Vest, S and Short-Sleeve Classic Jersey, XL
30. Hydration Pack - 70 oz., Sport-100 Helmet, Blue, Classic Vest, M and Short-Sleeve Classic Jersey, X

Recommended Products for Shelving

• Top Individual Products:

1. **AWC Logo Cap**: Consistently popular across multiple regions, making it a reliable choice for high visibility on shelves.
2. **Sport-100 Helmet (Blue, Black, Red)**: High-demand item with variations in color. Having a variety on shelves could capture different customer preferences.
3. **Long-Sleeve Logo Jersey (Various Sizes)**: Another consistent performer, the Long-Sleeve Logo Jersey appeals to customers seeking branded clothing.
4. **Hydration Pack - 70 oz.**: Frequently purchased alongside other gear, useful for active, outdoor-focused customers.
5. **Bike Wash - Dissolver**: This practical item is often bought in tandem with other cycling maintenance products, making it ideal for bundling with other cleaning and repair products.

• Top Paired Products:

1. **Long-Sleeve Logo Jersey, L & Sport-100 Helmet, Black**: This combination has a high purchase rate together, making them ideal for a shared shelf space.
2. **Hitch Rack - 4-Bike & Short-Sleeve Classic Jersey, XL**: This pairing targets customers looking for storage and apparel solutions, which can drive combined sales.
3. **Bike Wash - Dissolver & Sport-100 Helmet, Red & AWC Logo Cap**: Combining these items on shelves caters to customers focused on both gear maintenance and apparel.
4. **Hydration Pack - 70 oz. & Classic Vest**: A practical pairing that appeals to customers looking for hydration and comfort, especially for long-distance rides.
5. **Water Bottle - 30 oz. & Classic Vest**: This pair is geared toward active customers and could be strategically positioned for impulse purchases.

Strategic Reasons for Shelving These Products Together

- **High Confidence and Lift Scores**: These products are frequently bought together, indicating strong customer preferences for these combinations. Shelving them side-by-side increases the likelihood of multiple-item purchases.
- **Cross-Selling Opportunities**: Pairing popular items with complementary products enhances convenience and can boost the average sale value by encouraging customers to purchase items they commonly use together.
- **Customer Convenience**: Grouping related items, like apparel or maintenance products, simplifies shopping for customers, improving their experience and likely increasing return visits.
- By strategically shelving these products based on their association, AHG can create a more appealing, efficient shopping experience, likely increasing customer satisfaction and overall sales.

Market Share & Competitors

In the real bicycle market, competitors to Adventure Works (assuming it sells both standard and e-bikes) could be grouped into various categories:

1. Direct Bicycle Manufacturers:

- **Specialized Bicycles**: Known for high-performance mountain and road bikes.
- **Trek**: Offers a range of bicycles, including high-end and budget options.
- **Cannondale**: Known for road bikes and mountain bikes, with strong brand loyalty.
- **Giant**: Offers a wide range of bikes, often perceived as good value for money.

2. Mass-Market Bicycle Retailers:

- **Halfords**: A dominant bicycle and auto retailer in the UK, offering bikes from multiple brands at various price points.
- **Decathlon**: Known for affordable and accessible sports equipment, including bicycles for all levels.

3. Online Retailers:

- **Wiggle and Chain Reaction Cycles**: Both are online sports retailers with a strong presence in the bicycle market.
- **Evans Cycles**: Primarily a physical retailer but also has a significant online presence, offering bikes from multiple brands.

4. E-Bike-Specific Companies:

- **Rad Power Bikes**: An American-based e-bike brand with growing influence in Europe.
- **Cowboy and VanMoof**: European-based e-bike brands focused on urban commuting.



Benchmarked Against Manufacturers of Similar Products

ADVENTUREWORKS



ADVENTUREWORKS



STACKWISR

Benchmarked Against Manufacturers of Similar Products

ADVENTUREWORKS



No Image	A black cycling cap with a grey reflective stripe across the front. The brand name "BOARDMAN" is printed in small white letters on the left side of the stripe.	A black cycling cap with a curved visor. The brand name "FÖHN" is printed in white on the front panel.
AWC Logo Cap	Boardman Cycle Cap Black/Grey	Fohn Tech Cap
Price: 8.99	Price: 9.99	Price: 10.00

Benchmarked Against Manufacturers of Similar Products

ADVENTUREWORKS



No Image		
Sport-100 Helmet, Black	Halfords Sport Helmet	Sullivan Antic Multi Sport Helmet
Price: 34.99	Price: 18.00	Price: 34.99

Benchmarked Against Manufacturers of Similar Products

ADVENTUREWORKS



No Image	A black long-sleeve cycling jersey with a subtle pattern on the shoulders and sleeves.	A dark maroon long-sleeve cycling jersey with a prominent "FIVE TEN" logo on the back.
Long-Sleeve Logo Jersey	Altura Airstream Mens Long Sleeve Jersey	Five Ten Long Sleeve Jersey
Price: 49.99	Price: 40.62	Price: 28.00

Benchmarked Against Manufacturers of Similar Products

ADVENTUREWORKS



No Image	A black Osprey Syncro 12L hydration pack. It has a front zippered pocket and a side mesh pocket. A small "NEW" tag is visible on the top left.	A black Evoc Hydro Pro 1.5L hydration pack. It has a front zippered pocket and a side mesh pocket. The brand name "evoc" is printed on the bottom right.
Hydration Pack	Osprey Syncro 12L Hydration Pack - Black	Evoc Hydro Pro 1.5L Hydration Pack + 1.5L Bladder
Price: 120.00	Price: 99.99	Price: 28.00

Benchmarked Against Manufacturers of Similar Products

ADVENTUREWORKS



No Image	A blue plastic bottle of Karcher Car & Bike Detergent. The label features a white car silhouette and the text "CAR & BIKE CAR SHAMPOO".	A collection of Peatys Products for bike cleaning. It includes a blue spray bottle labeled "foam", a black spray bottle labeled "lubricant", and a box labeled "BICYCLE CLEANING KIT".
Bike Wash - Dissolver	Karcher Karcher Car & Bike Detergent	Peatys Products Wash Prevent Lubricate Bike Cleaning Kit
Price: 7.95	Price: 6.98	Price: 25.99

Benchmarked Against Manufacturers of Similar Products

ADVENTUREWORKS



No Image	A black and silver adjustable bike bottle cage mounted on a white background. A water bottle is inserted into the cage.	A clear plastic water bottle with a black cap and a black cage attached to a white background.
Mountain Bottle Cage	Elite Pria Pave Adjustable Bike Bottle Cage	Pinnacle Bottle & Cage
Price: 9.99	Price: 14.99	Price: 13.99

Benchmarked Against Manufacturers of Similar Products

ADVENTUREWORKS



No Image	A product image showing a black inner tube and its packaging. The packaging is blue with white text that reads "NEW ONLINE EXCLUSIVE", "20 4.0-406", and "SCHRADER TUBE".	A product image of a pink and black "Muc-Off ULTIMATE TUBELESS SETUP KIT" box. It features the Muc-Off logo and text indicating it's for 25mm tires.
Touring Tire and Tubes	Vee Tire Co. 20x4.00" E-Bike Schrader Inner Tube	Muc-Off Ultimate Tubeless Setup Kit 25mm
Price: 4.99	Price: 10.00	Price: 44.99

Benchmarked Against Manufacturers of Similar Products

ADVENTUREWORKS



No Image	 A black Continental Mountain King ShieldWall Bike Tyre, showing its tread pattern and sidewall text. A small yellow magnifying glass icon is located in the top left corner of the image.	 A black Challenge Strada Handmade Road Tyre, shown from a side profile view.
HL Mountain Tire	Continental Mountain King ShieldWall Bike Tyre	Challenge Strada Handmade Road Tyre
Price: 35.99	Price: 35.00	Price: 62.00

Benchmarked Against Manufacturers of Similar Products

ADVENTUREWORKS



No Image	A pair of black cycling mitts with red accents on the fingers and palm area. The brand name "BOARDMAN" is visible on the back of one mitt.	A single black cycling glove with bright green accents on the fingers and palm. The brand name "ALE" is visible on the back of the hand.
Half-Finger Gloves	Boardman Mitts	Ale Velocissimo Summer Gloves
Price: 24.99	Price: 18.00	Price: 38.99

Benchmarked Against Manufacturers of Similar Products

ADVENTUREWORKS



No Image	A grey and silver reflective vest with diagonal stripes, shown from the side. Navigation arrows and dots indicate it's part of a larger gallery.	A bright yellow-green cycling vest with a zipper and reflective stripes.
Classic Vest	Wowow Roadie Full Reflective Vest	Castelli Squadra Vest
Price: 63.50	Price: 24.99	Price: 65.00

Top 20 Products to Check on Competitors' Websites



Individual Products

1. AWC Logo Cap – Consistently popular across regions, appealing for brand visibility.
2. Sport-100 Helmet (Blue, Black, Red) – High-demand item with color variations for diverse preferences.
3. Long-Sleeve Logo Jersey (Various Sizes) – A steady seller, suitable for branded apparel shoppers.
4. Hydration Pack - 70 oz. – Essential for active customers needing hydration gear.
5. Bike Wash - Dissolver – Frequently purchased for bike maintenance, ideal for bundling.
6. Mountain Bottle Cage – Important for cyclists; check if Halfords carries similar designs or branded options.
7. Road Bottle Cage – Similar function to the mountain version but geared for road biking.
8. Touring Tire and Tubes – Essential for long-distance cyclists; check for specific models.
9. HL Mountain Tire – Often bought by mountain biking customers.
10. Half-Finger Gloves (Various Sizes) – Popular apparel item, especially among sport cyclists.



Top Product Pairs

11. Long-Sleeve Logo Jersey & Sport-100 Helmet (Black) – Strong cross-sell pairing, especially for apparel + gear purchases.
12. Hitch Rack - 4-Bike & Short-Sleeve Classic Jersey (XL) – Practical pair for storage and apparel shoppers.
13. Bike Wash - Dissolver & Sport-100 Helmet (Red) – Targeted at customers interested in gear maintenance and protection.
14. Hydration Pack - 70 oz. & Classic Vest (M) – Great for active users; competitors may have similar hydration + apparel bundles.
15. Water Bottle - 30 oz. & Classic Vest (M) – Impulse-purchase product geared towards fitness-focused customers.
16. AWC Logo Cap & Classic Vest (M) – Combination ideal for brand-loyal customers.
17. Hitch Rack - 4-Bike & Hydration Pack - 70 oz. – Focuses on utility and convenience for road trips or long rides.
18. Long-Sleeve Logo Jersey (L) & Hitch Rack - 4-Bike – Shelving these together captures apparel and gear interests.
19. Classic Vest (S) & Short-Sleeve Classic Jersey (XL) – Appeals to those shopping for layered outfits.
20. Sport-100 Helmet (Blue) & Water Bottle - 30 oz. – A bundle suitable for on-the-go customers.

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7.1 - Current Market Landscape and Digital Transition

- **Shift to Online Sales:** Over recent years, AHG has seen a gradual but notable increase in online sales, while in-store revenue, though substantial, has shown signs of decline. This shift seems to mirror broader consumer trends, with digital channels becoming increasingly preferred due to convenience and accessibility. I suggest that AHG recognises this trend as a key opportunity to capture additional market share by prioritising digital channel expansion.
- **Customer Purchase Behaviour:** Observations suggest that customers are more inclined to purchase higher-value items, which often aligns well with online sales channels. This behaviour could present a favourable opportunity for AHG to emphasise premium product offerings online, targeting customers who value convenience and quality.
- **Revenue Distribution:** Although in-store sales still represent a larger share of total revenue, the growth of online sales highlights potential for AHG to focus on building its digital presence. It may be beneficial to strengthen the online shopping experience and enhance omnichannel capabilities to drive future revenue.



An **omnichannel strategy** creates a seamless and unified experience for customers across all shopping platforms, including online, in-store, and mobile.

It allows customers to transition smoothly between channels, such as buying online and picking up in-store or returning items through any preferred channel. By synchronising inventory and services, AHG can ensure accurate stock visibility and fulfil customer needs consistently.

This approach not only boosts convenience but also strengthens customer satisfaction and loyalty by meeting shoppers wherever they choose to engage.



7.2 - Digital Strategy Goals

- **Increasing Digital Engagement:** AHG should consider engaging customers across multiple digital platforms, with an emphasis on website optimisation, social media, and targeted online advertising. Expanding into these areas could enhance AHG's reach and resonate with a digital-savvy audience.
- **Boosting Online Sales Growth:** By focusing on online growth, AHG can increase its share in digital sales. I recommend developing targeted campaigns, personalising customer experiences, and offering incentives like loyalty programmes or exclusive online products to attract more customers.
- **Optimising Channel Performance:** To support sustained digital growth, enhancing the digital customer journey would be essential. Specific improvements could include ensuring ease of navigation, mobile responsiveness, and a streamlined checkout process to reduce the risk of cart abandonment.



7.3 - Key Strategic Recommendations for Channel Optimisation

- **Emphasise High-Performing Digital Channels:** Based on insights into customer demographics, I suggest that AHG concentrate on platforms that appeal to younger and middle-aged customers. These groups, who are often comfortable with digital engagement, are likely to respond well to targeted social media campaigns, online discounts, and personalised email marketing.
- **Enhance Website and Mobile Experience:** Improving the user experience on the website is key to driving higher conversion rates. Focus areas might include reducing page load times, enhancing mobile site functionality, and streamlining the checkout process to retain customers.
- **Use Data for Personalisation:** By using customer data to tailor promotions and product recommendations, AHG could significantly improve conversion rates. I would recommend adopting a data-driven approach to anticipate customer needs and adjust digital offerings based on observed preferences.



7.4 - Targeted Digital Marketing and Customer Segmentation

- **Age and Income Segmentation:** Segmenting customers by age and income has shown that higher-income, older demographics prefer quality and premium products, while younger customers seek more accessible, value-oriented items. Based on this, I recommend that AHG create targeted ad campaigns tailored to these preferences – for instance, promoting premium products to high-income segments and more accessible options to younger, budget-conscious groups.
- **Geographic Targeting:** With certain regions demonstrating higher online engagement, I suggest AHG prioritises these regions for targeted digital ad campaigns. Expanding ad spend in high-engagement regions, such as the Southwest, could optimise returns and capture regional demand effectively.



7.5 - Integration with In-Store Channels

- **Omnichannel Strategy:** Developing an omnichannel approach would be highly beneficial, allowing customers to shop seamlessly across online and physical stores. I recommend AHG considers implementing services such as buy-online-pick-up-in-store (BOPIS) or in-store returns for online purchases. This would not only bridge online and in-store experiences but also provide added convenience to customers, helping to retain those who may still prefer visiting stores.
- **Inventory Synchronisation:** In support of a digital-first strategy, integrating online and offline inventory management systems could prevent stockouts and ensure that both channels operate cohesively to meet customer demand. This alignment may improve customer satisfaction and operational efficiency.



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7.6 - Metrics for Digital Channel Optimisation

- **Conversion Rates:** Tracking conversion rates across digital channels (such as website and mobile app) could help identify top-performing platforms and highlight areas for improvement. I recommend that AHG focus on improving conversion rates as a primary indicator of digital success.
- **Customer Acquisition Cost (CAC):** Regular evaluation of CAC for online channels could reveal which digital marketing efforts provide the most cost-effective results, allowing AHG to direct resources to high-return activities.
- **Retention and Engagement Metrics:** Retention rates, session duration, and engagement on the website and app could serve as valuable insights into customer interactions. I suggest using these metrics to refine digital strategies and increase long-term customer loyalty.



7.7 - Long-Term Vision for Digital Growth

- **Scalable Digital Infrastructure:** Building a scalable digital platform to support analytics, personalisation, and AI-driven recommendations would serve as a solid foundation for AHG's future growth. Investing in these technologies now could allow AHG to adapt to evolving customer expectations and digital trends more smoothly.
- **Innovative Customer Experience:** AHG may wish to explore AI chatbots, virtual product try-ons, or AR-based shopping experiences to create a distinctive and engaging digital presence. These innovative additions could set AHG apart from competitors and foster stronger brand loyalty among tech-savvy customers.



7.8 - Conclusion

Summary,

1. The "Digital Strategy and Channel Optimisation" segment suggests a decisive shift towards digital channels to respond to changing customer behaviours.
2. By prioritising digital engagement, enhancing the online shopping experience, and creating seamless omnichannel integration, AHG can capitalise on the growing preference for digital platforms.
3. Implementing these recommendations could position AHG favourably in a highly competitive, digital-first market, supporting its growth and adaptation in an evolving retail landscape.



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Overview of Business Intelligence (BI) and Visualisation Needs

- **Current Challenge:** AHG is dealing with complex, dispersed data sets across regions, sales channels, and product lines, which makes real-time decision-making challenging. A robust Business Intelligence (BI) and Visualisation System is essential for transforming raw data into actionable insights, supporting timely and strategic decision-making.
- **Objective:** The primary goal of this BI system is to create a centralised, user-friendly platform that consolidates data sources, enabling AHG to analyse market trends, sales performance, customer behaviour, and operational efficiency across multiple dimensions.

Business Intelligence (BI) is a technology-driven process for analysing data and presenting actionable information to support strategic decision-making in an organisation.

It involves collecting data from various sources, processing it, and creating visual reports and dashboards that provide insights into business performance, trends, and customer behaviour.

BI helps companies like AHG make informed decisions by revealing patterns and metrics that impact growth, efficiency, and profitability.

Overall, it transforms complex data into clear, accessible insights that empower teams to make data-driven decisions quickly and effectively.

8.1 - Key Components of the BI and Visualisation System

- **Data Integration:** The system should integrate data from diverse sources, including sales records, customer data, inventory levels, and regional performance metrics. I recommend an Extract, Transform, Load (ETL) process to ensure data consistency and quality, allowing AHG to maintain a reliable, comprehensive data repository.
- **Real-Time Data Processing:** Implementing real-time data processing capabilities will allow AHG to monitor key performance indicators (KPIs) and respond proactively to market changes. This functionality is essential for tracking metrics like sales, inventory levels, and customer engagement as they happen.
- **Interactive Dashboards:** Dashboards should be designed to display relevant metrics visually, such as revenue trends, product performance, and customer demographics. I suggest using customisable, interactive dashboards that allow users to drill down into specific metrics, facilitating a deeper understanding of trends and opportunities.



8.2 - Data Visualisation for Enhanced Decision-Making

- **Sales and Market Analysis:** Visualisations like line graphs, heat maps, and pie charts could illustrate sales trends, regional performance, and market shifts over time. By comparing these visualisations year-over-year, AHG can make informed decisions regarding regional marketing and sales strategies.
- **Customer Behaviour Analysis:** BI visualisations should highlight customer demographics, purchase frequency, and spending behaviour. By segmenting data based on demographics and purchase patterns, AHG can tailor its marketing strategies to specific customer groups, optimising engagement and retention.
- **Operational Insights:** Real-time visuals showing inventory levels, supply chain metrics, and product demand will help AHG improve operational efficiency. This approach allows teams to quickly identify issues, such as low stock or delayed shipments, and take corrective actions before they impact the customer experience.

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8.3 - Core Functionalities of the BI System

- **Customised Reporting:** The BI system should allow users to create custom reports based on different KPIs, time periods, and market segments. I recommend enabling both scheduled and on-demand reporting to support regular reviews and ad-hoc analyses.
- **Predictive Analytics:** To enhance future planning, predictive analytics could be integrated into the BI system, using historical data to forecast future sales, market trends, and inventory requirements. This would enable AHG to anticipate demand fluctuations and align resources accordingly.
- **Performance Tracking:** Continuous tracking of performance metrics such as sales targets, profit margins, and operational costs would give AHG a real-time view of its progress. Alerts for underperforming metrics or anomalies can prompt timely interventions to improve outcomes.



8.4 - Implementation Recommendations for AHG's BI System

- **Data Governance and Quality Control:** To ensure the BI system remains accurate and reliable, a structured data governance framework should be put in place. This would include standardising data formats, ensuring regular data quality checks, and establishing clear ownership for data maintenance across departments.
- **User Training and Accessibility:** It's essential to provide training for AHG's team on how to use the BI system effectively. Making the system accessible to various teams (e.g., sales, marketing, operations) will empower employees at all levels to leverage data insights in their decision-making.
- **Scalability and Adaptability:** As AHG's data needs grow, the BI system should be scalable, with options to integrate additional data sources and expand analytical capabilities. A modular, cloud-based approach may offer flexibility, ensuring the system can adapt to AHG's evolving needs.

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Overall, it transforms complex data into clear, accessible insights that empower teams to make data-driven decisions quickly and effectively.

8.5 - Long-Term Benefits of the BI and Visualisation System

- **Informed Decision-Making:** By providing access to timely, actionable insights, the BI system will enhance AHG's ability to make informed, data-driven decisions, supporting growth across product lines and regions.
- **Increased Operational Efficiency:** Real-time visibility into key operational metrics will streamline processes, helping AHG to improve inventory management, reduce costs, and enhance supply chain efficiency.
- **Enhanced Customer Understanding and Engagement:** With detailed insights into customer behaviour, AHG can craft more effective marketing and sales strategies, ultimately improving customer satisfaction and loyalty.



Business Intelligence and Visualisation System Design Conclusion

- The BI and Visualisation System is a strategic asset that will provide AHG with real-time insights, support targeted decision-making, and drive operational improvements.
- By implementing a centralised, interactive BI platform with advanced analytics capabilities, AHG can leverage data as a powerful tool for competitive advantage, enabling it to adapt quickly to market changes and optimise its overall performance



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9.1 - Reduce Operating Expenses

- Insight:** Operating expenses are notably high, amounting to £63.79 million, with a Cost of Goods Sold (COGS) of £100.47 million, indicating that direct production costs are significantly elevated relative to revenue. To enhance cost efficiency, strategies must focus on reducing expenses while maintaining quality and customer service.
- Emphasising negotiations with suppliers and adopting a streamlined supply chain approach can effectively target high-COGS items for reduction. However, it is essential to strike a balance and not shift entirely towards online reliance for cost savings, ensuring that the integrity of AHG's offerings remains intact.
- Improvement Opportunities:**
 - Evaluate Overheads:** Identify major contributors to operating expenses, such as rent, utilities, or salaries, and consider areas where expenses can be reduced.
 - Optimise Operational Efficiency:** Streamline processes to reduce administrative costs, possibly by automating certain tasks or renegotiating supplier contracts.
 - Implement Cost-Control Measures:** Establish strict budget controls and evaluate discretionary spending. For example, reduce marketing or travel expenses if they are not yielding substantial returns.



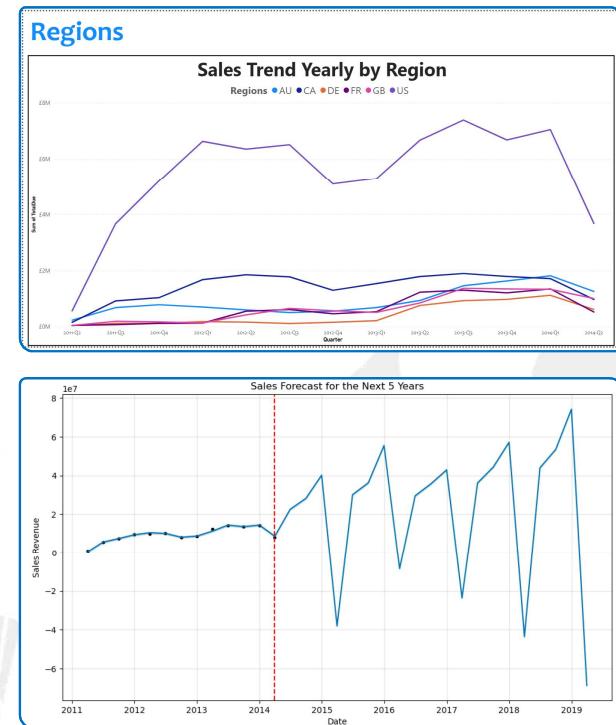
9.2 - Lower Cost of Goods Sold (COGS)

- **Insight:** With COGS at £100.47M, the direct costs of producing goods are very high relative to revenue.
- **Improvement Opportunities:**
 - **Negotiate with Suppliers:** Work with suppliers to reduce material costs, or consider alternative suppliers who can provide materials at a lower cost.
 - **Improve Production Efficiency:** Analyse the production process to identify waste or inefficiencies. Lean manufacturing techniques, like reducing cycle time or minimizing excess inventory, could reduce production costs.
 - **Outsource or Bulk Purchase:** Explore outsourcing some production to reduce costs, or negotiate bulk discounts on materials if feasible



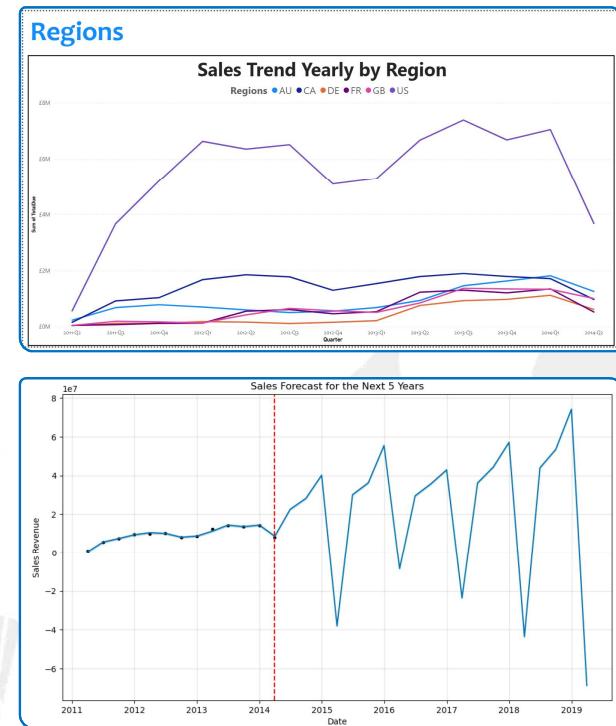
9.3 - Increase Revenue

- Insight:** Revenue growth showed positive trends until 2013 but dropped in 2014. Increasing revenue would improve gross profit, which is currently insufficient to offset high expenses.
- Improvement Opportunities:**
 - Expand Online Sales:** Given the trends in the earlier "Store Sales vs Online" dashboard, it might be beneficial to focus on expanding online sales, as this channel could provide growth with potentially lower operational costs.
 - Product Pricing Strategy:** Review pricing strategies to ensure products are priced for profitability while remaining competitive. Raising prices slightly or introducing premium offerings could help increase revenue per transaction.
 - Boost Customer Retention and Acquisition:** Invest in targeted marketing campaigns to attract new customers and retain existing ones, with a focus on high-margin products. Loyal customers are often more profitable, and retention is usually less costly than acquisition.



9.4 - Improve Profit Margins

- **Insight:** The current profit margin is -0.33, which indicates significant losses on each unit of revenue.
- **Improvement Opportunities:**
 - **Focus on High-Margin Products:** Prioritize and promote products with higher profit margins, and reduce focus on low-margin or loss-leading products.
 - **Upselling and Cross-Selling:** Encourage customers to purchase additional or complementary products, increasing the average transaction value and boosting profit margins.
 - **Reduce Discounts and Returns:** Analyse discounts and returns policies to ensure they're not eroding margins. For example, reducing unnecessary discounting could improve profitability.



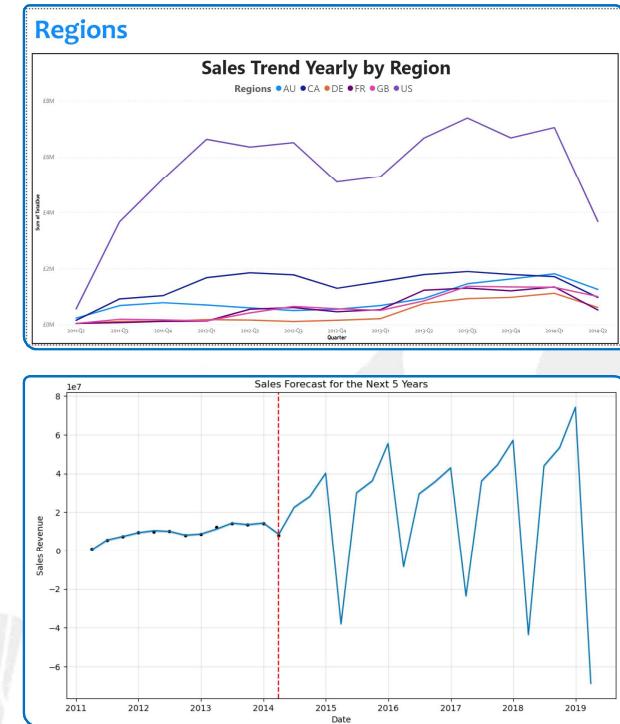
9.5- Analyse Yearly Downturn in 2014

- **Insight:** The revenue and profit figures show a significant drop in 2014, which might indicate external challenges or internal inefficiencies.
- **Improvement Opportunities:**
 - **Market Analysis:** Conduct a market analysis to determine if there were external factors (such as increased competition or economic downturns) that impacted sales in 2014.
 - **Customer Feedback:** Gather customer feedback to identify any service or product issues that may have contributed to lower sales or customer dissatisfaction.
 - **Product Portfolio Review:** Review the product lineup to ensure that offerings remain relevant to customer needs and are competitive in the market.



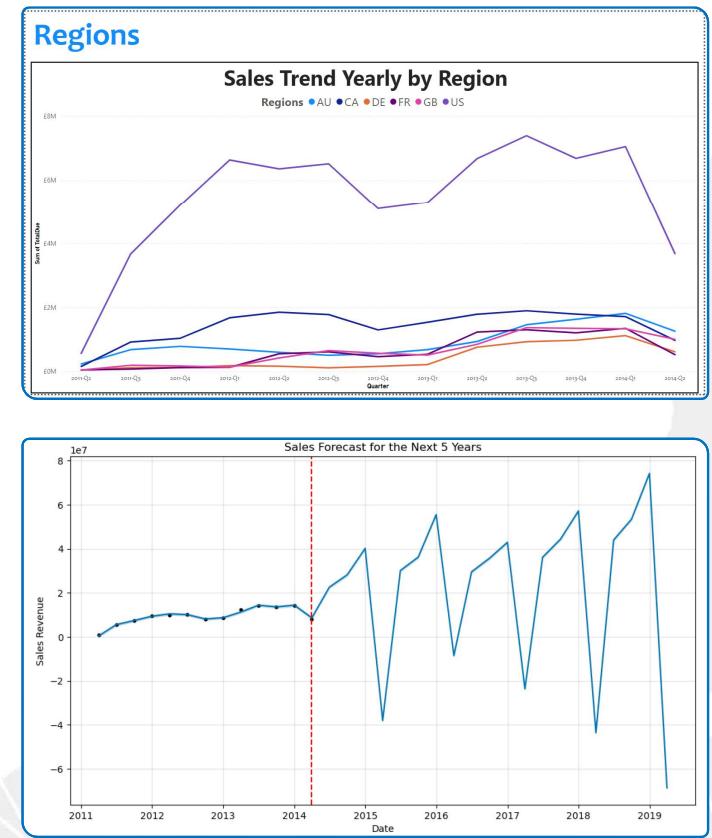
9.6 - Enhance Data-Driven Decision Making

- **Insight:** Continuous improvement requires ongoing analysis and adjustments.
- **Improvement Opportunities:**
 - **Regularly Update KPIs:** Set up a process for tracking and regularly reviewing key financial metrics in real time or periodically.
 - **Predictive Analytics:** Use predictive analytics to forecast future revenue, costs, and profitability trends, allowing proactive adjustments before issues escalate.
 - **Customer and Market Segmentation:** Dive deeper into understanding which customer segments, products, or regions are most profitable or underperforming and focus resources accordingly.



9.7 - Summary of Priorities:

- Cutting operating expenses and production costs.
- Boosting online sales and overall revenue.
- Focusing on high-margin products and reducing unnecessary discounts.
- Investigating the 2014 downturn and addressing underlying causes





Project Conclusion

- **Digital Shift is Essential:** AHG's data confirms an accelerating shift towards digital channels, making digital engagement a critical area for growth. Online sales are steadily rising, while in-store revenue has begun to show a slow decline. A digital-first strategy is needed to stay competitive.
- **Regional Variances in Sales Performance:** Certain regions, like the Southwest and Northwest, consistently outperform others, indicating strong local demand. Conversely, regions like Central and Northeast require targeted marketing or product adaptations to drive sales.
- **High-Value Transactions Predominate:** AHG's customers show a preference for higher-value purchases, which align well with online channels. This purchasing pattern suggests a potential to emphasise premium and high-margin products within digital platforms.
- **Opportunity to Optimise Costs:** Operating expenses, particularly COGS and overhead, remain high, impacting profitability. There is scope to improve margins through cost-cutting measures and production efficiencies, which could support a more balanced profit structure.
- **Seasonal Peaks Influence Demand:** Sales peaks around holidays and other high-demand periods underscore the importance of aligning inventory, marketing, and staffing to meet these cyclical trends more effectively.
- **Customer-Centric Strategies Show Promise:** Understanding customer demographics, such as age, income, and regional preferences, presents valuable opportunities for segmentation and tailored marketing, enhancing customer retention and engagement.
- **Business Intelligence is Key for Strategic Agility:** The adoption of a robust BI system with real-time analytics will enable AHG to make proactive, data-driven decisions, improving responsiveness to market changes and regional demands.
- The data available for Adventure2022 only covers up to June 2014, which means the reported profit reflects just the first six months of the year. Since the remaining months have yet to be included, there is still significant potential for additional profit, and a more comprehensive analysis can be made once the full year's data is available. This incomplete picture highlights the importance of waiting until the year is finished to assess the overall financial performance more accurately.
- This conclusion summarises AHG's key strengths and challenges, highlighting strategic areas where targeted efforts can drive sustainable growth and improve profitability



Project Conclusion

- AHG's data suggests a clear opportunity to expand its digital footprint, given the steady growth in online sales and a gradual shift in customer preferences towards online channels. However, while a strong digital strategy is essential, a complete move away from physical stores may not be advisable.
- Instead, AHG's strategy should embrace a **hybrid model**:
 - **Enhance Digital Engagement:** AHG should prioritise investment in its digital channels—optimising the website, mobile experience, and personalised online marketing. Expanding digital offerings will capture the growing demand for online shopping, especially among younger, tech-savvy customers.
 - **Maintain Strategic Physical Presence:** Rather than closing stores outright, AHG could consider optimising its physical footprint by keeping stores in high-performing regions and using them to complement digital channels. Stores can serve as experiential centres, offering services like in-store pickups, returns for online purchases, and product demonstrations.
 - **Adopt Omnichannel Practices:** Implementing a seamless omnichannel experience—such as click-and-collect, flexible returns, and in-store exclusives for online customers—will allow AHG to leverage both its digital and physical assets to engage customers across multiple touchpoints.

In summary, AHG's best path forward is a **digital-first approach** that integrates and enhances its physical stores, creating a cohesive, flexible experience for customers who value both convenience and in-person interaction.

Conclusion: AHG has a significant opportunity to drive growth by embracing a balanced, digital-focused strategy that leverages its physical stores as complementary assets. By prioritising digital engagement, optimising regional approaches, and enhancing data-driven operations, AHG is well-equipped to meet evolving customer expectations, improve profitability, and strengthen its position in a competitive marketplace.



New Strategies

From my analysis, it's clear that AHG is in a strong position to drive growth through both digital and in-store channels, yet there are opportunities for fine-tuning its strategy to respond even more effectively to market changes. Here are several new strategies to consider:

1. **Strengthen Data-Driven Personalisation:** Leverage data insights not just to target marketing but to create a personalised shopping experience across every customer touchpoint. This could involve dynamic product recommendations based on browsing behaviour, past purchases, or seasonal trends, both online and in-store.
2. **Enhance Customer Loyalty and Engagement:** Consider a loyalty programme that rewards repeat purchases, particularly for customers who shop both in-store and online. This could include exclusive offers, early access to sales, or a points-based system that encourages brand loyalty across all channels.
3. **Sustainability as a Differentiator:** With sustainability becoming a deciding factor for many consumers, positioning AHG as a leader in environmentally friendly practices could be powerful. This might involve highlighting eco-friendly product lines, sustainable packaging, or transparent sourcing practices to appeal to socially conscious customers.
4. **Experiment with Virtual and Augmented Reality:** To make the digital shopping experience more immersive, AHG could explore virtual and augmented reality tools that allow customers to visualise products in real-world settings or "try on" items virtually. This technology can bridge the gap between online convenience and the tangible experience of in-store shopping.
5. **Strengthen Regional Partnerships:** Establishing partnerships with regional businesses or influencers could amplify brand reach, particularly in regions with lower sales. Local partnerships, whether with influencers or other businesses, could increase brand visibility and build community trust, driving both digital and in-store traffic.
6. **Predictive Inventory Management:** Building on current data insights, investing in predictive inventory management could optimise stock levels by anticipating demand fluctuations more accurately. This could minimise overstock or shortages, enhancing operational efficiency and meeting customer demand promptly.

These strategies are designed to build on AHG's current strengths, open new channels for growth, and deepen customer engagement in an increasingly competitive market