

ADVENTURE HARDWARE GROUP SALES ANALYSIS

Data Visualization and Forecasting
by

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PAIRVIEW LIMITED**

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OVERVIEW

Adventure Hardware Group(AHG) is an international manufacturing company with operations in America, Europe and Asia and has been in business for four years

AHG deals with sales (Online and Retail) of Accessories, Bikes, Components and Accessories with a large customer base of over 19,000. We are dedicated to delivering the best customer service, delivering goods in a very timely manner.

FINANCIAL SUMMARY FOR 4 YEAR PERIOD

£109.8...	£100.47...	£9.37M
Total Revenue	Total Cost	Total Profit

FINANCIAL SUMMARIES

CHANNEL	REGION	YEAR
All	All	All

REVENUE AND TOTAL COST BY PRODUCTS



REVENUE BY DATE



TOTAL COST BY DATE

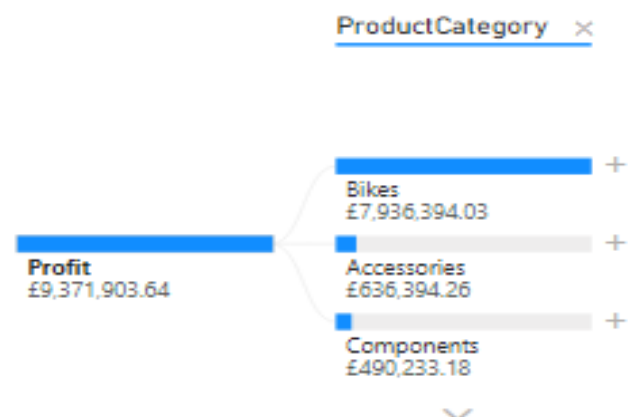


PROFIT BY DATE



$$\begin{array}{rcl} \text{£109.85M} & - & \text{£100.47M} \\ \text{Revenue} & & \text{Total Cost} \\ \hline & & \text{£9.37M} \\ & & \text{Profit} \end{array}$$

PROFIT BY PRODUCT

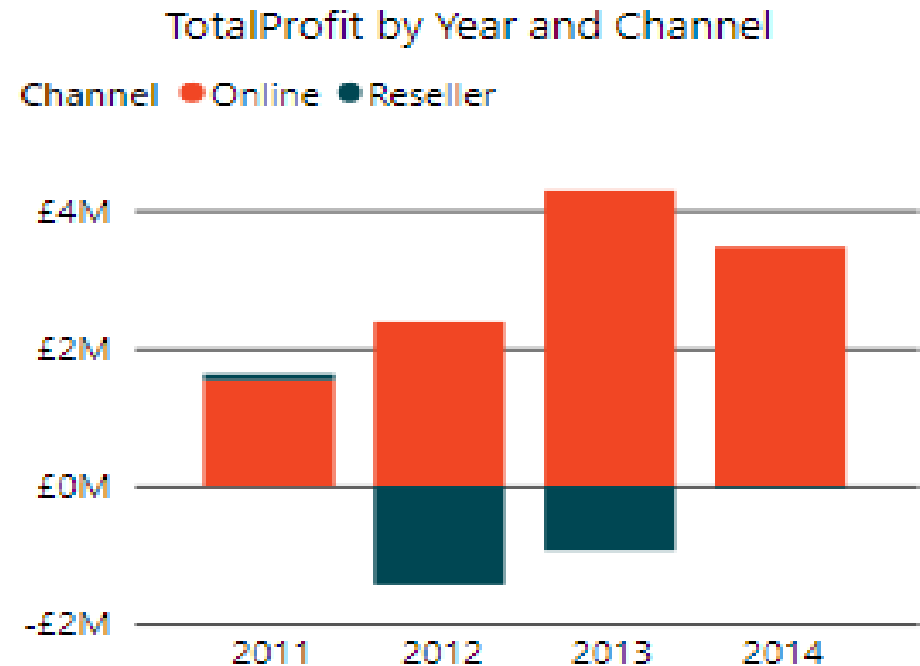
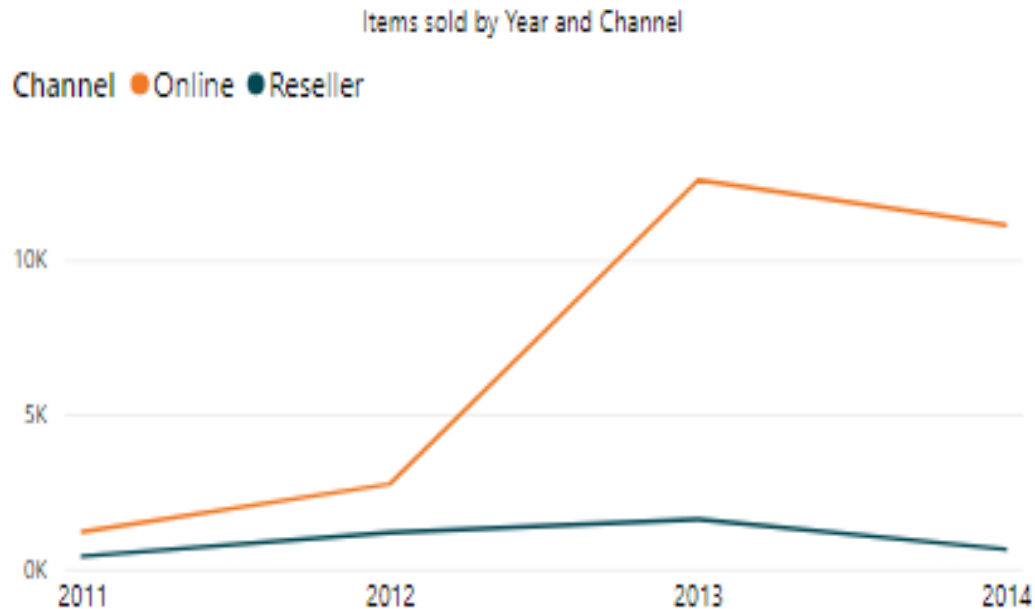


IS THERE A SHIFT TO DIGITAL?



YES!! THERE IS A SHIFT

There is an obvious shift to digital as the number of items sold and profit on the online channel was on a continuous high from 2011 to 2013 while the reseller channel did not record much progress

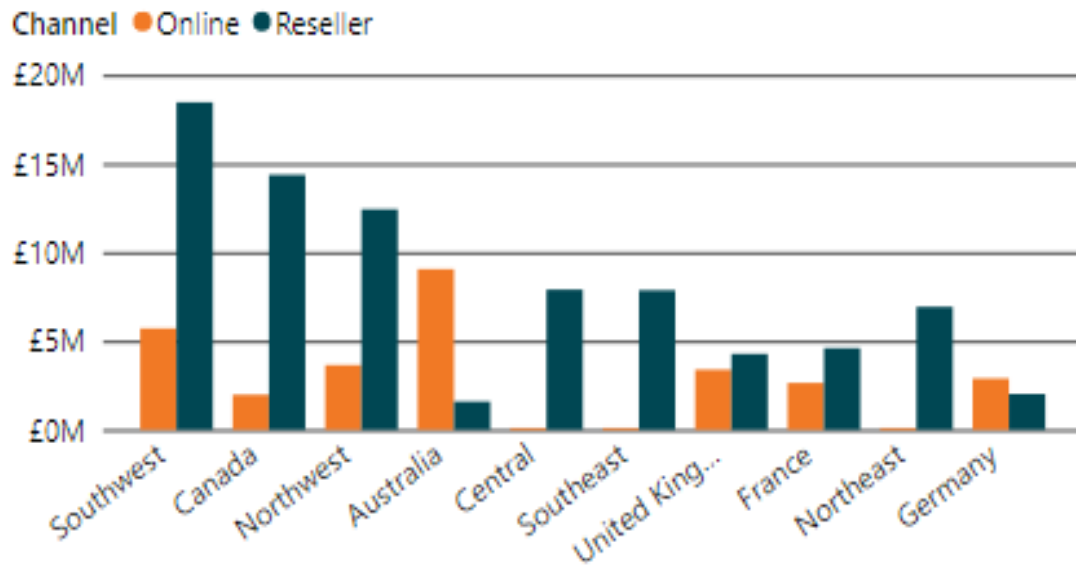


WHAT IS DRIVING THE SHIFT?

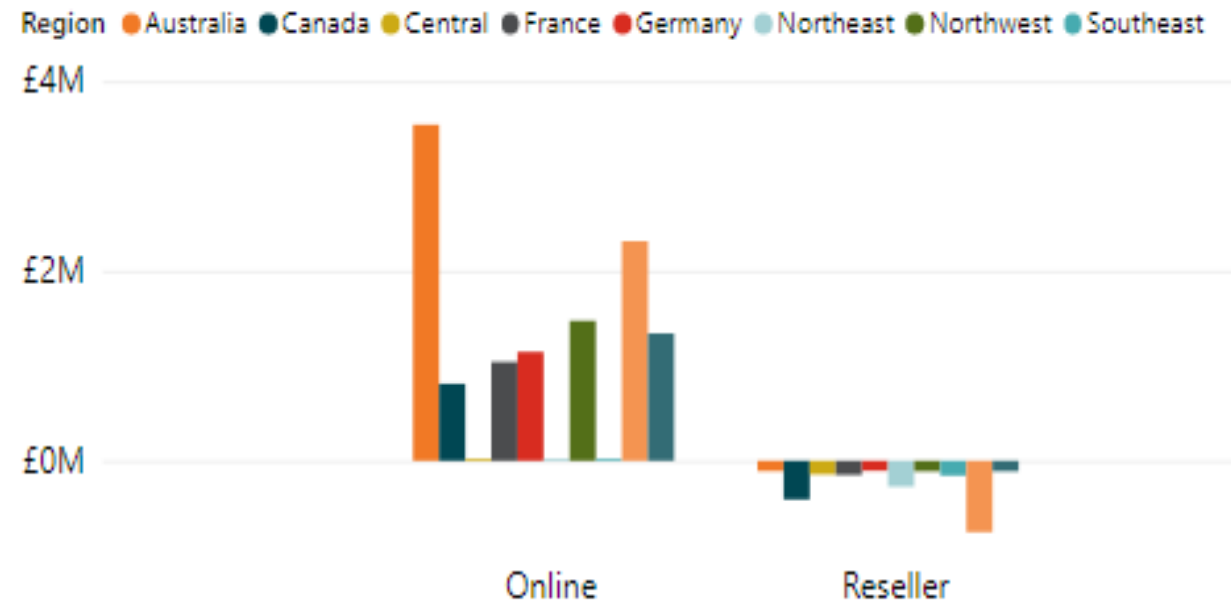
FINANCIAL CONTRIBUTION BY REGION

Looking at the total revenue and total profit by region and channel, Australia is driving the most revenue and profit through the online channel.

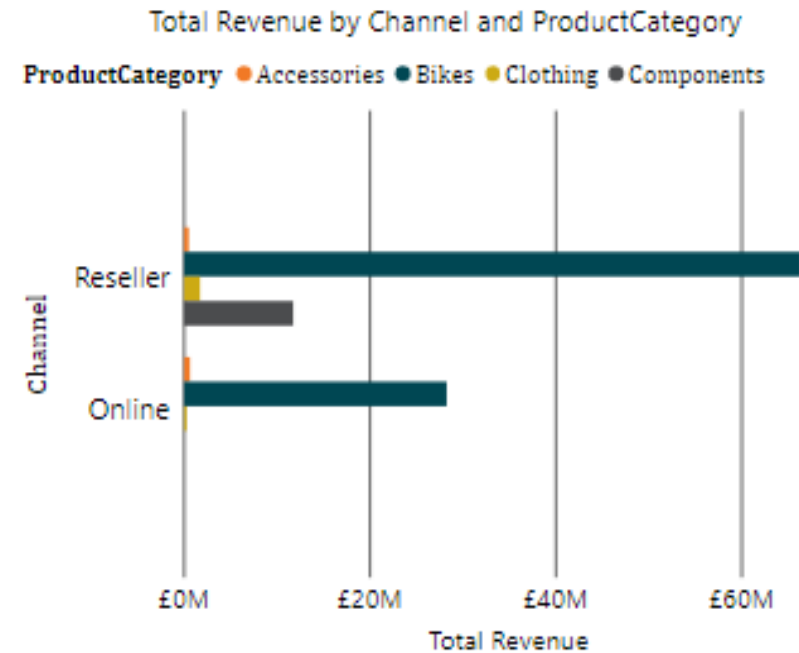
Total Revenue by Region and Channel



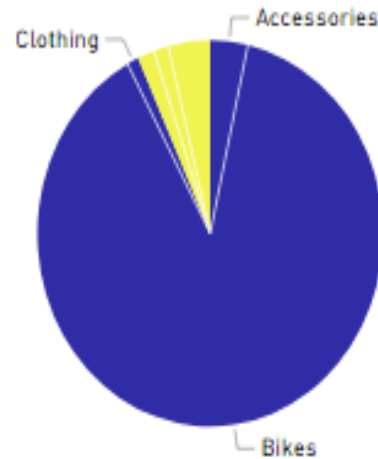
Total Profit by Channel and Region



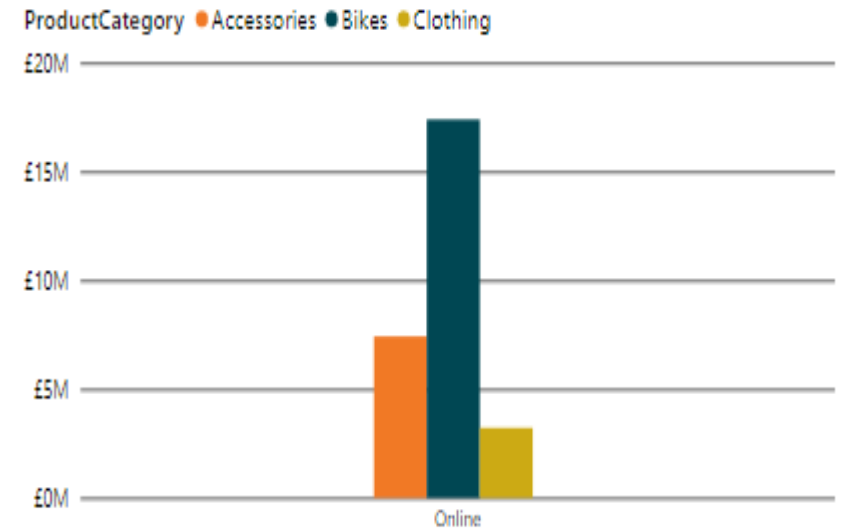
FINANCIAL CONTRIBUTION BY PRODUCT CATEGORY




TotalProfit by Channel and ProductCategory



TotalCost by Channel and ProductCategory



Channel	Online			Reseller			Total		
ProductCategory	TotalProfit	Total Revenue	TotalCost	TotalProfit	Total Revenue	TotalCost	TotalProfit	Total Revenue	TotalCost
Accessories	£438,674.5681	£700,759.96	£262,085.39	£197,719.6943	£571,312.9249	£373,593.23	£636,394.2624	£1,272,072.8849	£635,678.62
Bikes	£11,112,855.7351	£28,318,144.6507	£17,205,288.92	-£3,176,461.7071	£66,333,028.0661	£69,509,489.77	£7,936,394.028	£94,651,172.7168	£86,714,778.69
Clothing	£136,412.5763	£339,772.61	£203,360.03	£172,469.5928	£1,780,769.9165	£1,608,300.32	£308,882.1691	£2,120,542.5265	£1,811,660.36
Components				£490,233.183	£11,802,593.2862	£11,312,360.10	£490,233.183	£11,802,593.2862	£11,312,360.10
Total	£11,687,942.8795	£29,358,677.2207	£17,670,734.34	-£2,316,039.237	£80,487,704.1937	£82,803,743.43	£9,371,903.6425	£109,846,381.4144	£100,474,477.77



A review of financial contribution by product category shows that bikes are driving the most revenue and profit through both the online and resellers channels although due to the very high cost in the resellers channels , no profit was made from the sales of bikes on the resellers channel rather a loss was made, bikes still made the most in revenue and profit than any other sub category with a total revenue of approximately 94.6m and Total profit of about 7.9m.

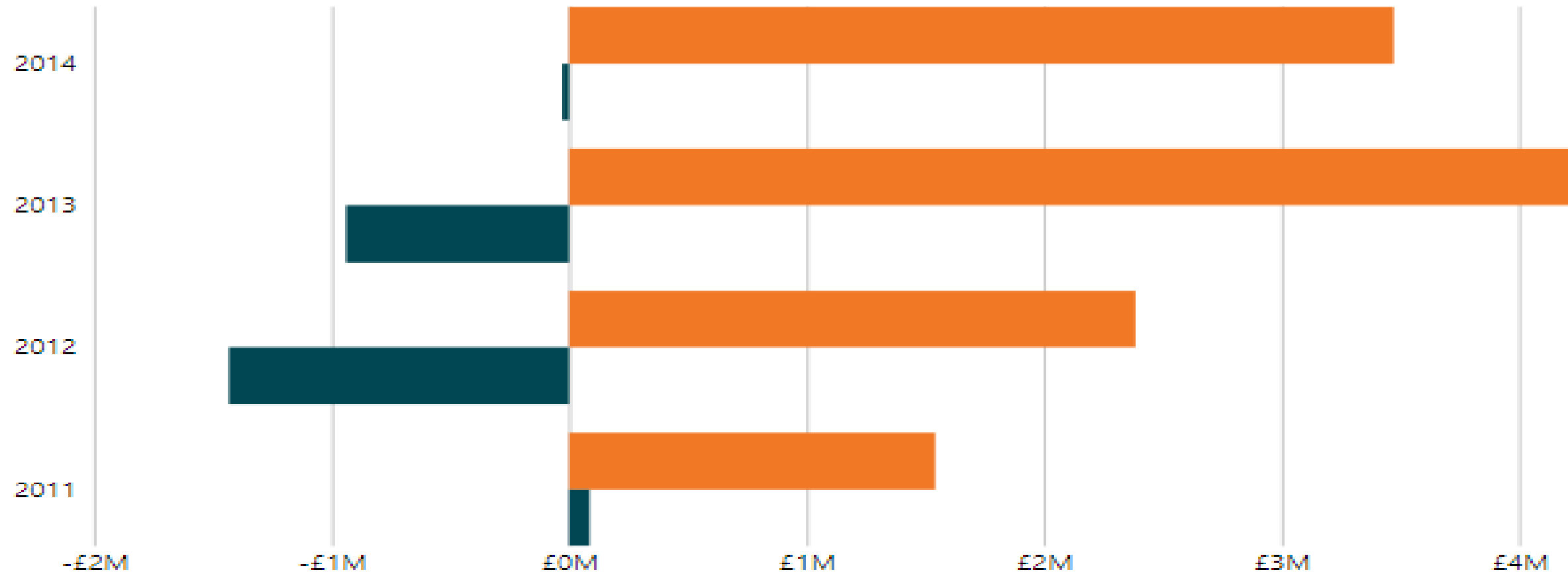
The least profit was made from clothing, even though it made more revenue than accessories, the total cost for accessories was much lower.

IS THE BUSINESS MAKING
PROFIT? YES, PARTIALLY



Total Profit by Year and Channel

Channel ● Online ● Reseller



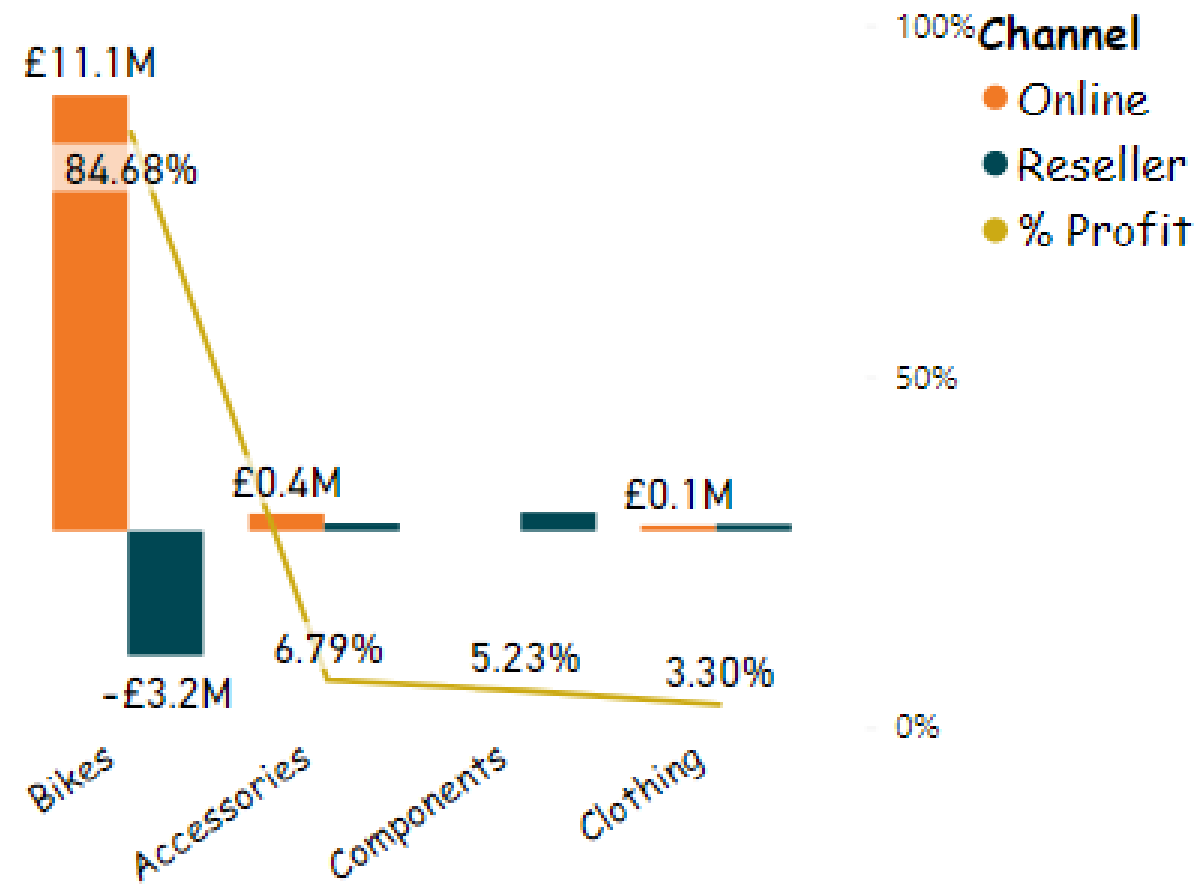
- Profit was made from the online channel from 2011 to 2014
- Loss was made mostly on the reseller channel from 2011 to 2014

So much revenue is generated from the sale of bikes through the online channel but the cost of these sales is so high that profit is not being maximized. The total revenue generated from the sale of bikes is as much as 94.6 Million but with a total cost of over 86 million, total profit made comes to as little as 7.9 million. From a general view of all products there is a lot of revenue being made but high cost is reducing the amount of profit that should be made. A total revenue of over 109 million was generated from sales however the total cost is as much as 100 million thereby bringing the total profit to 9.3million.



Channel	Online			Reseller			Total		
ProductCategory	TotalProfit	Total Revenue	TotalCost	TotalProfit	Total Revenue	TotalCost	TotalProfit	Total Revenue	TotalCost
Accessories	£438,674.5681	£700,759.96	£262,085.39	£197,719.6943	£571,312.9249	£373,593.23	£636,394.2624	£1,272,072.8849	£635,678.62
Bikes	£11,112,855.7351	£28,318,144.6507	£17,205,288.92	-£3,176,461.7071	£66,333,028.0661	£69,509,489.77	£7,936,394.028	£94,651,172.7168	£86,714,778.69
Clothing	£136,412.5763	£339,772.61	£203,360.03	£172,469.5928	£1,780,769.9165	£1,608,300.32	£308,882.1691	£2,120,542.5265	£1,811,660.36
Components				£490,233.183	£11,802,593.2862	£11,312,360.10	£490,233.183	£11,802,593.2862	£11,312,360.10
Total	£11,687,942.8795	£29,358,677.2207	£17,670,734.34	-£2,316,039.237	£80,487,704.1937	£82,803,743.43	£9,371,903.6425	£109,846,381.4144	£100,474,477.77

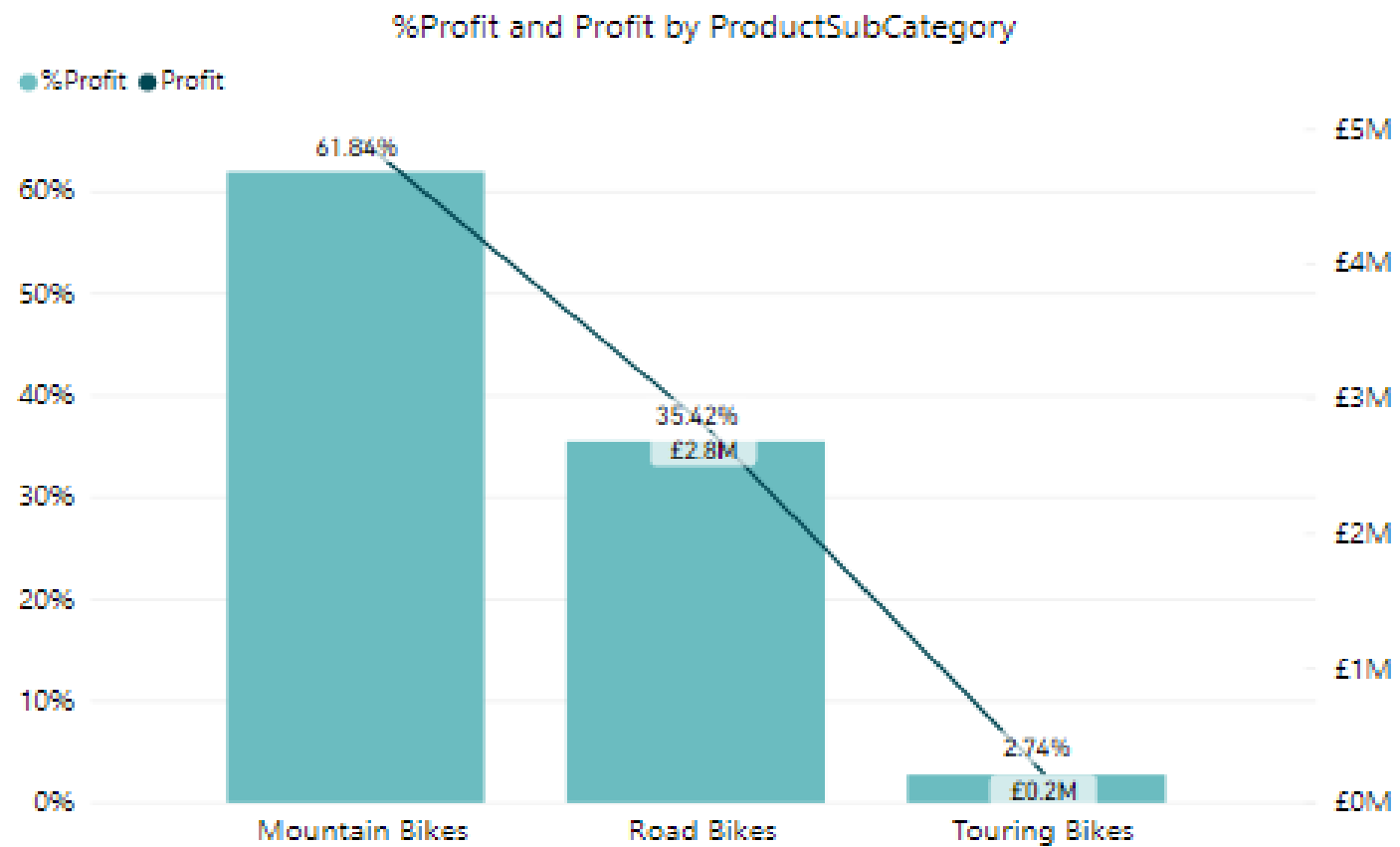
PROFIT BY PRODUCTS



Year Accessories Bikes Clothing Components Total

2011	£7,315.71	£1,629,987.88	-£9,561.88	-£895.88	£1,626,845.84
2012	£33,176.18	£744,742.58	£79,311.66	£90,970.78	£948,201.20
2013	£332,157.22	£2,585,427.16	£145,852.19	£290,926.37	£3,354,362.94
2014	£263,745.15	£2,976,236.41	£93,280.19	£109,231.91	£3,442,493.67
Total	£636,394.26	£7,936,394.03	£308,882.17	£490,233.18	£9,371,903.64

Profit made from bikes on the online channel represent about 84% of Total Profit made.



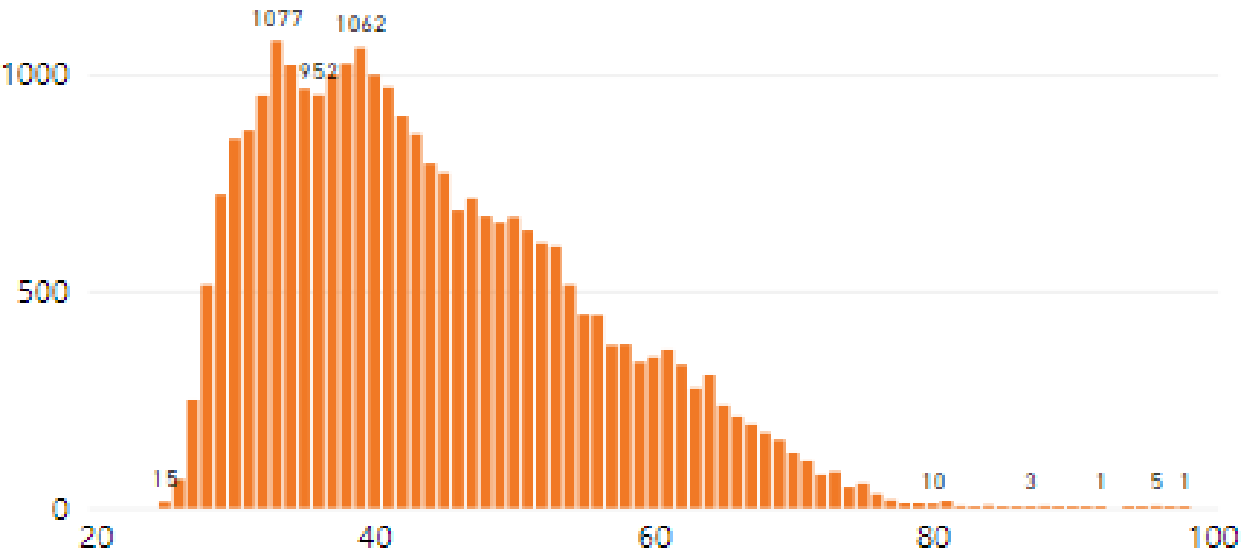
Mountain bikes represent 61% of total profit.

CUSTOMER DEMOGRAPHICS

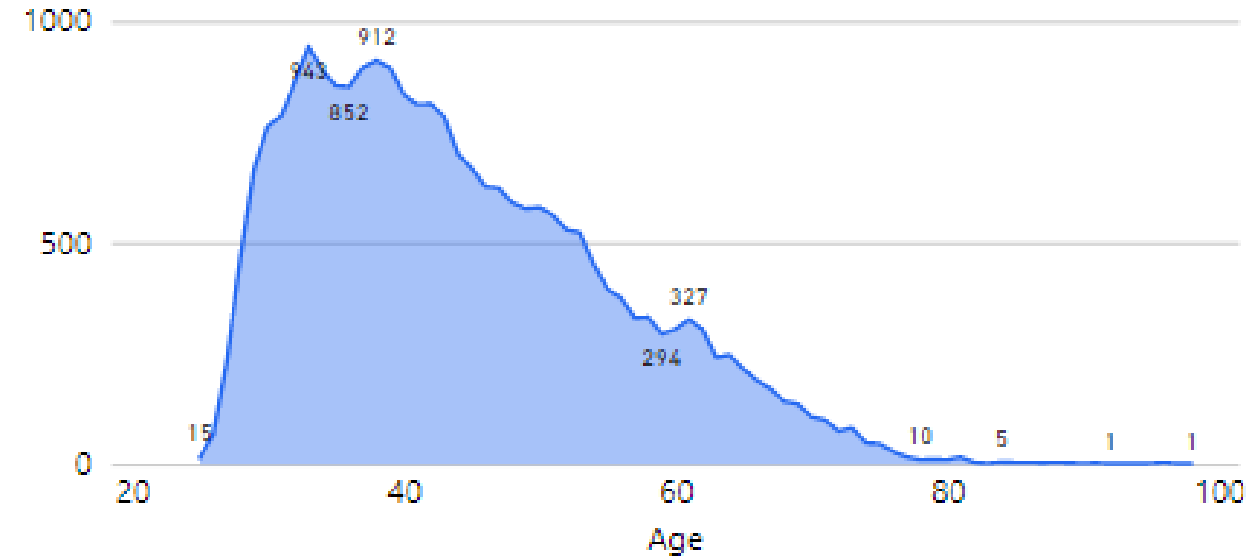


CUSTOMER DEMOGRAPHY

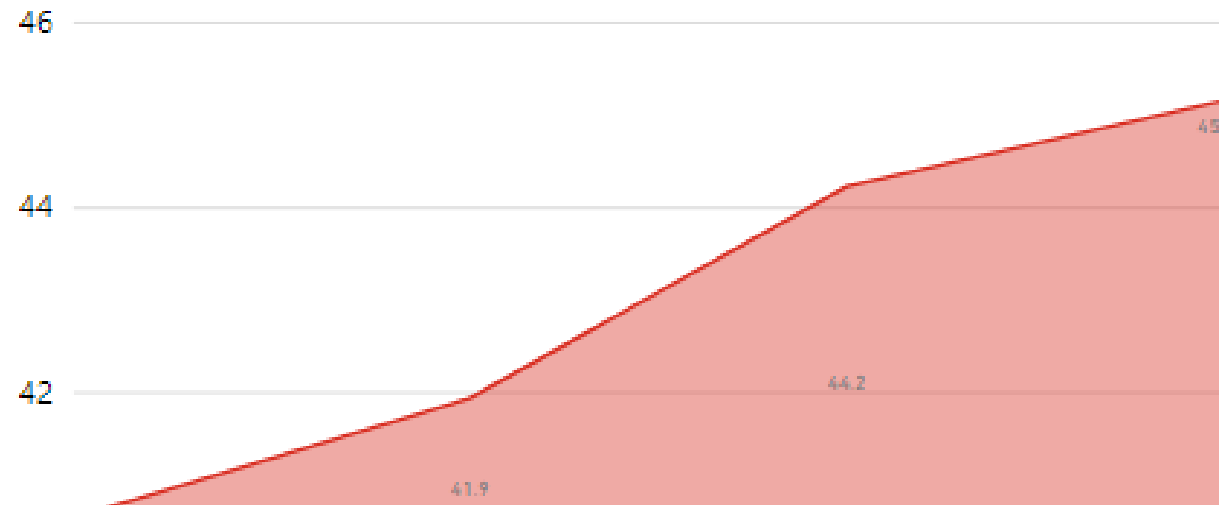
Items sold by Age



Number of customers by Age



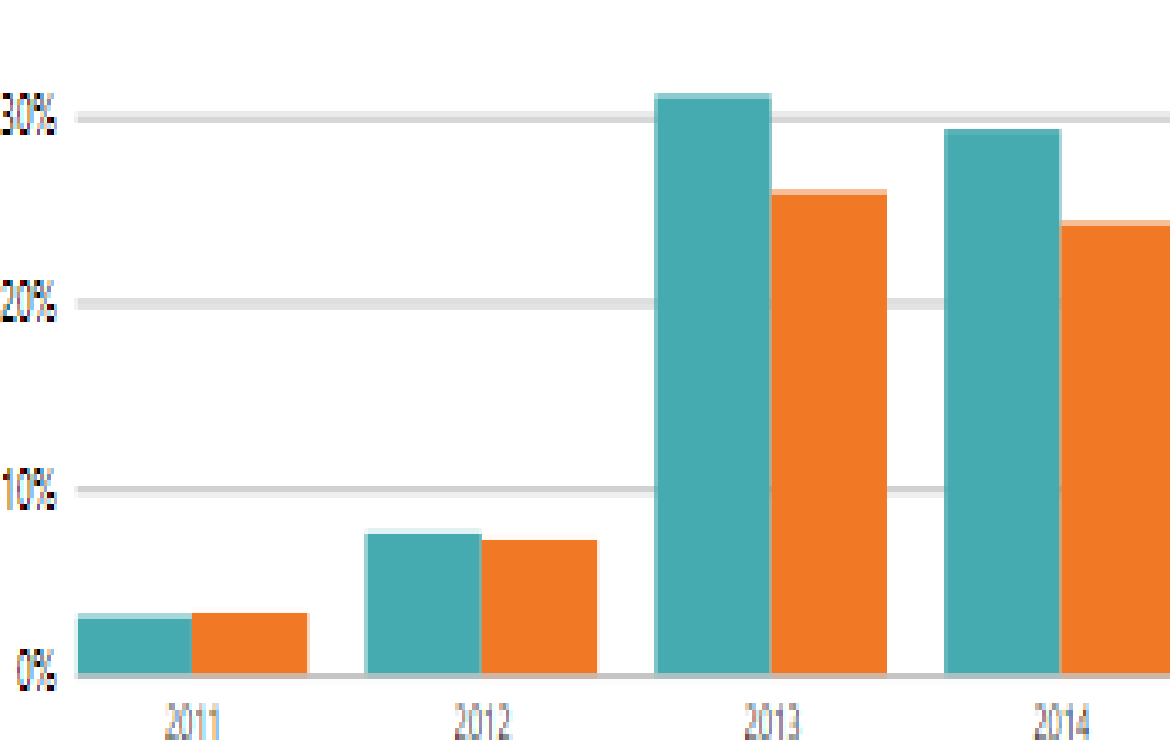
Average Age of customer's by Year



Average age of customers has consistently moved up from 40 years in 2011 to 45 years 2014

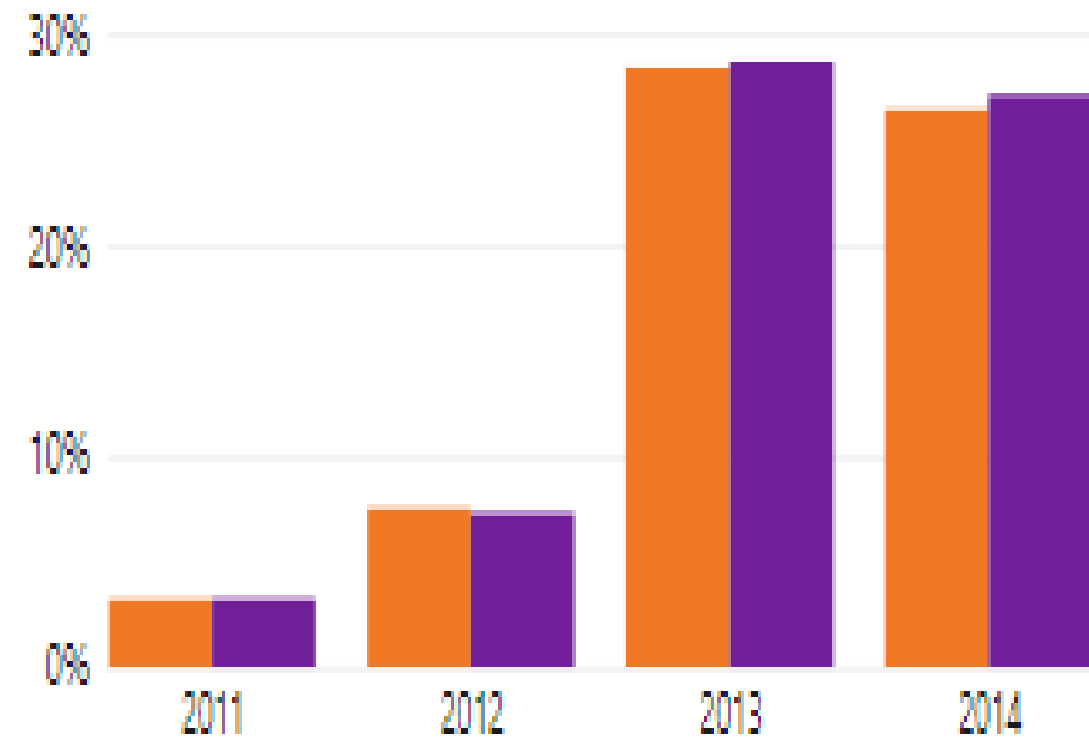
Number of customers by Year and MaritalStatus

MaritalStatus ● M ● S



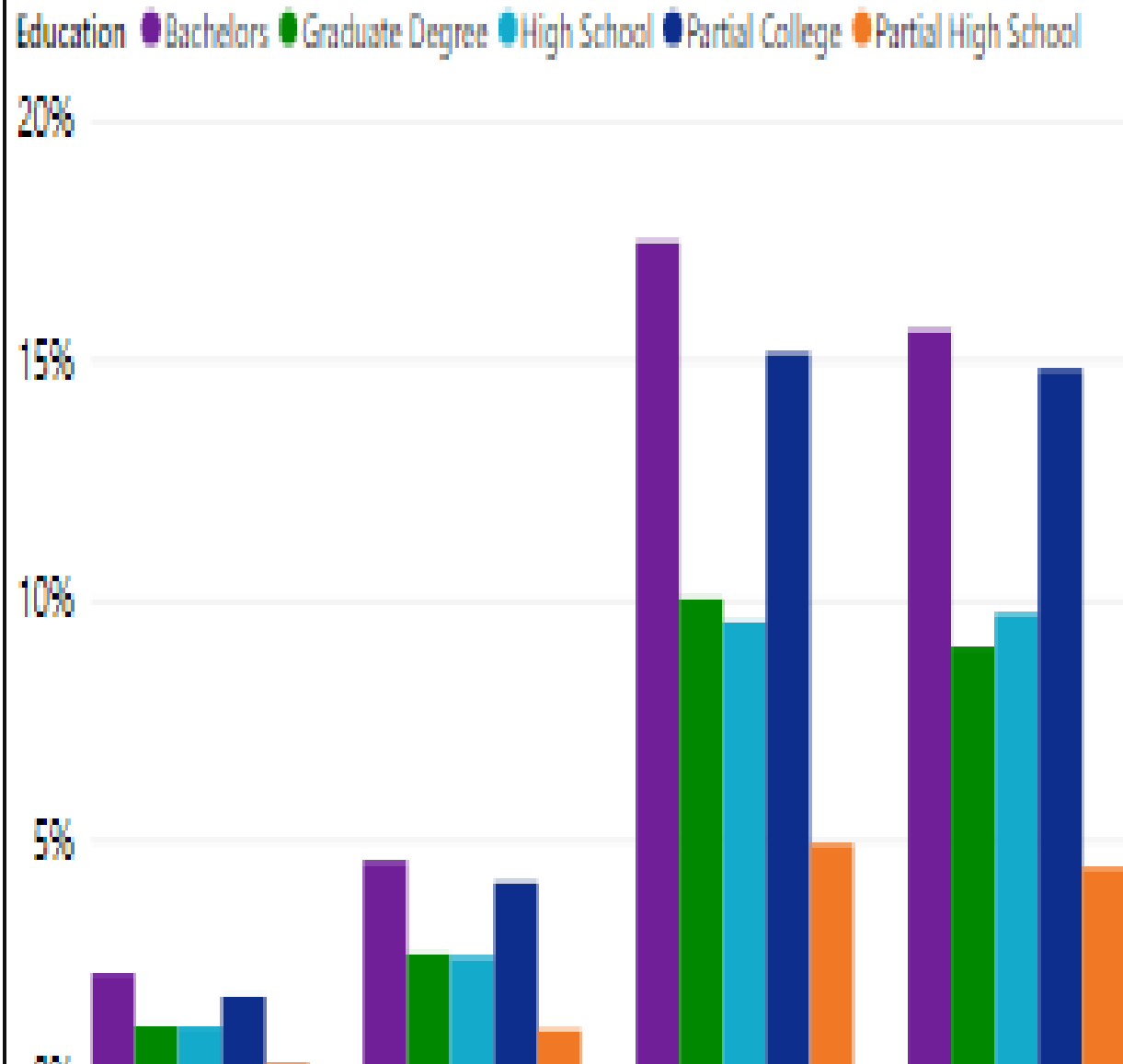
Number of customers by Year and Gender

Gender ● F ● M

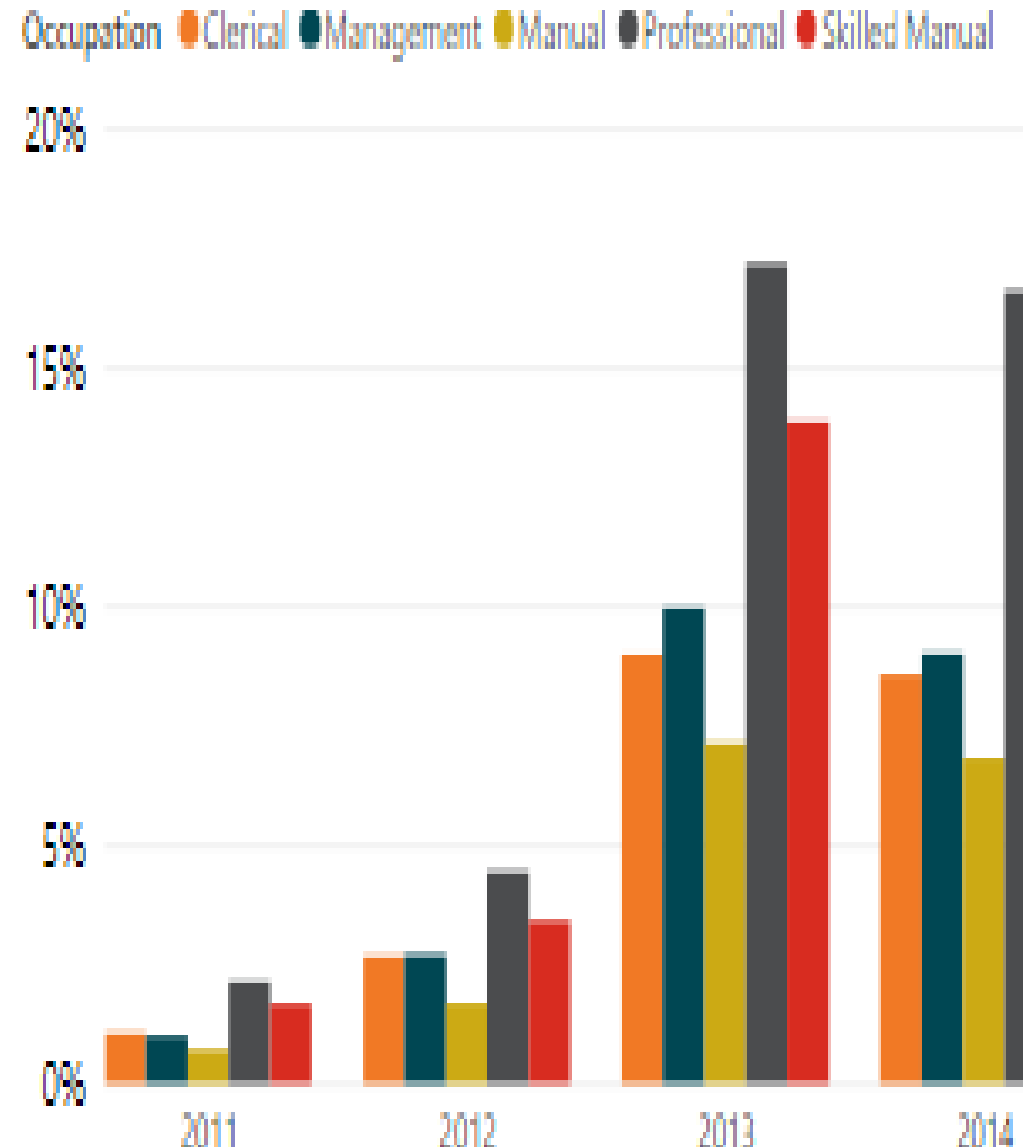


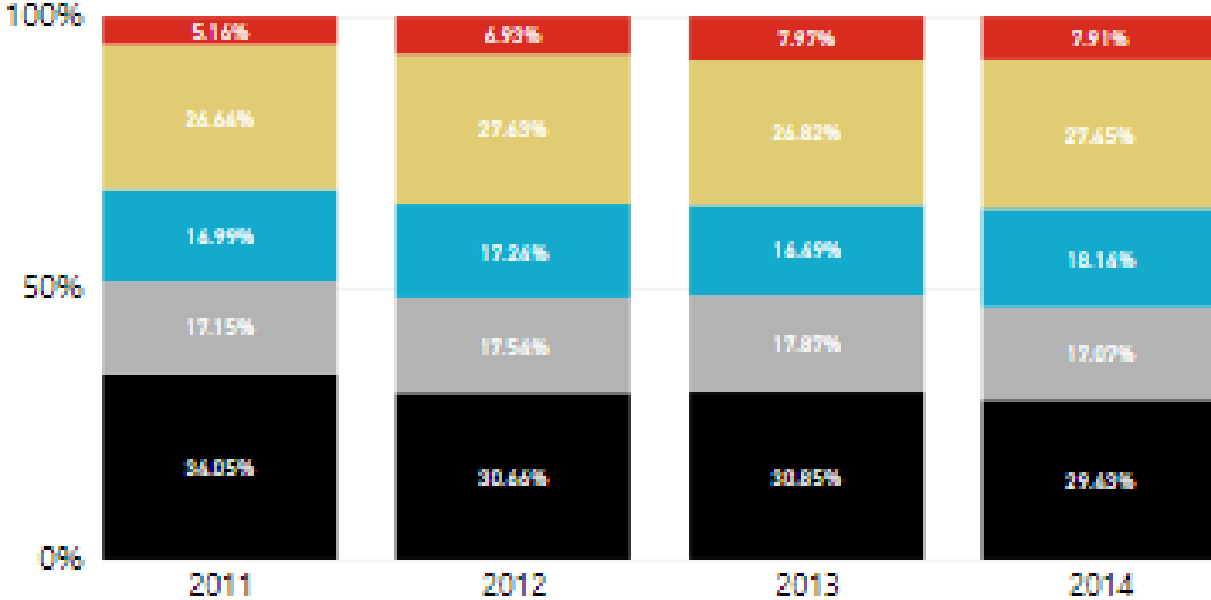
Marital Status: Number of married and single customers where almost same for 2011 and 2012 but for the 2013 and 2014 the number of married customers was more as compared to single customers

Number of customers by Year and Education



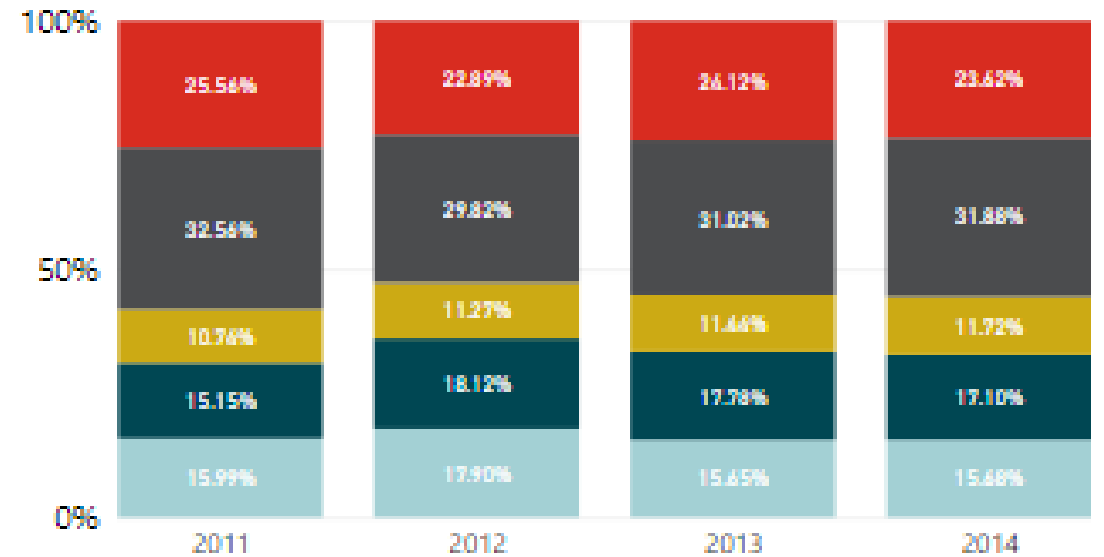
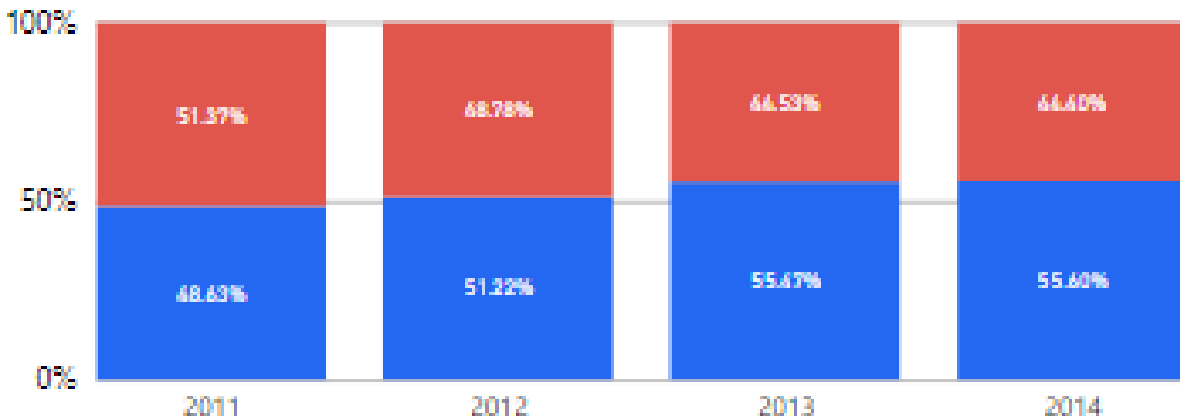
Number of customers by Year and Occupation





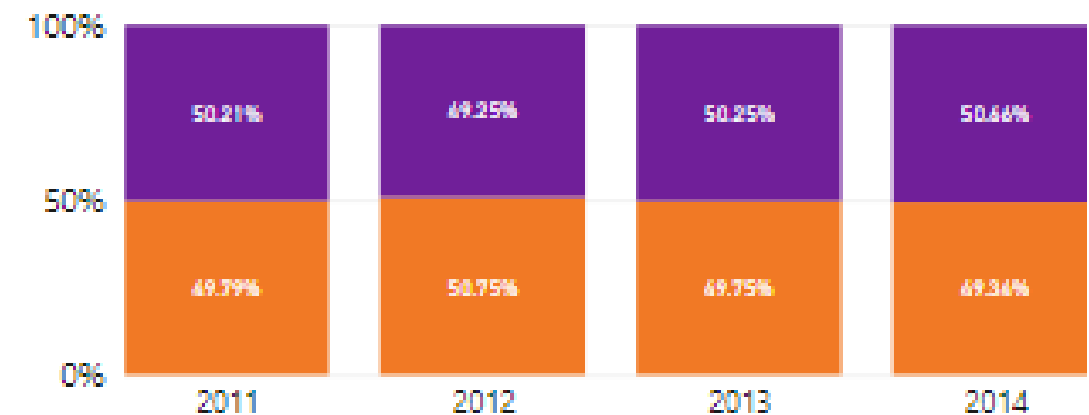
Items sold by Year and MaritalStatus

MaritalStatus ● M ● S



Items sold by Year and Gender

Gender ● F ● M



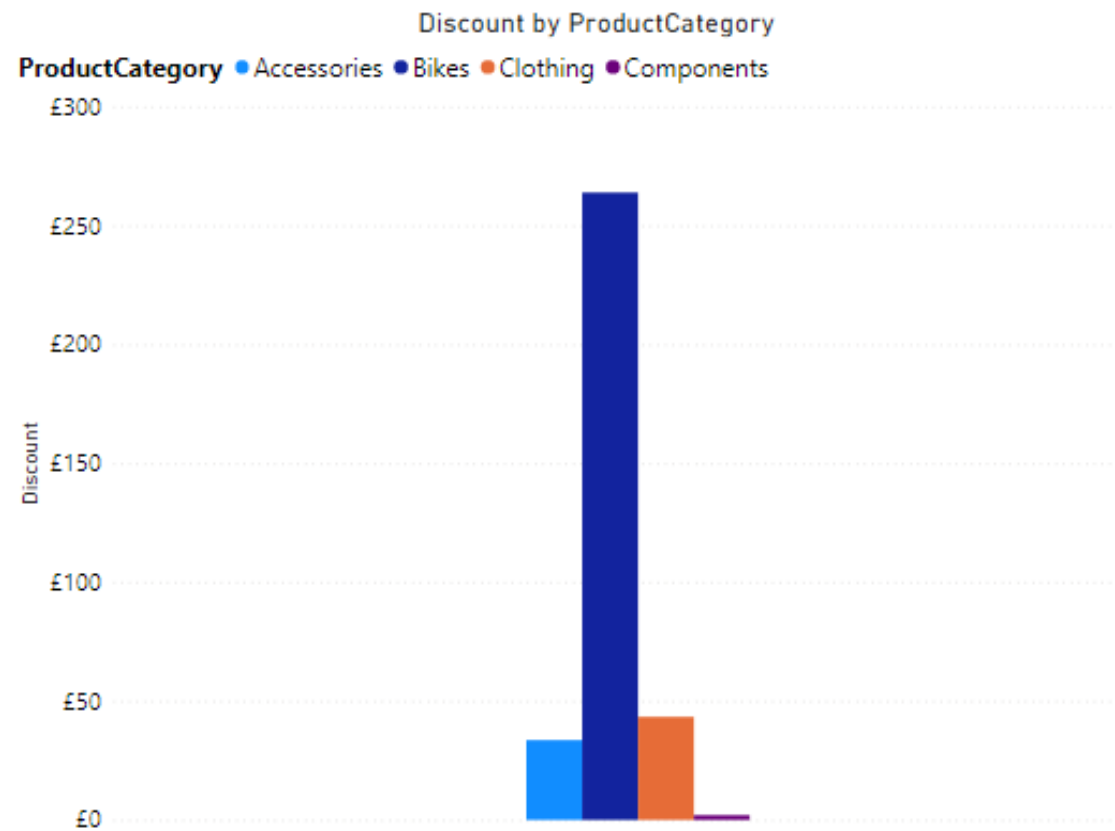
Education : There was a shift in number of customers by Education, the number of customers with Bachelors and graduate degree reduced in 2014 as compared to 2013.

Occupation: Demographics for occupation remained consistent for the four years with all occupations recording increase YOY however there was a slight decrease in number of customers who are skilled manual for between 2013 and 2014.

WHAT AREAS SHOULD AHG IMPROVE



AREAS TO IMPROVE



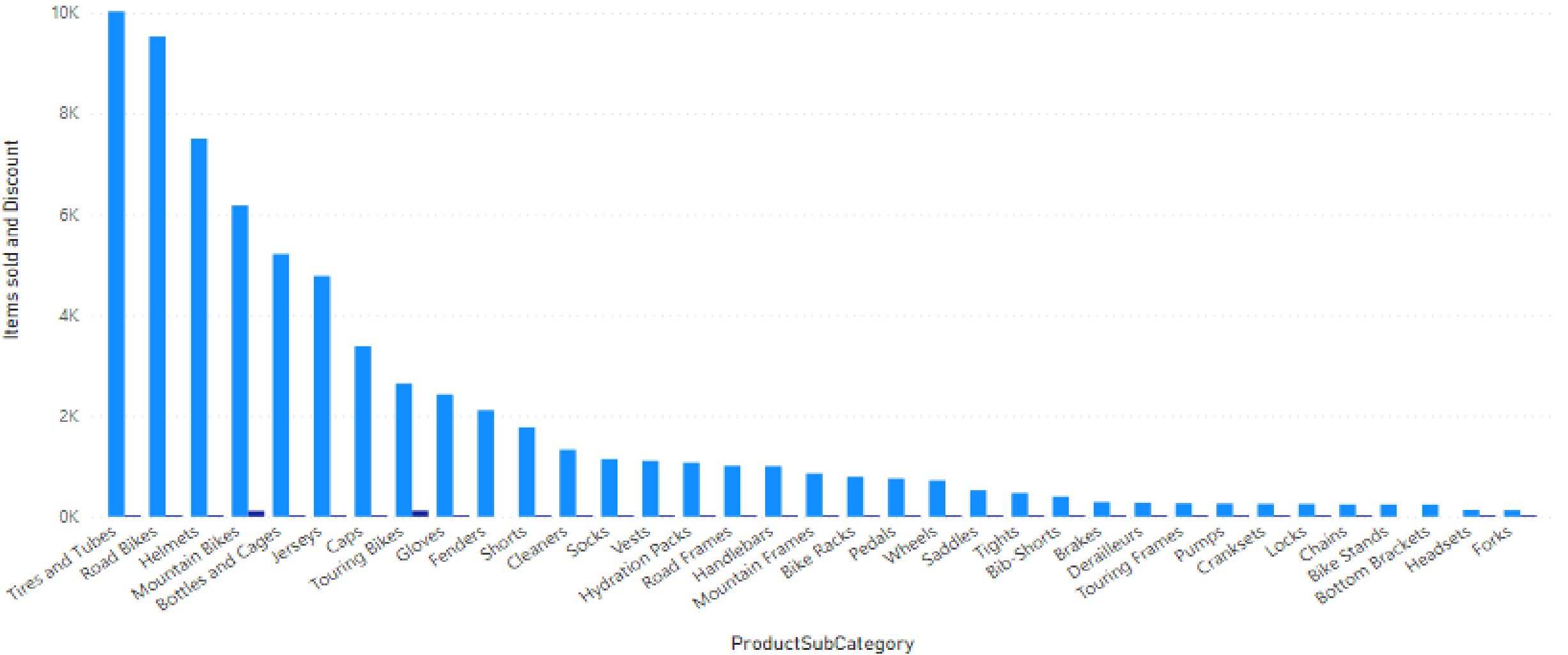
UnitPrice	ProductCategory	OrderQty
£50,225,356.234	Bikes	90268
£4,700,237.3243	Components	49044
£811,296.9834	Accessories	61932
£686,857.073	Clothing	73670
£56,423,747.6147		274914

Discounts on Bikes were the highest in the product category. Discounts should be improved for items in other product categories

Unit prices of Accessories and clothing should be reviewed as against order quantity to ensure that items are not being underpriced.

Items sold and Discount by ProductSubCategory

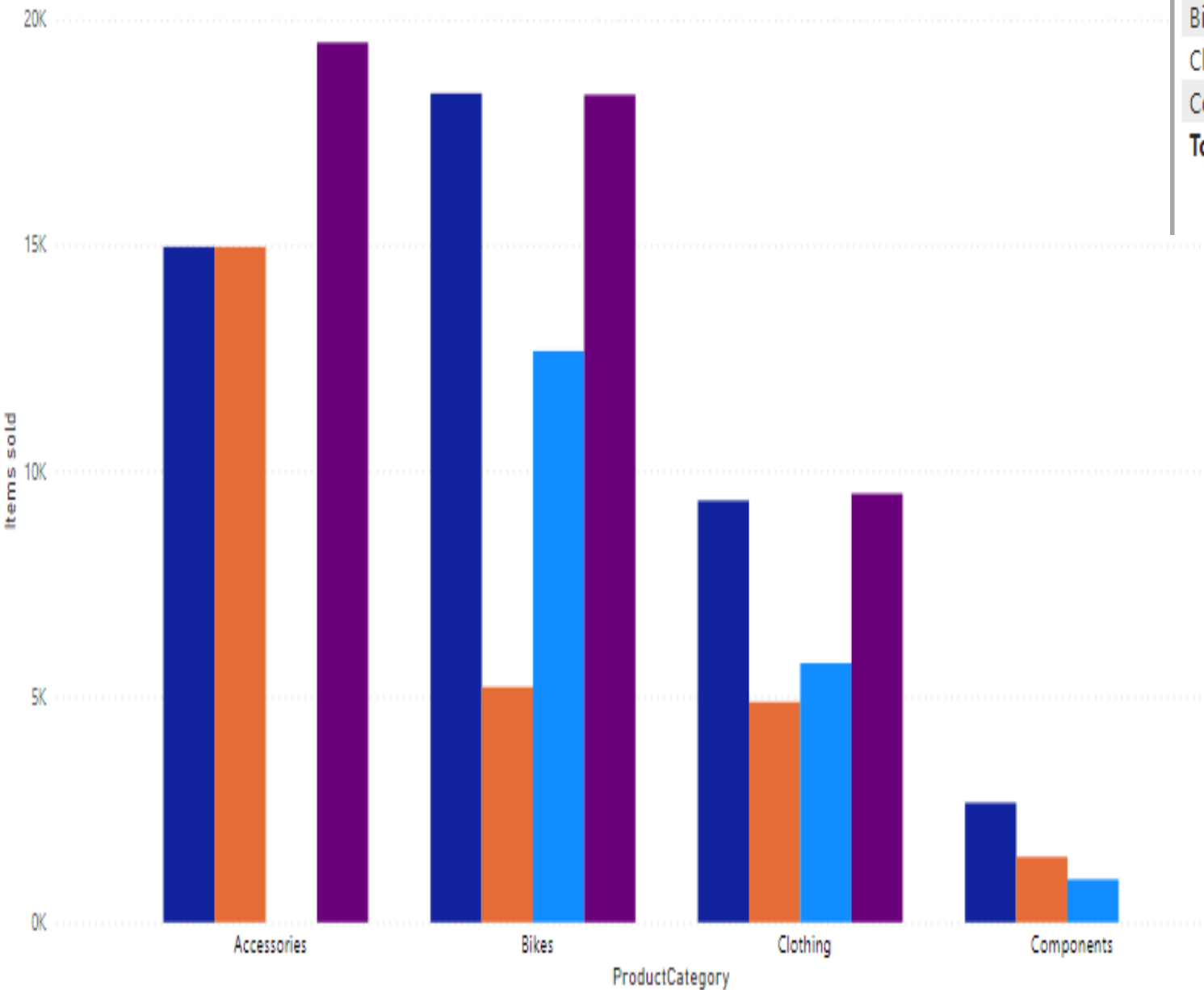
Items sold Discount



A review of discounts shows that the most discounts are given on mountain bikes and touring bikes. Discount policies need to be reviewed for items with low sales

Items sold by ProductCategory and Price Type

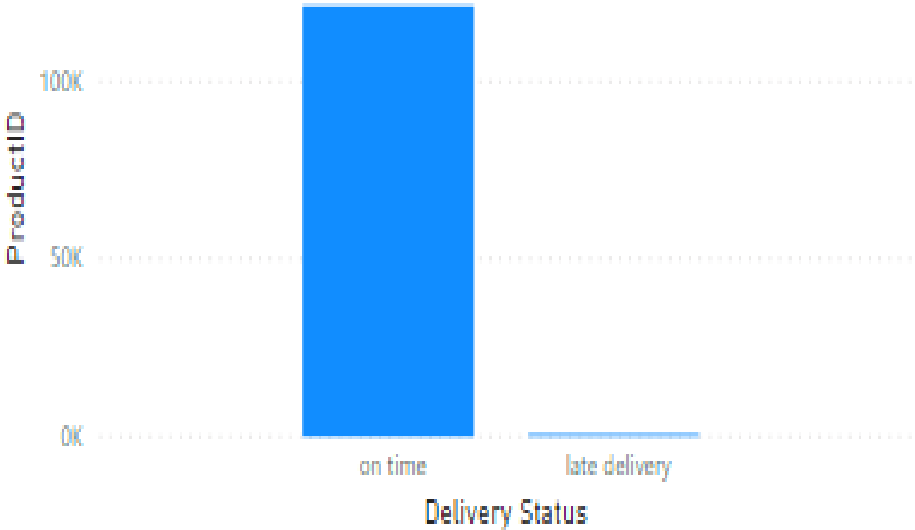
Price Type ● Concession ● In Policy ● Out Of Policy ● WithIn Guide Lines



ProductCategory	Concession	In Policy	Out Of Policy	WithIn Guide Lines	Total
Accessories	14967	14967		19494	19524
Bikes	18368	5215	12659	18337	18368
Clothing	9345	4883	5743	9500	9877
Components	2650	1451	952		2650
Total	29137	20234	15735	31011	31465

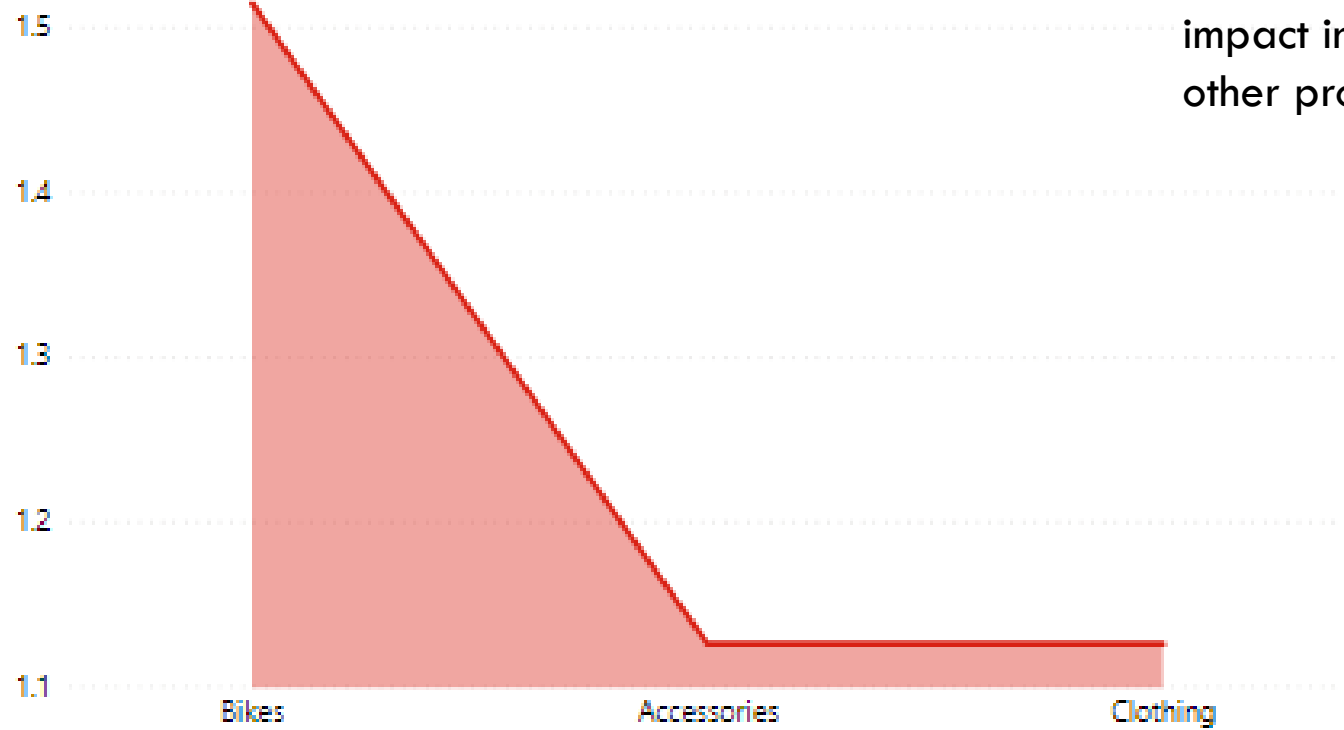
Items sold in the clothing and bike categories shows that a good number of products are given on sales of all products withare sold with prices which are out of policy, it also shows that too much concessions accessories and bikes having the highest number of price concessions

ProductID by Delivery Status



More products are delivered on time, but a few are delivered late and this can be improved on

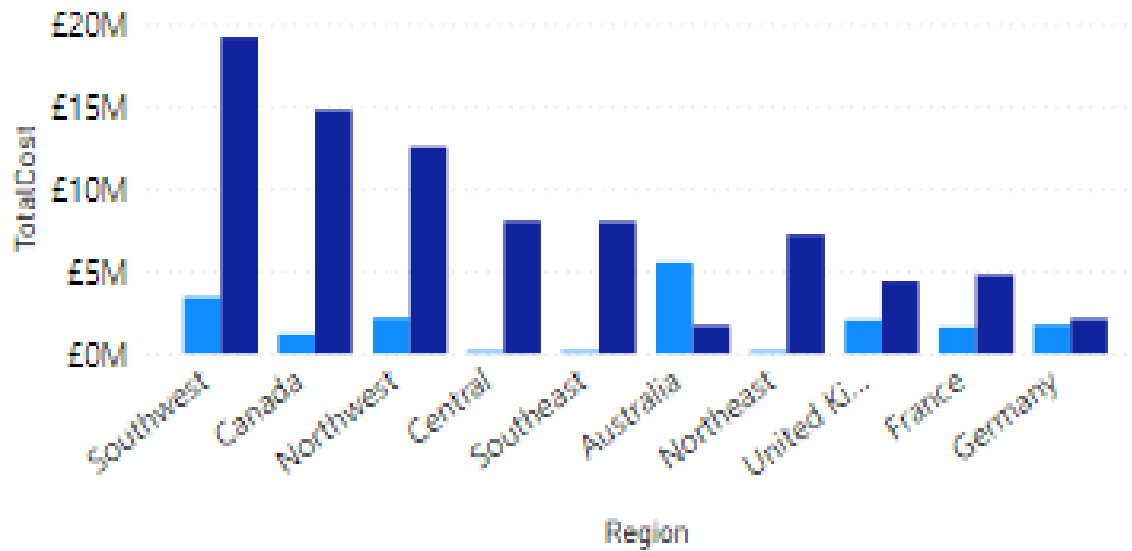
Average days to manufacture by ProductCategory



The average days to manufacture for bikes is higher than other product category and this would have an impact in total cost of manufacturing as compared to other product categories.

TotalCost by Region and Channel

Channel ● Online ● Reseller

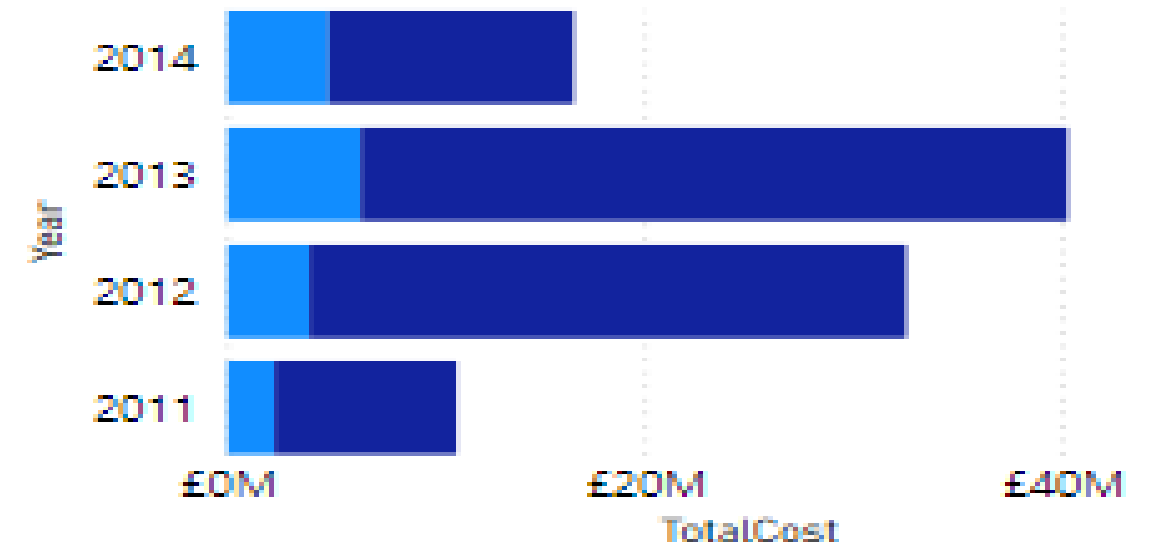


Total cost on reseller's channel is higher than total cost on the online channels for all regions.

Cost should be reviewed on reseller's channel and more more sales should be done on the online channel to improve profit in all regions.

TotalCost by Year and Channel

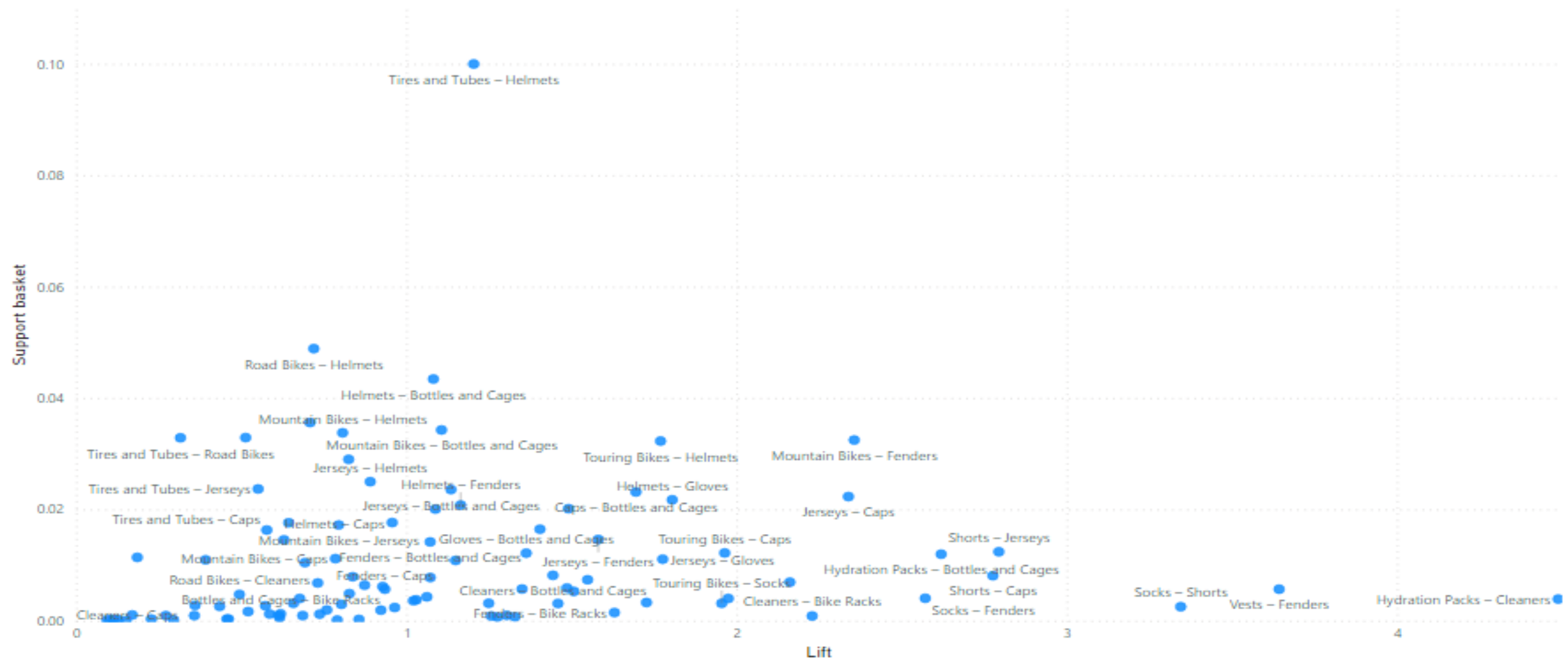
Channel ● Online ● Reseller



Total cost went up consistently from 2011 to 2014 with the highest cost recorded in 2013. All activities for 2013 should be looked at and there should be a review of cost.

MARKET BASKET ANALYSIS

Market Basket Analysis Map



TOP 5 PRODUCTS BY ASSOCIATION(ONLINE)

TIRES AND TUBES - HELMET

ROAD BIKES - HELMET

HELMET - BOTTLES AND
CAGES

MOUNTAIN BIKES - HELMET

MOUNTAIN BIKES - BOTTLES AND
CAGES



**CUSTOMERS WHO
BOUGHT HELMETS
ALSO BOUGHT**

- **TIRES AND TUBES**
- **ROAD BIKES**
- **MOUNTAIN BIKES**



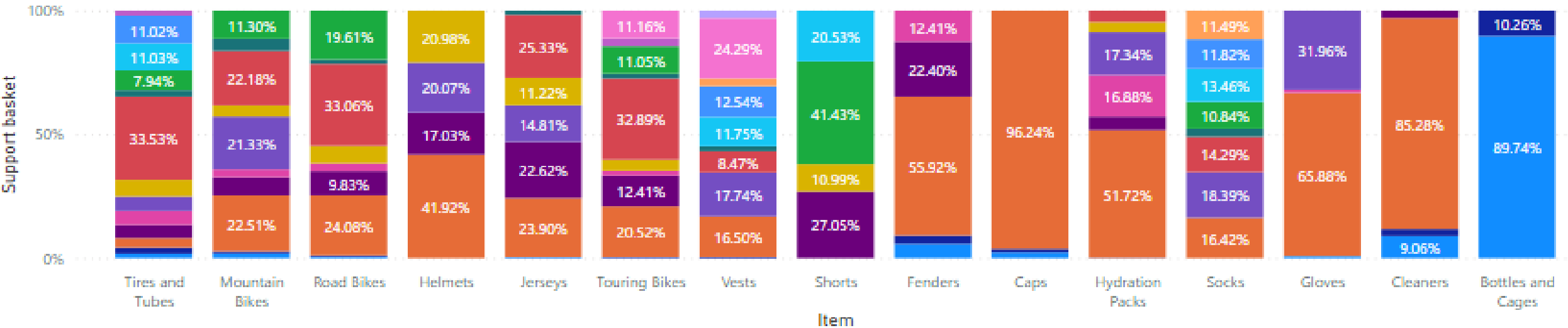
**CUSTOMERS WHO BOUGHT
BOTTLES AND CAGES ALSO
BOUGHT**

- **MOUNTAIN BIKES**
- **HELMETS**
- **JERSEYS**

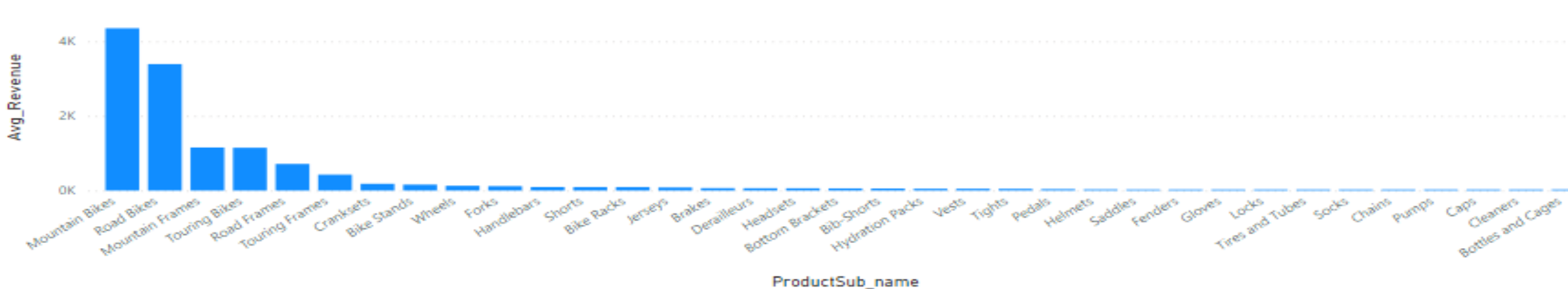
MARKET BASKET ANALYSIS RECOMMENDATION

Support basket, Lift and Confidence Item 1 -> Basket by Item and Item2

Item2 Bike Racks Bike Stands Bottles and ... Caps Cleaners Fenders Gloves Helmets Hydration P... Jerseys Mountain Bi... Road Bikes Shorts Socks Tires and T... Touring Bikes

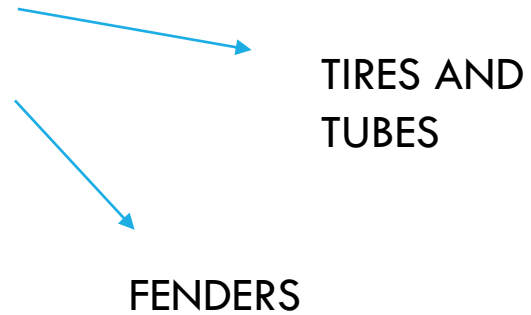


Avg_Revenue by ProductSub_name

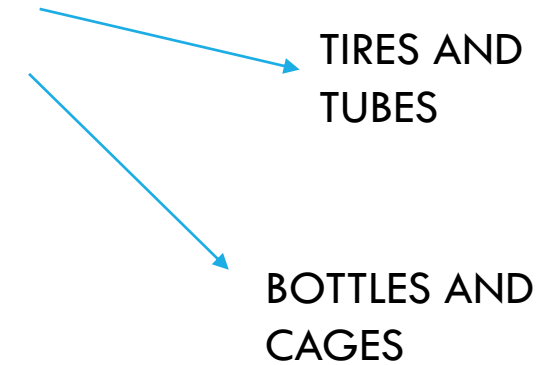


RECOMMENDED PRODUCT PAIRS FOR INCREASED PROFITABILITY

MOUNTAIN BIKES



ROAD BIKES



Mountain Bikes and roads bikes are making the highest profit, pairing them with tires and tubes as well as pairing road bikes with bottles and cages and mountain bikes with fenders would boost profitability.

FORECASTING



REVENUE FORECAST

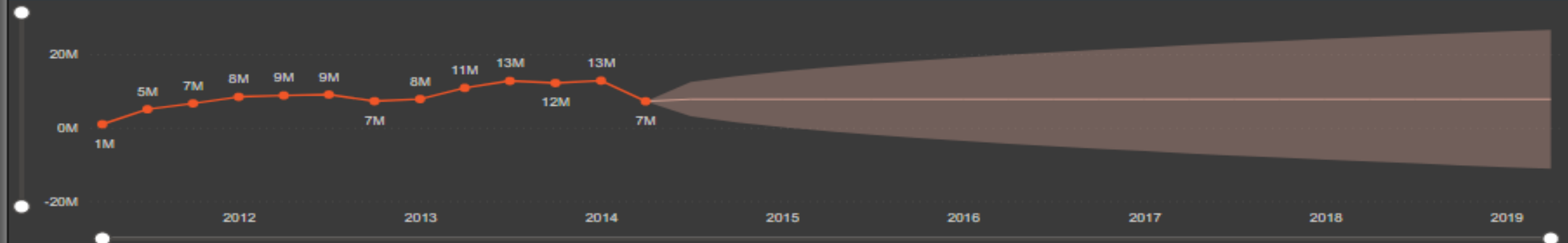
REGION

All

CHANNEL

All

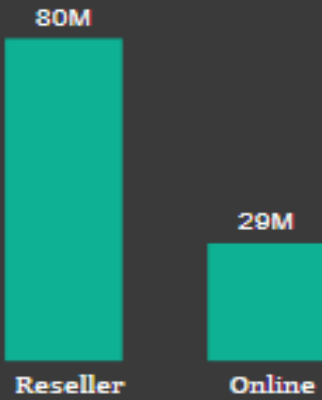
Total Revenue by Year and Quarter



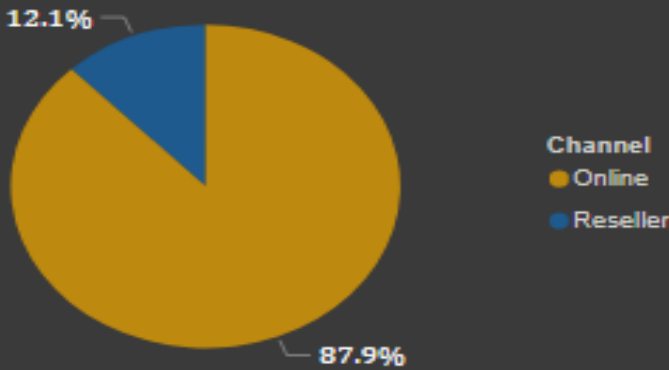
Revenue generated and Items sold by Region

Region	Total Revenue	Items sold
Southwest	24,184,609.60	6224
Canada	16,355,770.46	4067
Northwest	16,084,942.55	4594
Australia	10,655,335.96	6843
Central	7,909,009.01	385
Southeast	7,879,655.07	486
United Kingdom	7,670,721.04	3219
France	7,251,555.65	2672
Northeast	6,939,374.48	352
Germany	4,915,407.60	2623

Total Revenue by Channel



Items sold by Channel



Going by the trend in quarterly revenue movement for all regions and channels forecast for total revenue would be approximately 7.5m quarterly for the next 5 years.

5 year quarterly forecast by Region



REVENUE FORECAST

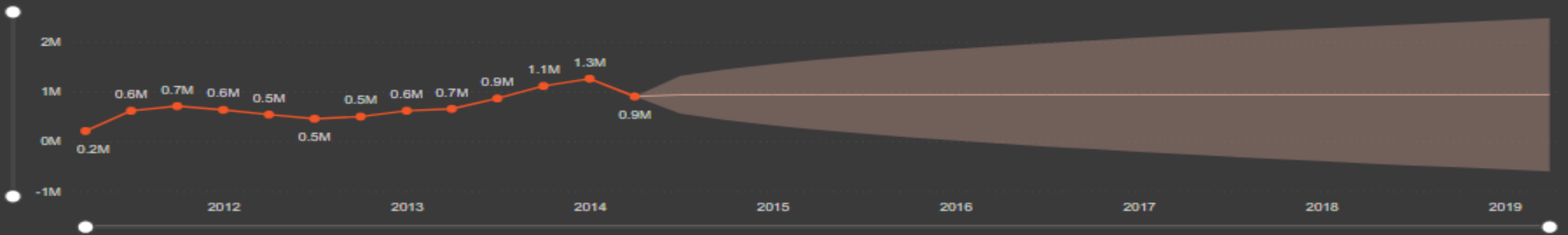
REGION

Australia

CHANNEL

Online

Total Revenue by Year and Quarter



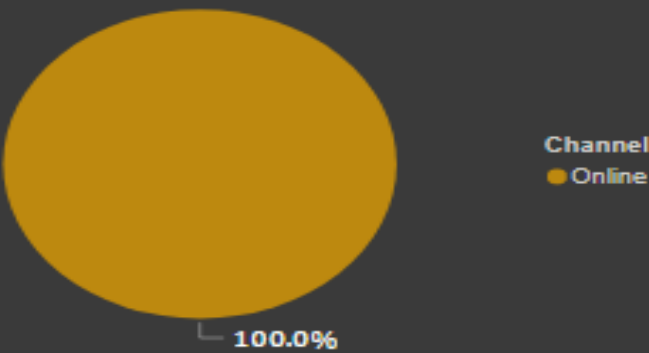
Revenue generated and Items sold by Region

Region	Total Revenue	Items sold
Australia	9,061,000.58	6718

Total Revenue by Channel



Items sold by Channel



Australia revenue experienced an upward movement from quarter 2 in 2011 with a slight decline from the first 3 Quarters of 2012 but went consistently high from quarter 4 of 2012 till quarter 4 of 2014 where revenue went from 1,300,000 to 900,000 leaving quarterly forecast for the next 5 years at approximately 935,844.90 for the online channel.

REVENUE FORECAST

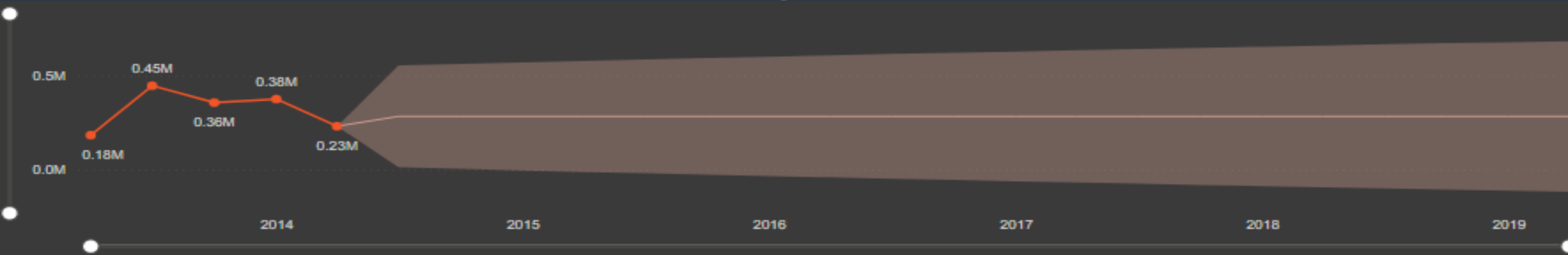
REGION

Australia

CHANNEL

Reseller

Total Revenue by Year and Quarter



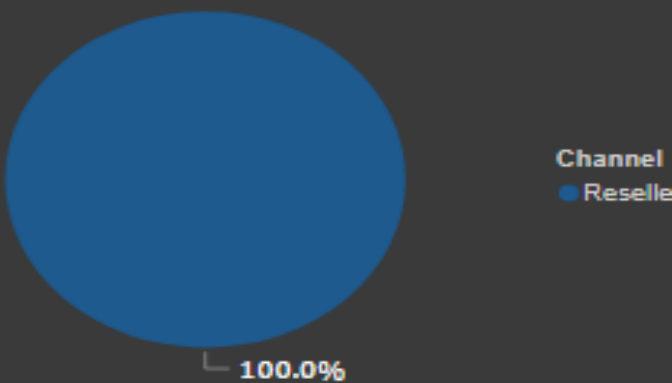
Revenue generated and Items sold by Region

Region	Total Revenue	Items sold
Australia	1,594,335.38	125

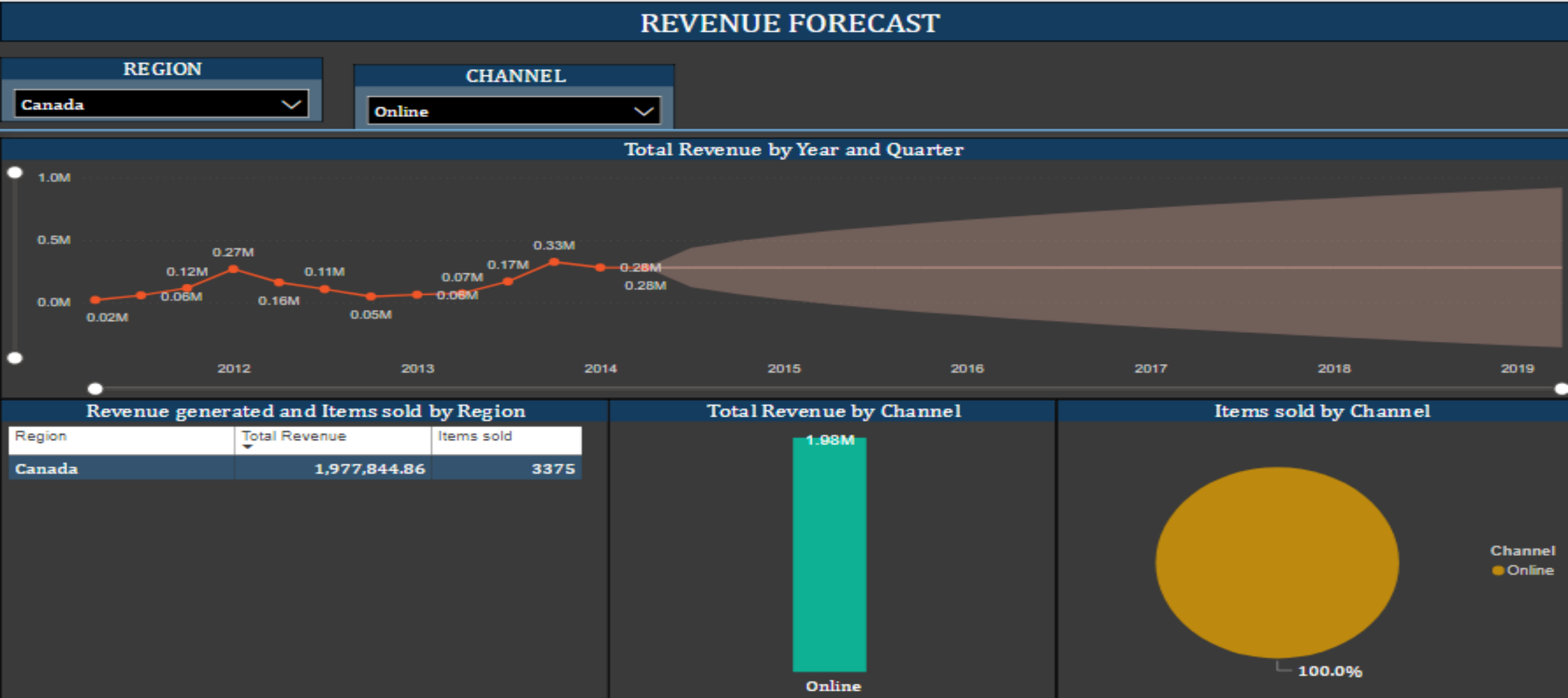
Total Revenue by Channel



Items sold by Channel



For Australia region, No revenue was generated from 2011 till quarter 2 in 2013. Revenue dropped in quarter 4 of 2014 leaving quarterly forecast of about 284,000 for the next 5 years.



Quarterly forecast for the Canada region online revenue would be approximately 280,000 for the next 5 years.

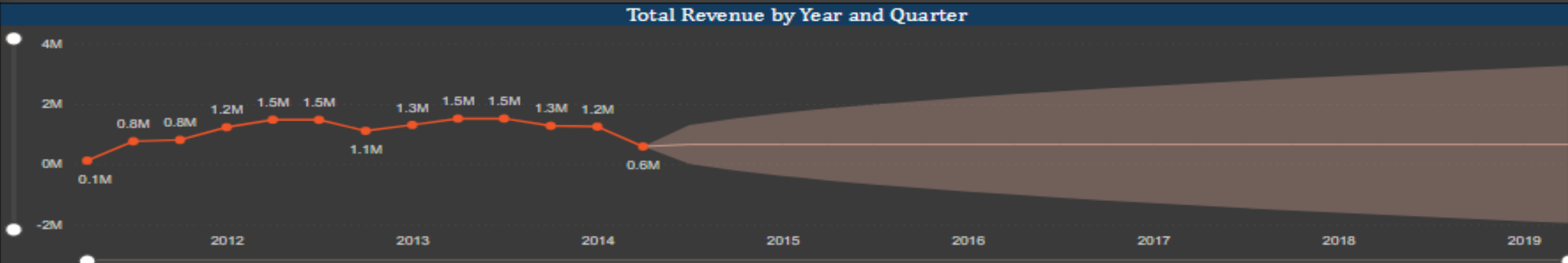
REVENUE FORECAST

REGION

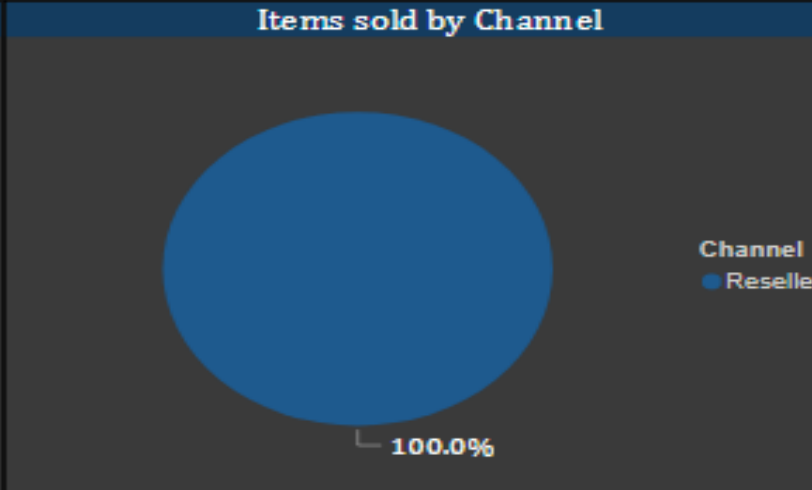
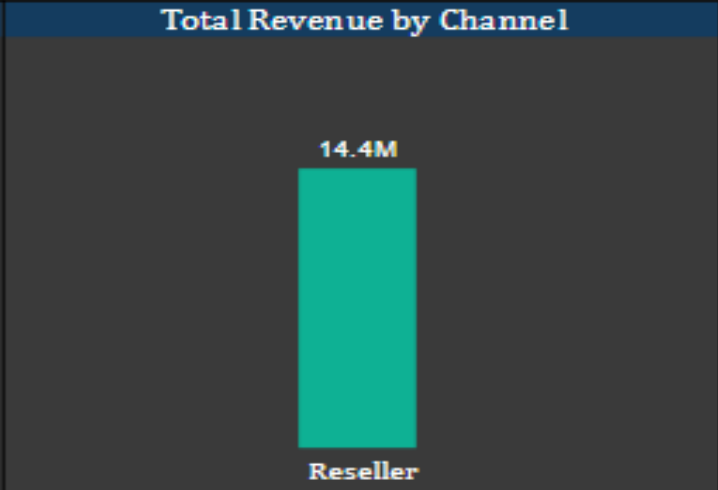
Canada

CHANNEL

Reseller

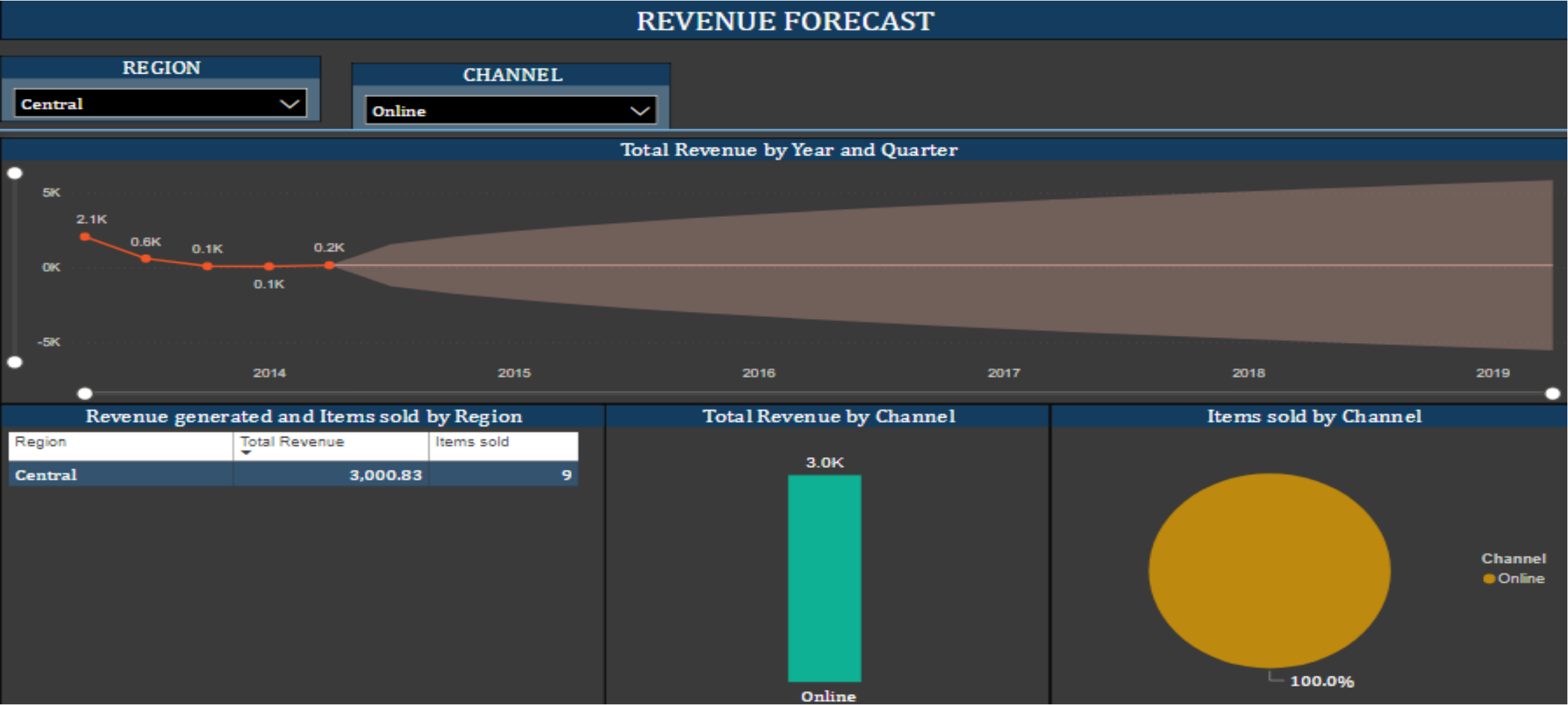


Revenue generated and Items sold by Region		
Region	Total Revenue	Items sold
Canada	14,377,925.59	692

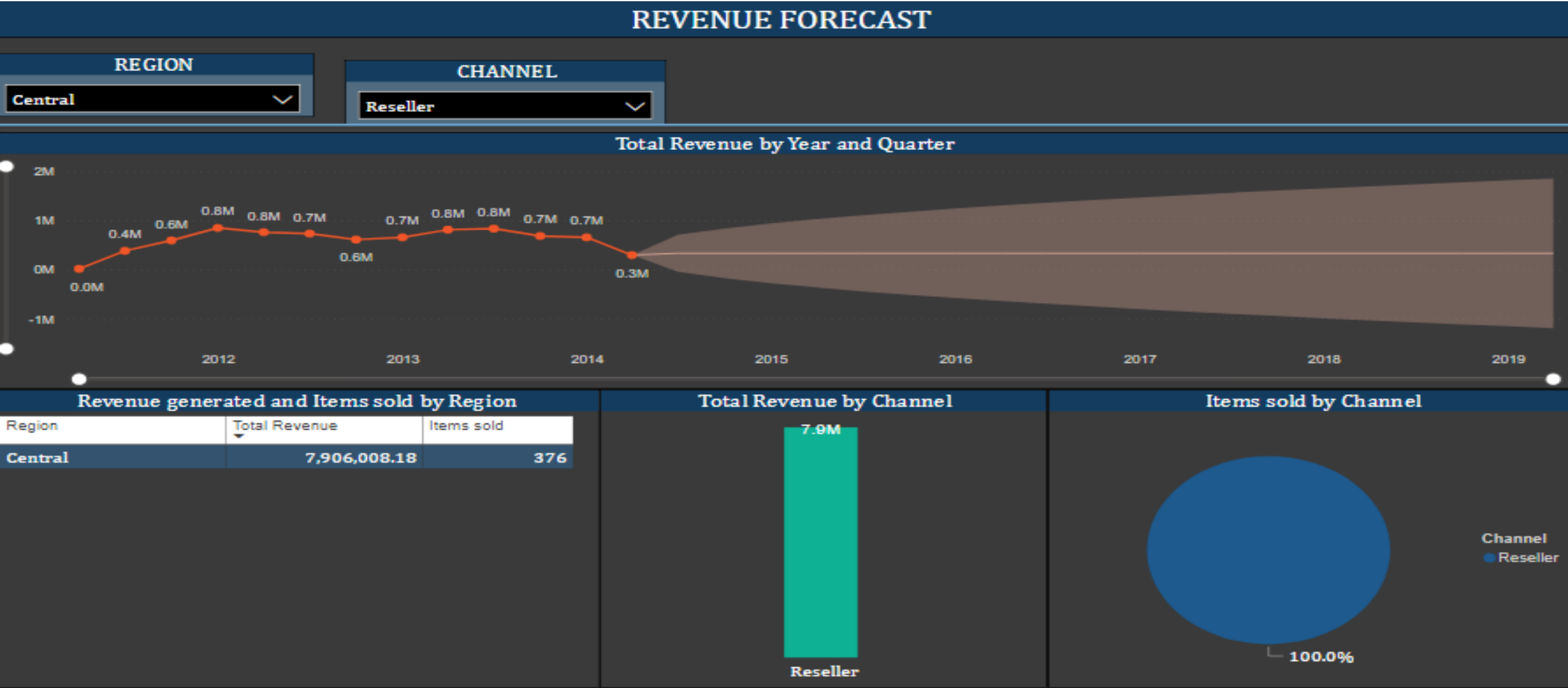


Quarterly revenue forecast for Canada on the resellers channel shows approximately 652,000 however due to previous trend in revenue where average quarterly revenue was approximately 1.5m we cannot fully rely on this forecast.

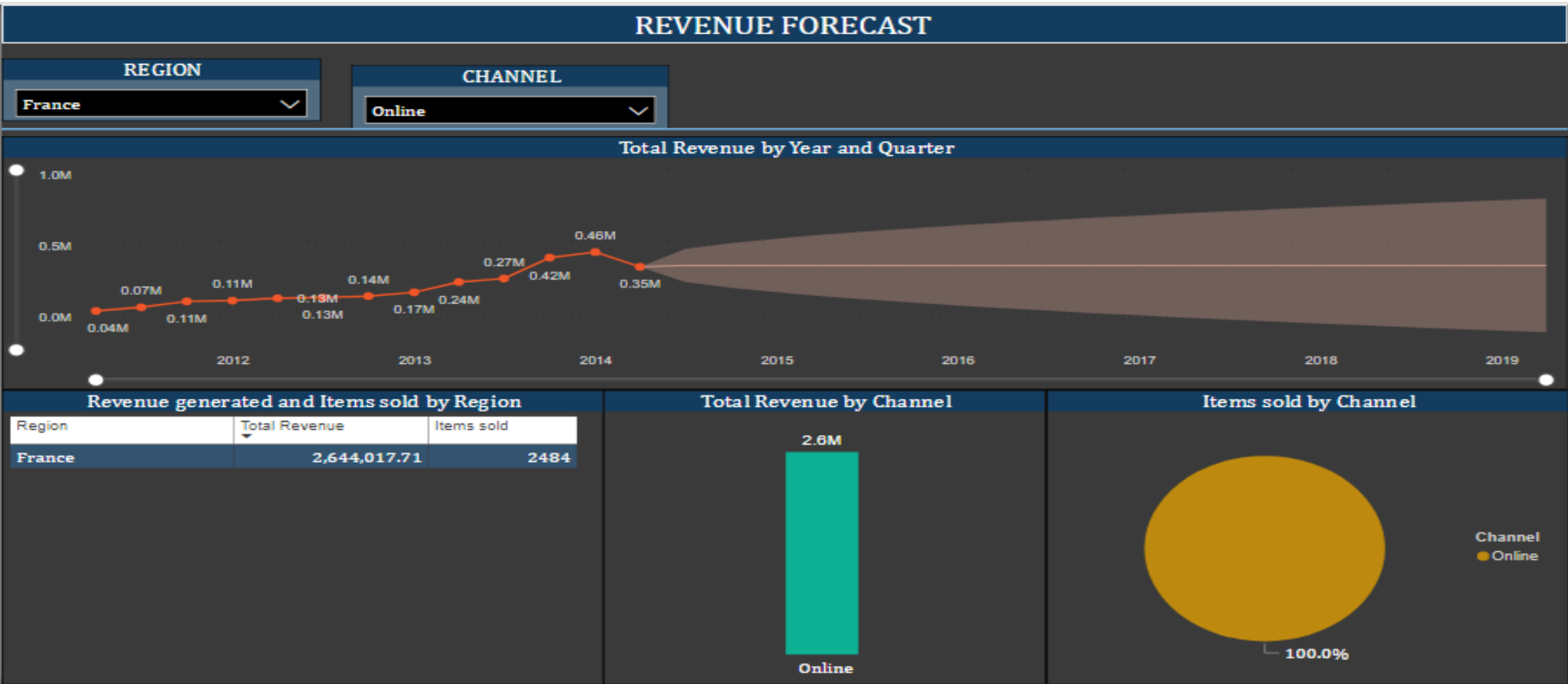
CENTRAL REGION - ONLINE



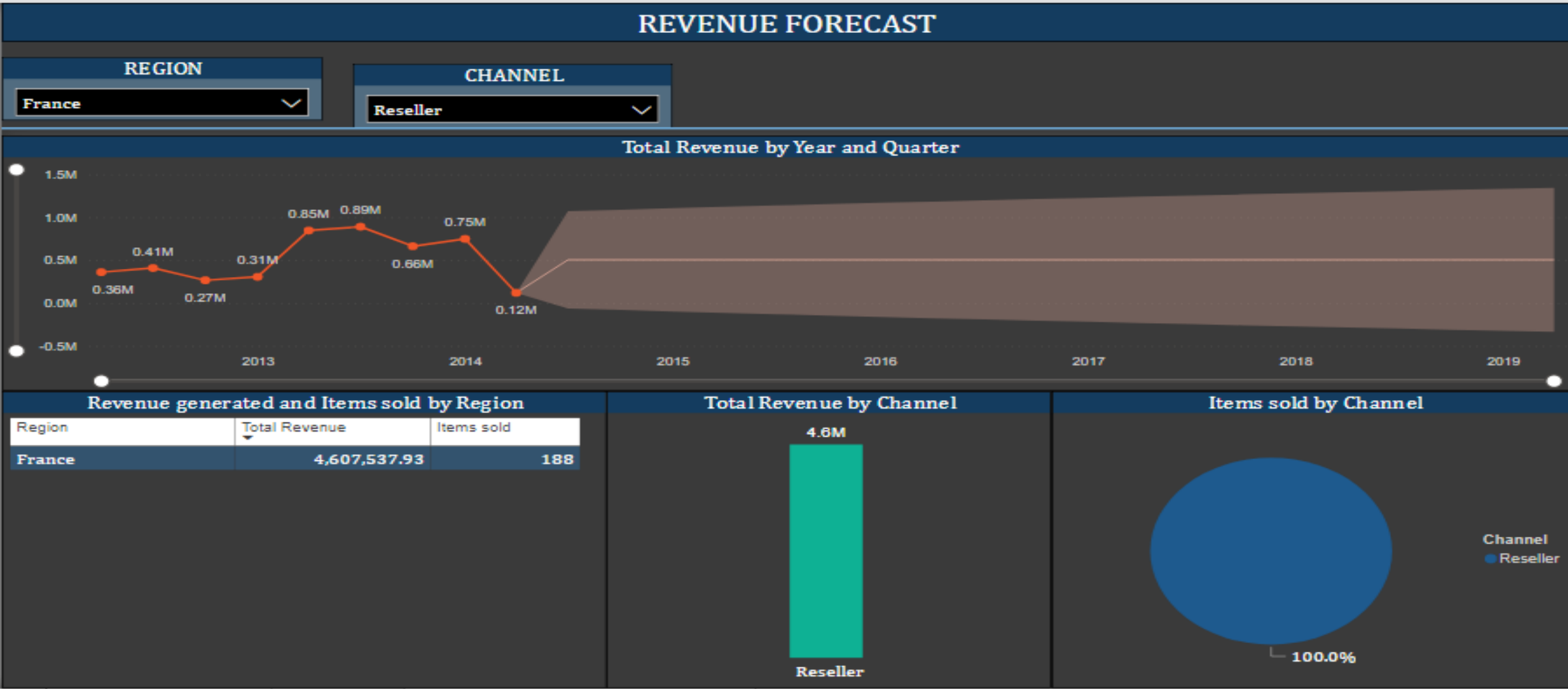
For the central region the quarterly revenue has been consistently very low with a 5 year quarterly of about 149



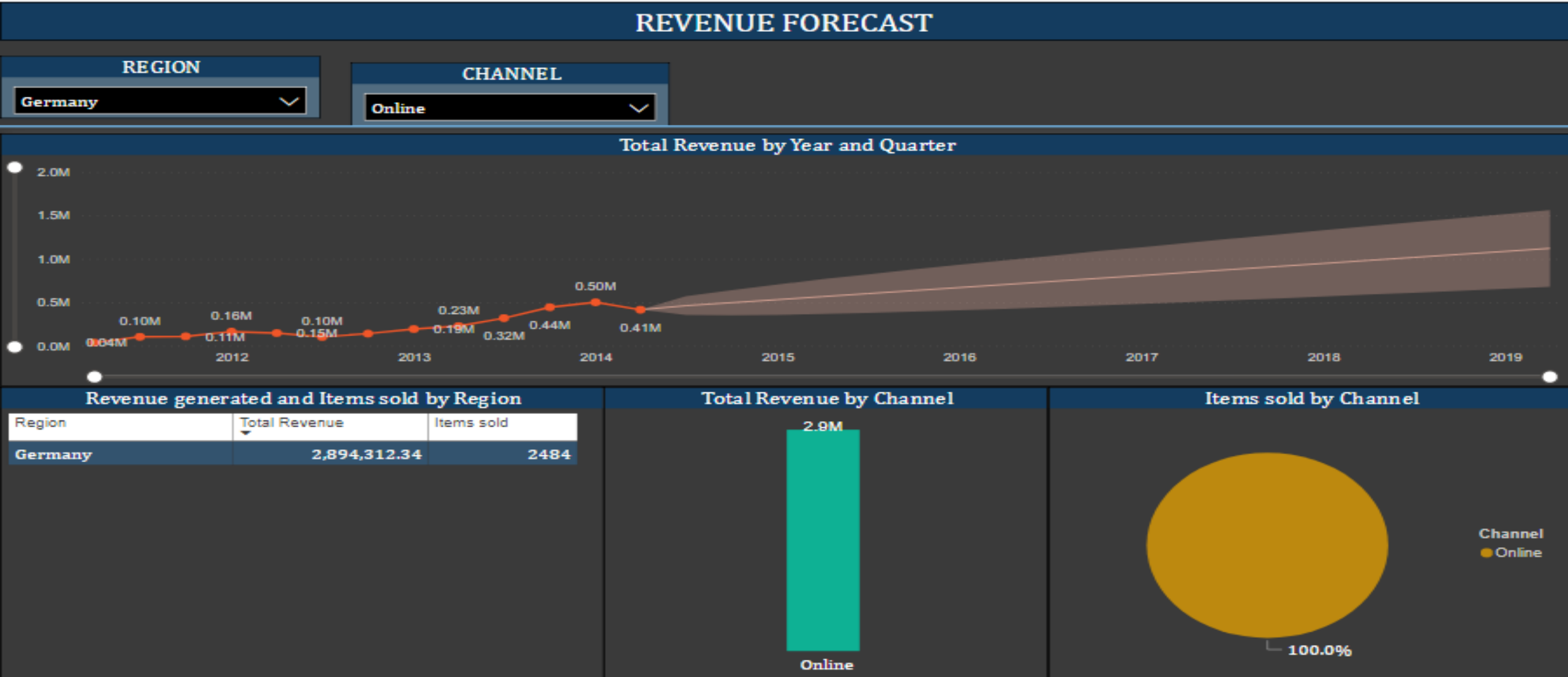
The central regional forecast shows quarterly revenue of about 334,000 for the reseller channel although this might not be accurate as previous trends in revenue were much higher.



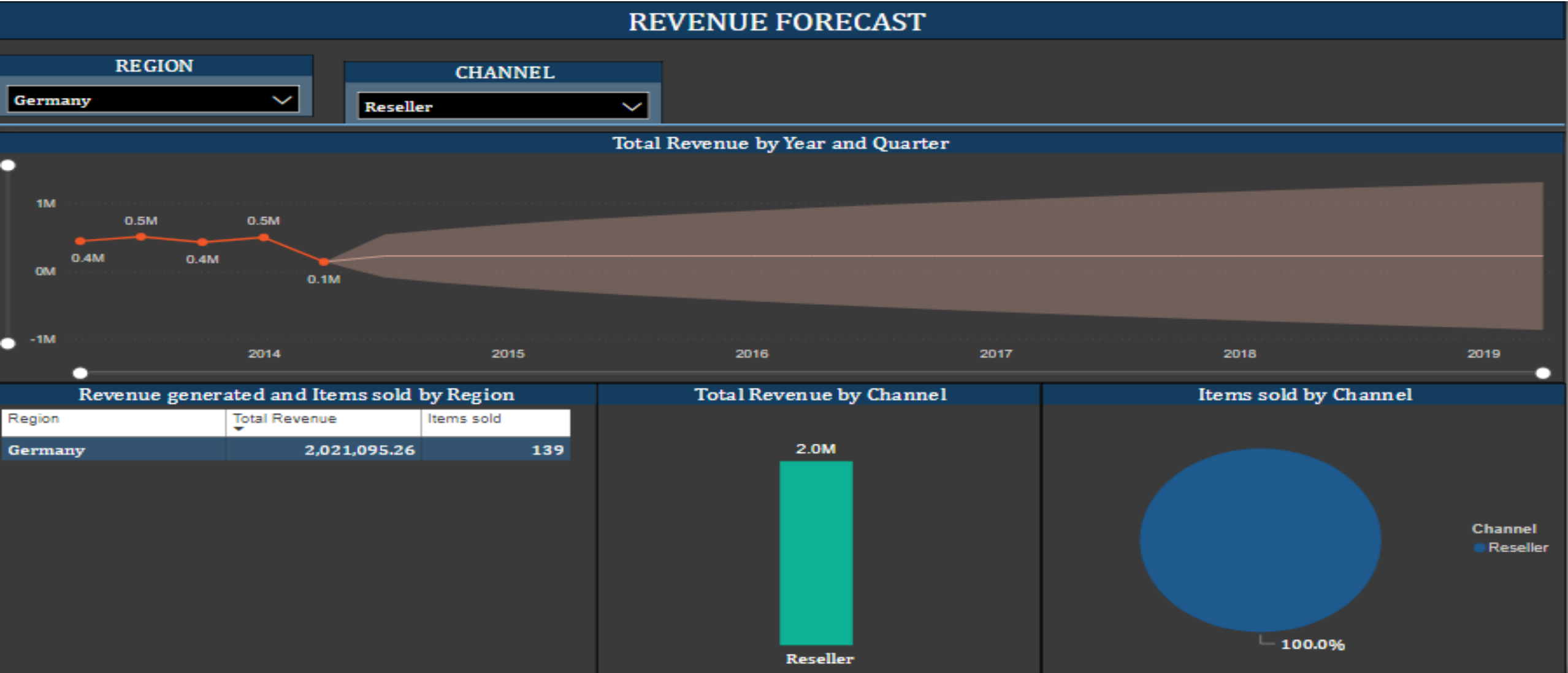
Online quarterly revenue went up consistently from quarter 2 in 2011 with a slight drop in quarter 2 of 2014 leaving the 5 year forecast at about 360,000 for the France region



On the reseller channel for France region, the trend for quarterly revenue from 2011 to 2014 shows a continuous up and down movement with a five year quarterly revenue forecast of approximately 504,000.



For the Germany region, online quarterly revenue from 2011 consistently went up slightly, leaving the 5 year quarterly forecast to follow a similar continuous upward movement trend from 2014 to 2019 beginning from 461,000 in 2011 to 1,200,000 in 2019.

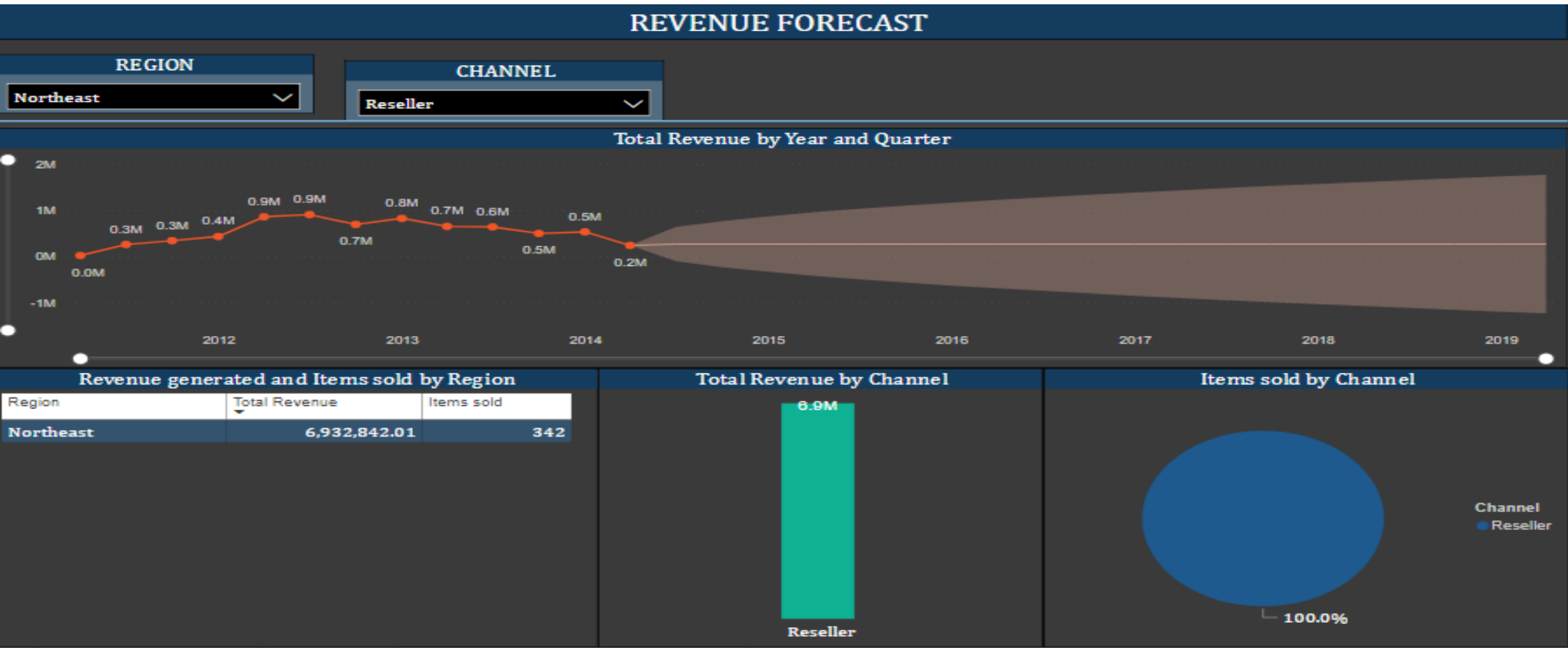


For the reseller channel in the Germany region, revenue of about 444,000 was generated from 2013 and for next few quarters recorded almost similar revenue with a decline quarter 2 of 2014 hereby leaving a five year quarterly forecast of approximately 224,000 from 2014 to 2019.

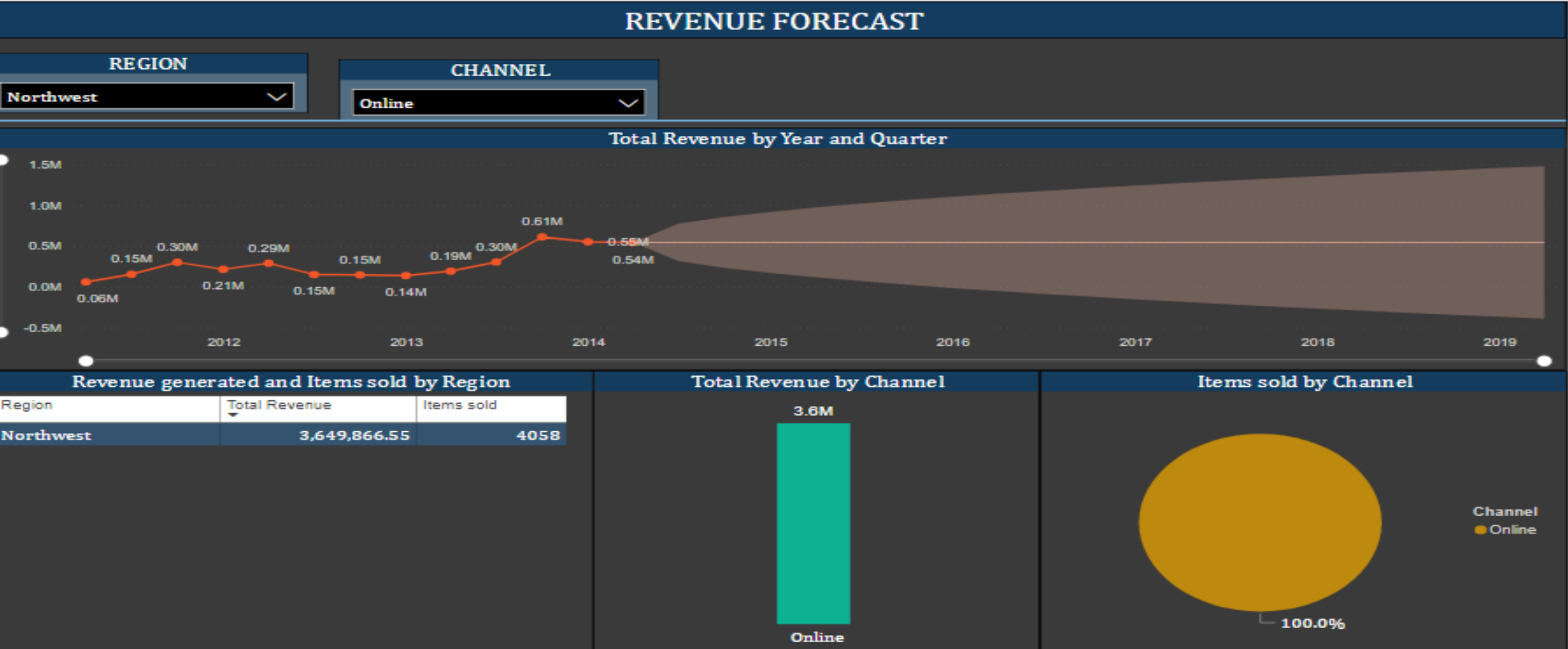


Quarterly revenue for the north east region on the online channel was consistently on a upward and downward movement from quarter 2 in 2013 to quarter 2 in 2014 leaving expected revenue for the next 5 years to follow similar trend.

NORTH EAST RESELLER

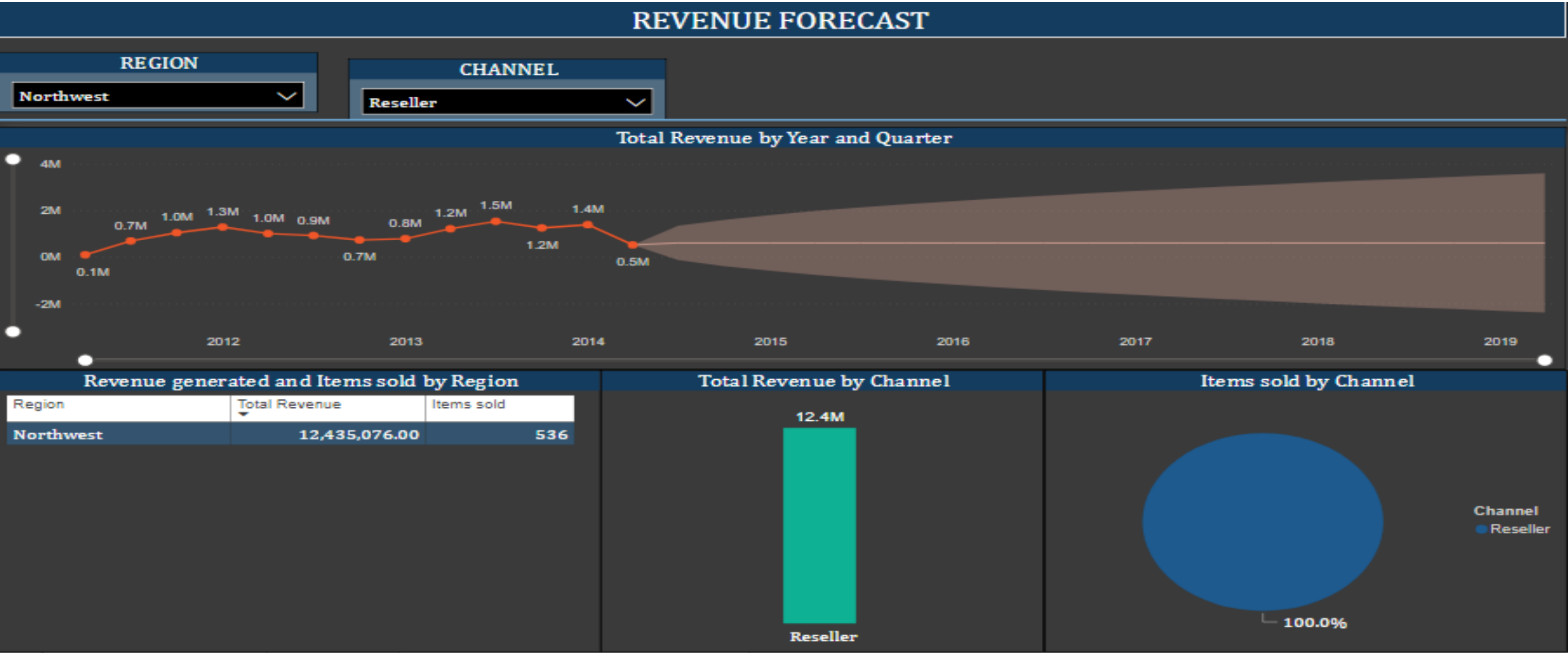


Compared to the online channel for the north east region the reseller channel generated much more revenue on a quarterly basis. Quarterly forecast shows revenue for the next 5 years to be averagely 269,000.



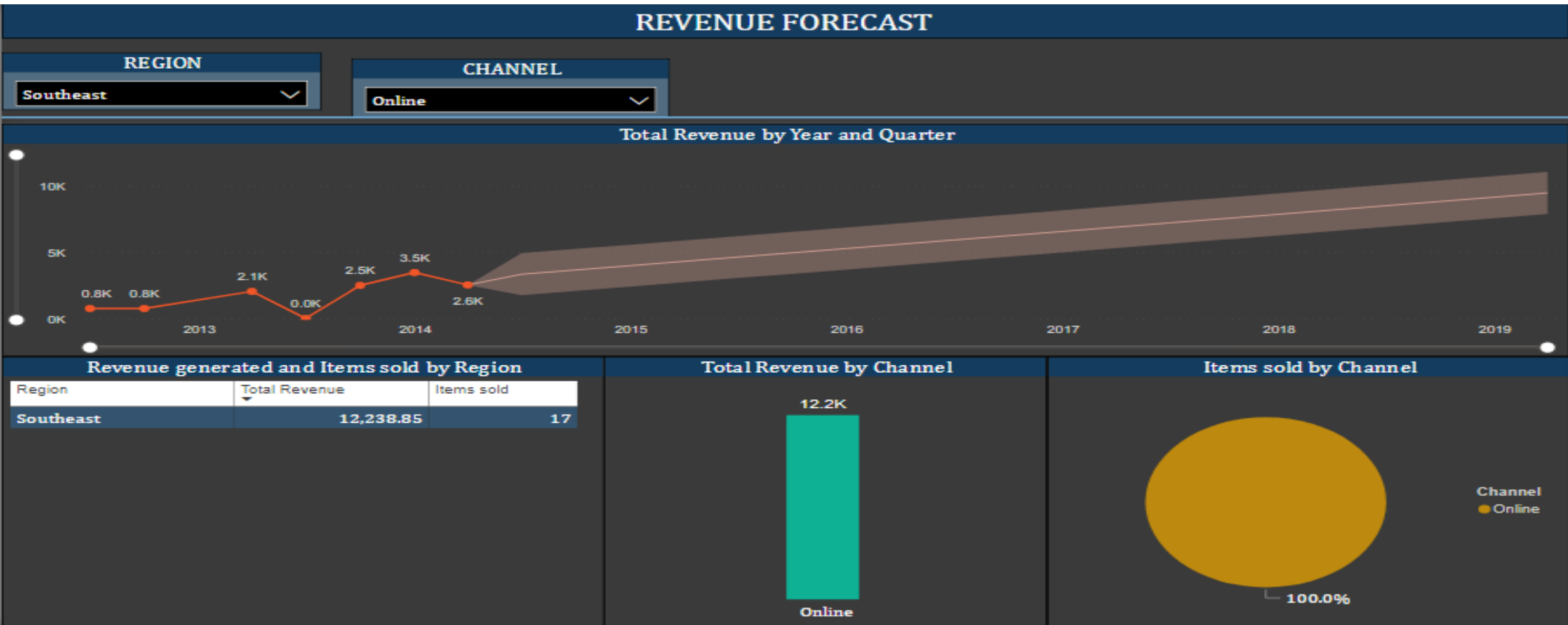
From quarter 2 in 2014 quarterly forecast for the next 5 years would be approximately 544,000 due to previous trends

NORTH WEST RESELLER



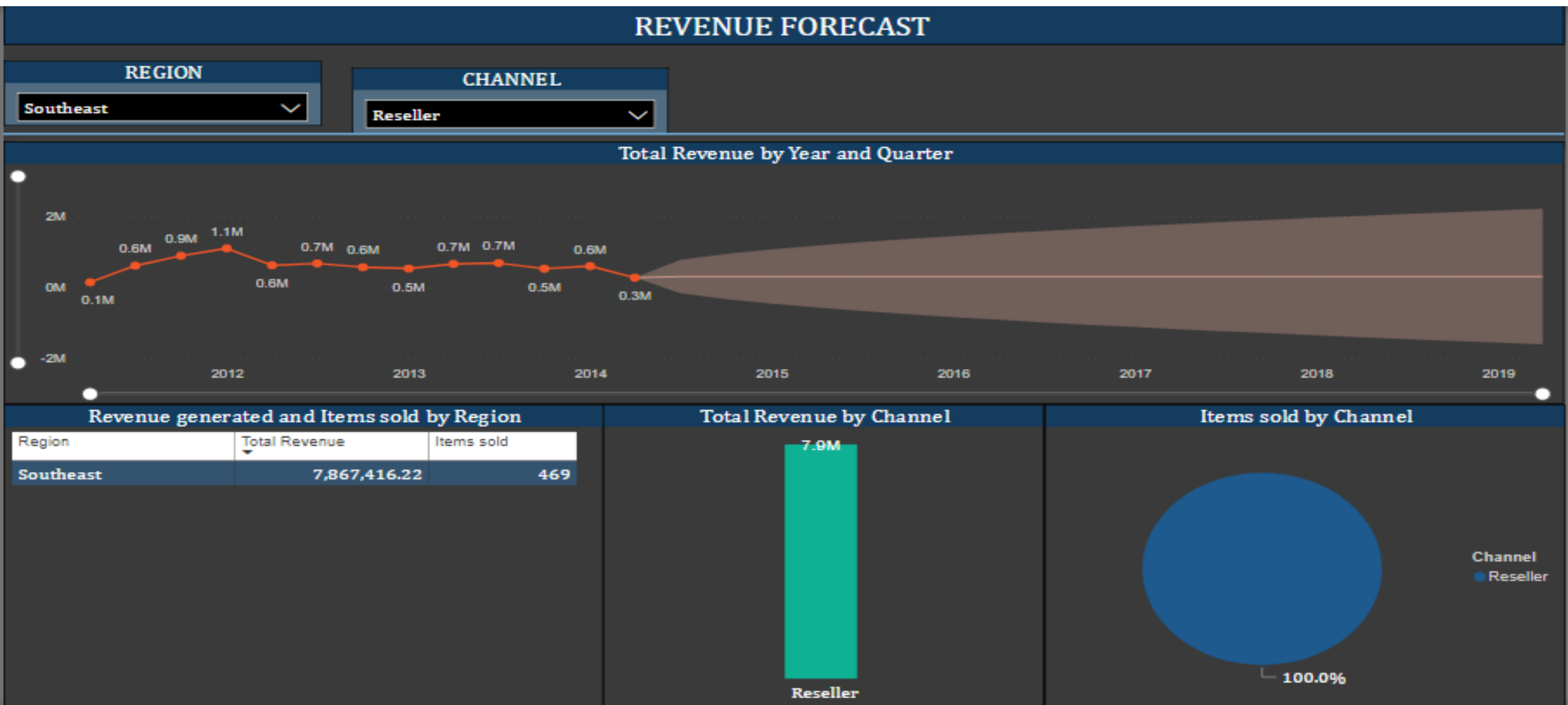
The Northwest Reseller’s region recorded constant growth in quarterly sales revenue with only very slight up and down shifts leaving quarterly forecast for the next 5years at averaly 602,000 per quarter.

SOUTH EAST ONLINE

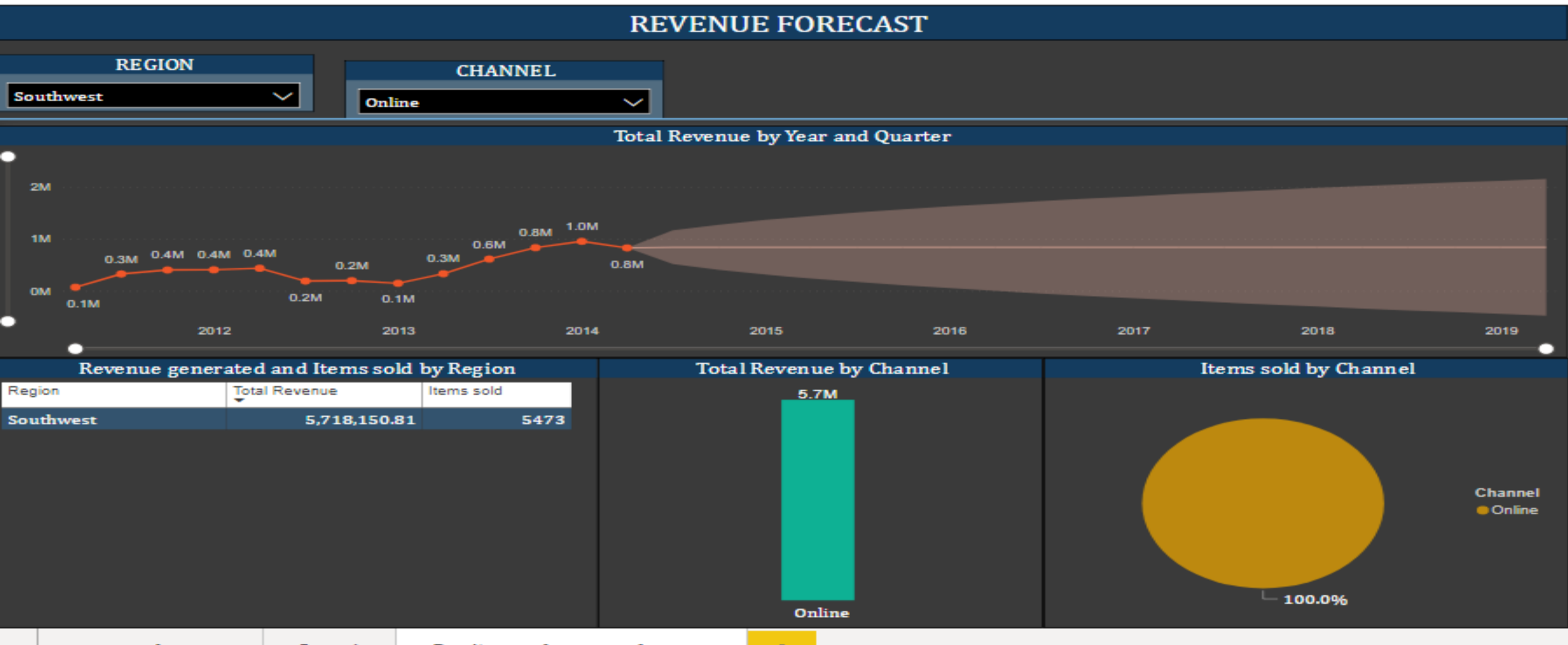


For the south east region online sales, although much revenue is not being generated from sales, expected quarterly revenue for the next 5 years shows constant upward movement.

SOUTH EAST RESELLER

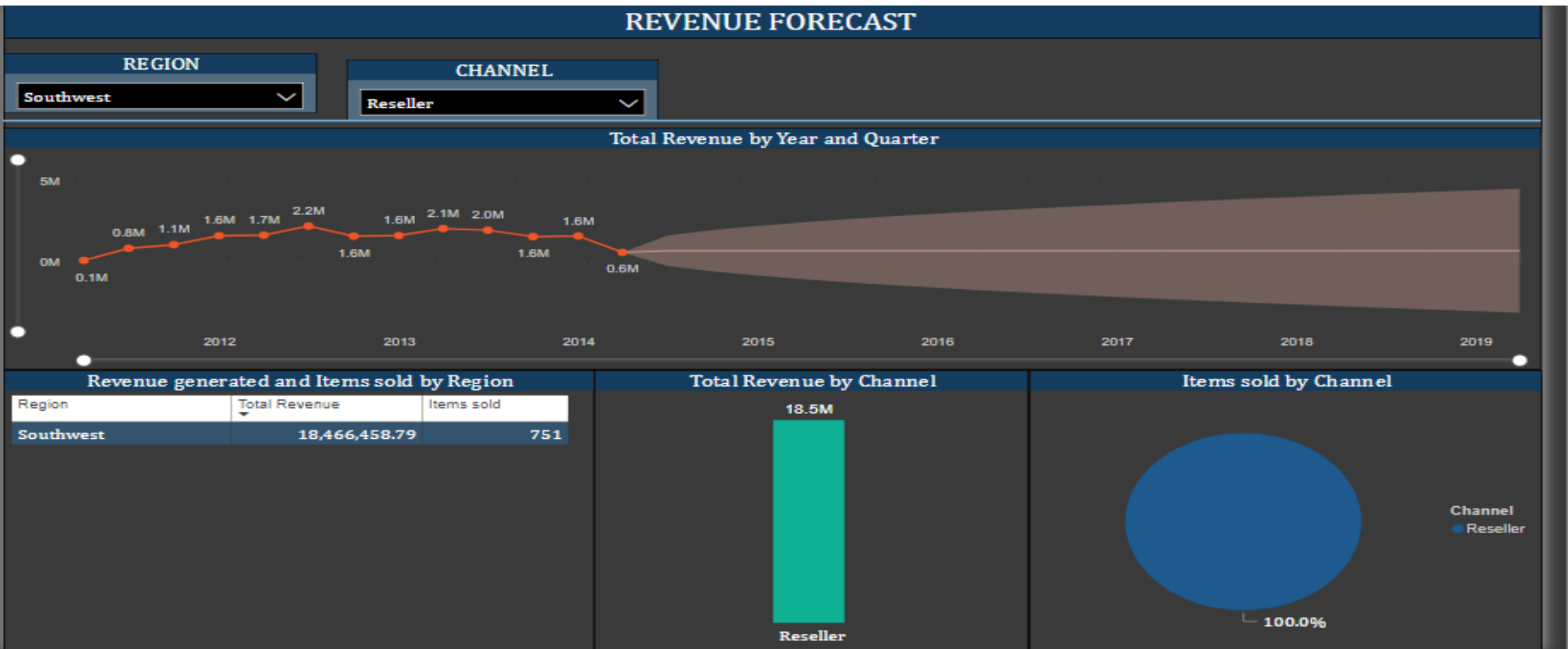


On the reseller channel, revenue remained consistent for most of the quarters and it is expected to follow the same trend for the next 5 years.



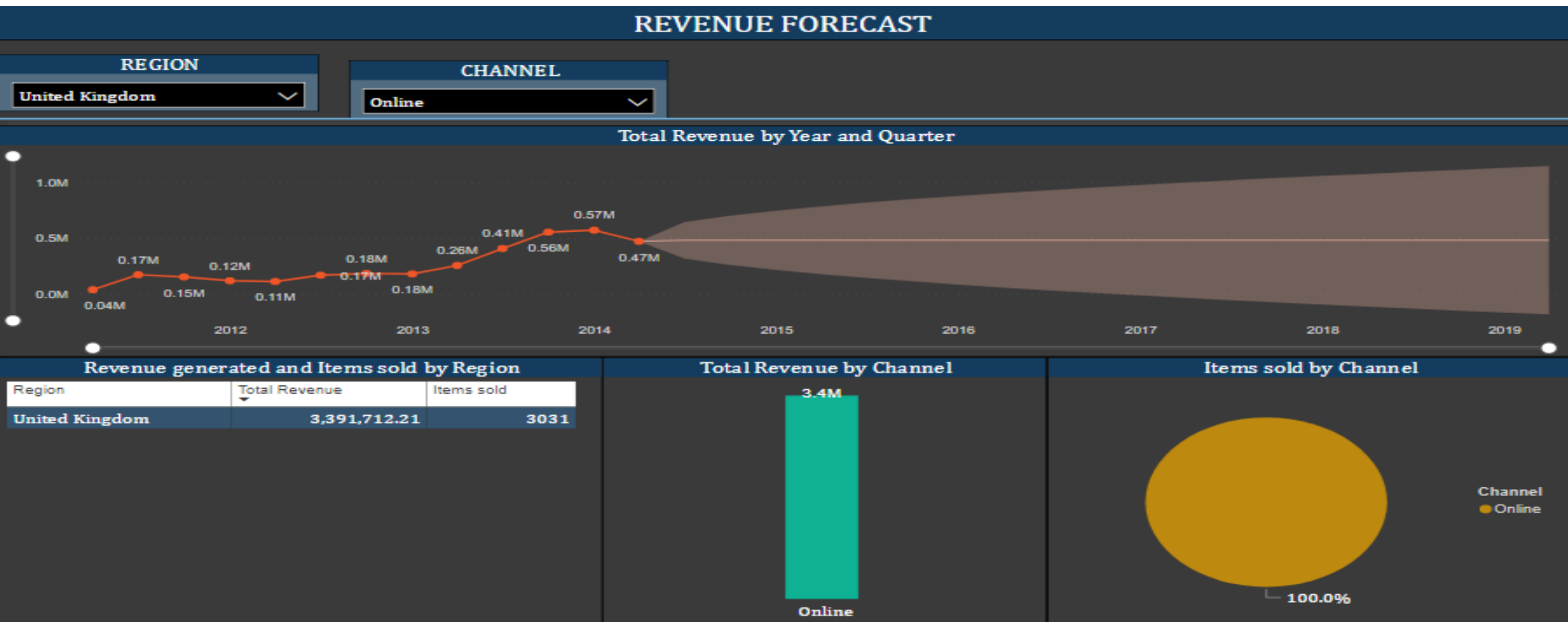
Revenue started off low but grew consistently with an occasional drop but after quarter 1 of 2013 only a continuously growth was recorded with quarter 1 of 2014 generating the highest profit of approximately 1m.

SOUTH WEST RESELLER



On the reseller channel for south west region much revenue was generated with quarter 3 of 2013 recording the highest profit of 2.2m with preceding quarters making sales with only slight differences. Forecasted quarter revenue for the next 5 years is 693,000.

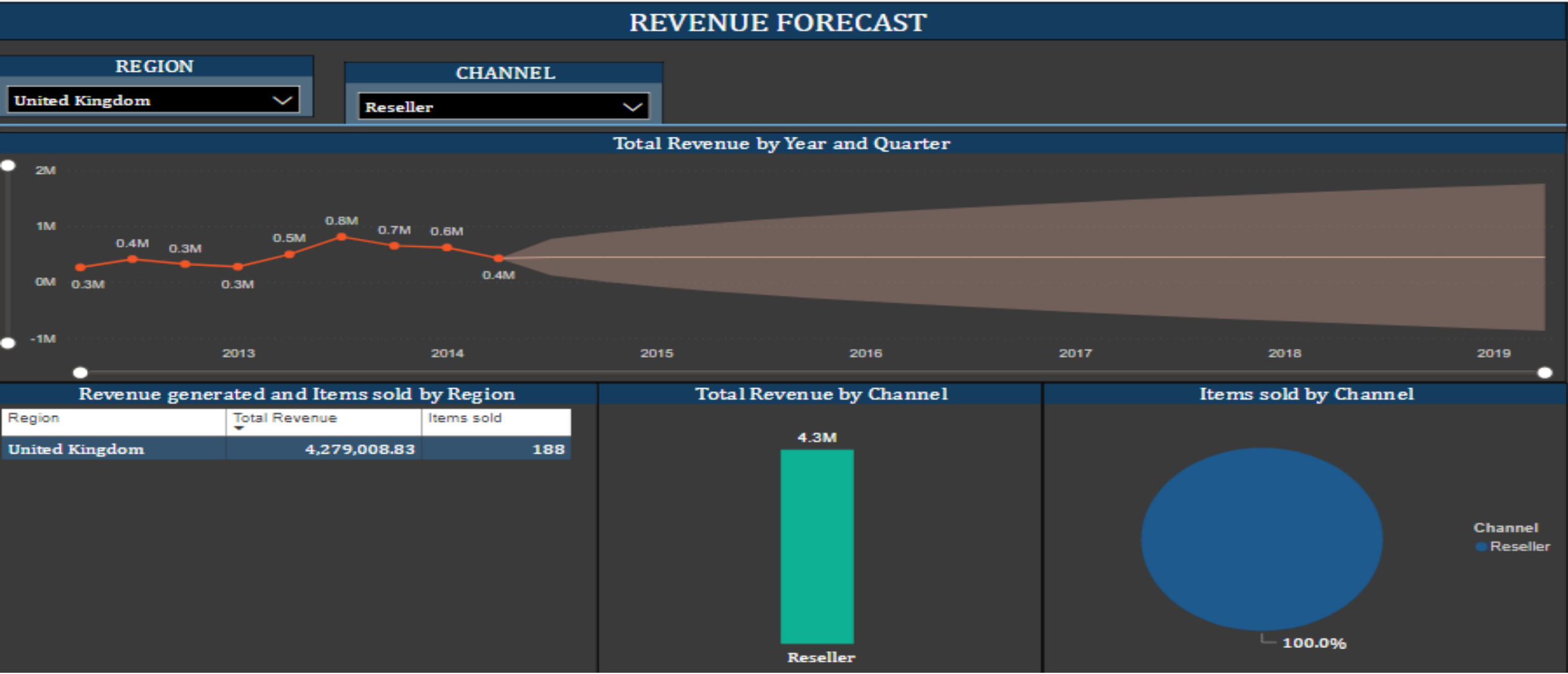
UNITED KINGDOM ONLINE



Online sales was constantly going high with only very occasional downward movement highest revenue was generated in quarter 1 of 2014.

Forecast for following quarters is expected to be approximately 483,000

UNITED KINGDOM RESELLER



Reseller sales followed almost similar pattern with online sales but more upwards movement in revenue can be seen.

Quarter Forecast revenue for United kingdom reseller channel is approximately 445,000

MARKET SHARE AND COMPETITORS



COMPETITORS BY REGION



GERMANY

AUSTRALIA



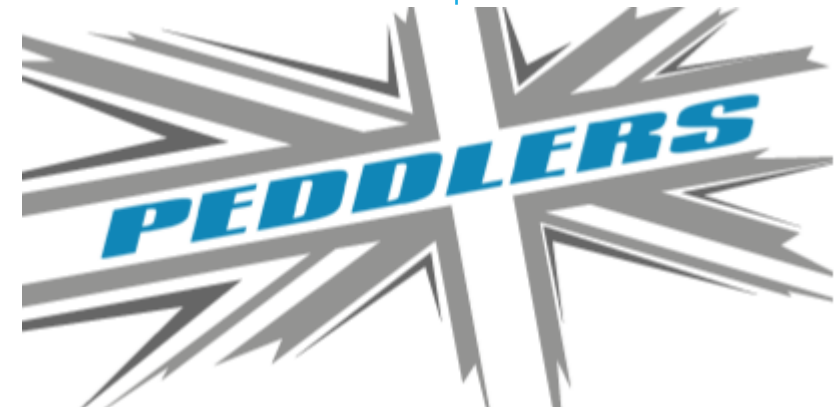
UNITED STATES



CANADA



UNITEDKINGDOM



OFFERS AND SPECIAL FEATURES PROVIDED BY COMPETITORS AND NOT PROVIDED BY AHG



- Demonstration and Test Bikes
- 10 Euro Voucher for subscribing to newsletter



Financing options
Available for web
purchases(buy now pay
later)



Free shipping from
\$20



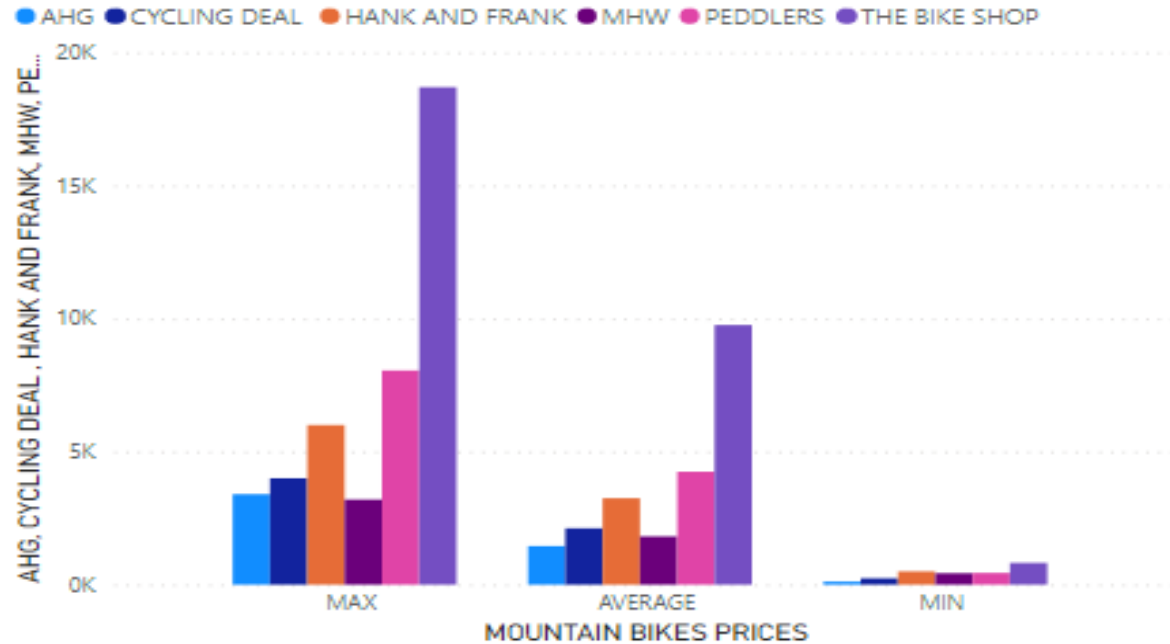
Bike Repair and
Maintenance



Tax free
bikes for
income tax
payers.

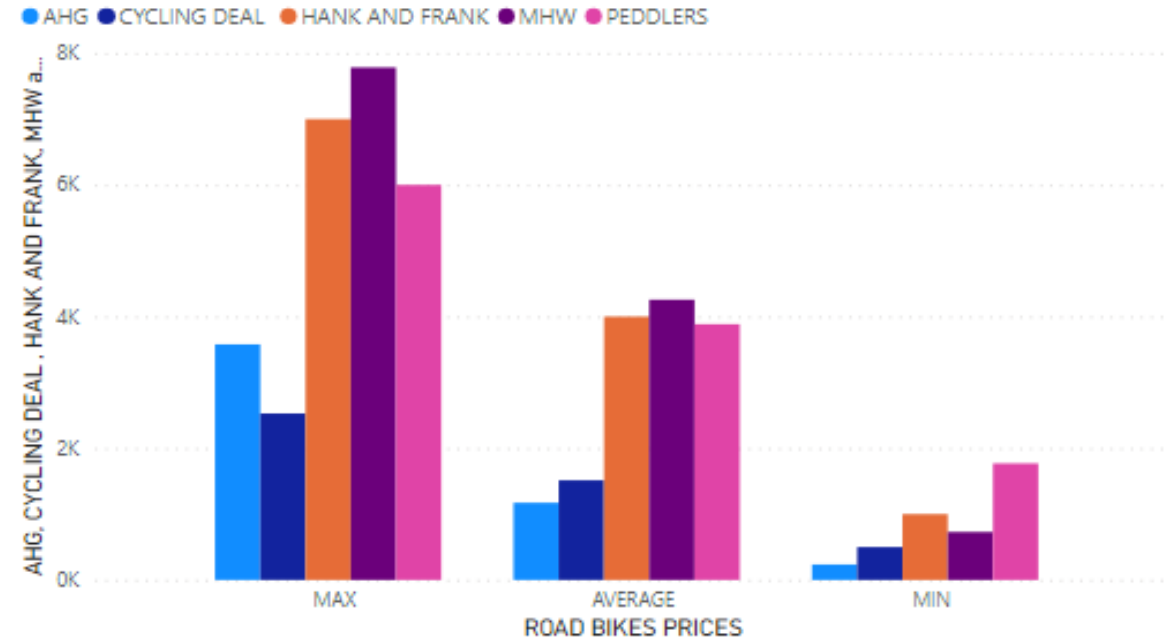
PRICE COMPARISM BY COMPETITORS IN DIFFERENT REGIONS

AHG, CYCLING DEAL , HANK AND FRANK, MHW, PEDDLERS and THE BIKE SHOP by MOUNTAIN BIKES PRICES



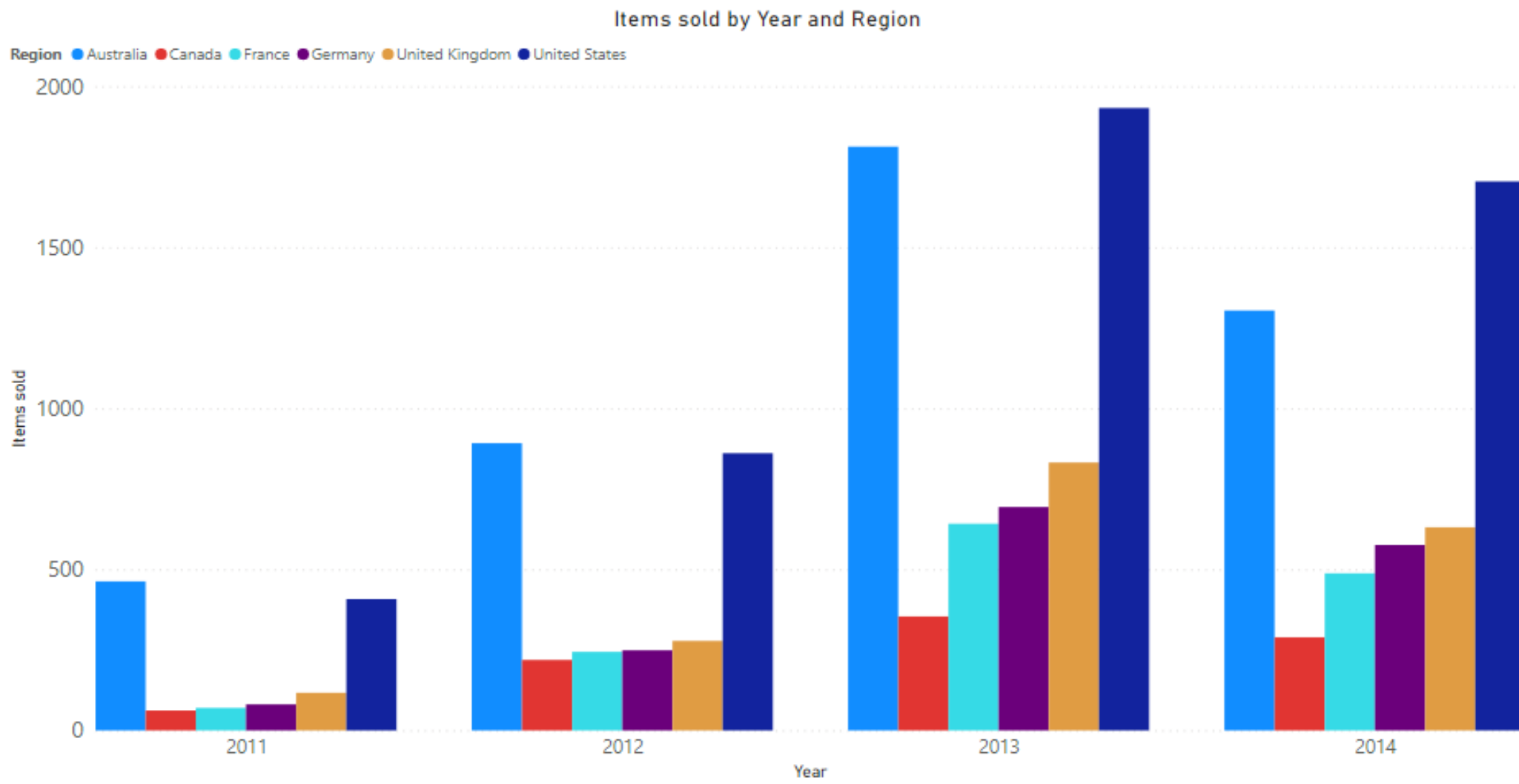
AHG's competitors are selling higher in Canada, United States and United Kingdom.

AHG, CYCLING DEAL , HANK AND FRANK, MHW and PEDDLERS by ROAD BIKES PRICES



AHG's competitors are selling road bikes much higher in most regions.

AHG BIKE SALES BY REGION 2011- 2014



From 2011 and 2014, the United States and Australia had highest sales in bikes. In 2011 Australia sold slightly higher than the US with both regions having almost the same sales in 2012. Items sold moved way higher upwards in 2013 with a slight decline in sales

CONCLUSION



- ❑ Total cost has a huge impact on profit made.
- ❑ There is a shift to online channels.
- ❑ Customer demography has changed as average age went up slightly and more married couples are buying products.
- ❑ The cost of sales on the resellers channel is very high.
- ❑ Bikes sales are driving the most revenue and profit.
- ❑ Resellers channels are doing better in northeast, northwest, southeast and southwest regions.
- ❑ The Australia market is driving the most profit.
- ❑ Price policies are not being properly adhered to.

RECOMMENDATIONS



❑ COSTS

- Move more sales of bikes to the online channels, reduce sales on the resellers channel and review costs.
- Reduce the average number of days to manufacture for bikes
- Work closely on cost containment for all products in all regions.

❑ DISCOUNTS AND PRICING

- Review discounts on bikes sales.
- Check prices of accessories and clothing to ensure products are not being under priced.
- Discounts on combined purchases should be included to encourage pairing.
- There should be compliance with price policies to reduce loss on inadequate pricing and price concessions.
- Review product prices in US, Canada and UK to match competitor prices

❑ MARKET EXPANSION

- There should be an expansion in the Australia region for more sales

❑ SUPPLY CHAIN

- Average days to manufacture should be reduced for bikes
- Products should be delivered on or before the due date