

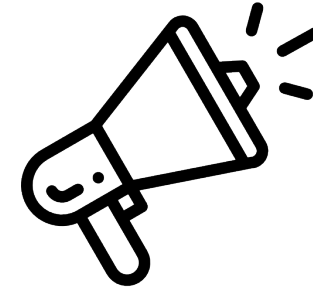
Executive Summary: Sales and Marketing



Sales Performance

Top Performing Product Category

- 1 Health & Beauty
- 2 Watches and Gifts
- 3 Bed Bath Table



Targeted Marketing

Summary

A thorough analysis of the location of LoMo's customers reveal to us that most their customers are located in the central regions of Thailand. This suggests to us that **marketing efforts should be prioritized in the Northern and Southern regions of Thailand through geographically targeted advertisements.**

Furthermore, we should take into account the technological advancements of different regions of Thailand and adjust our marketing strategy accordingly.

Introduction: LoMo Data Analytics Case



- LoMo is a department store in Portugal whose main online operations focus on a B2B2C model
- Their mission is to connect small businesses (and individuals) across the country through their online platform
- LoMo's end to end e-commerce solutions include logistic partners that help to fulfil deliveries to individuals, as well as various payment solutions to facilitate online payments
- This analytics task focuses on 2 key business problems – analyzing Sales Performance and Sales Prediction
- By diving into the historical data of LoMo's e-commerce, we will uncover meaningful insights regarding the best performing product category on LoMo, and the product category with the highest potential
- In addition, we will conduct further analysis that will aid LoMo in their marketing efforts

Initial Hypothesis: Sales Performance and Marketing



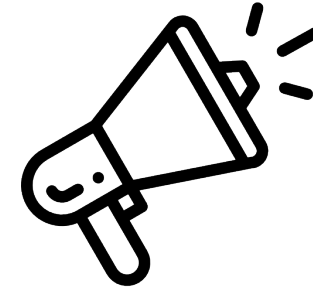
Sales Performance

Question:

- Which product category will have the best performance on LoMo's ecommerce website?

Hypothesis:

- With the recent trends in fast fashion and the general demographics of online shoppers being younger people, I believe that fashion apparels and clothing will be the best performing product on LoMo.



Targeted Marketing

Question:

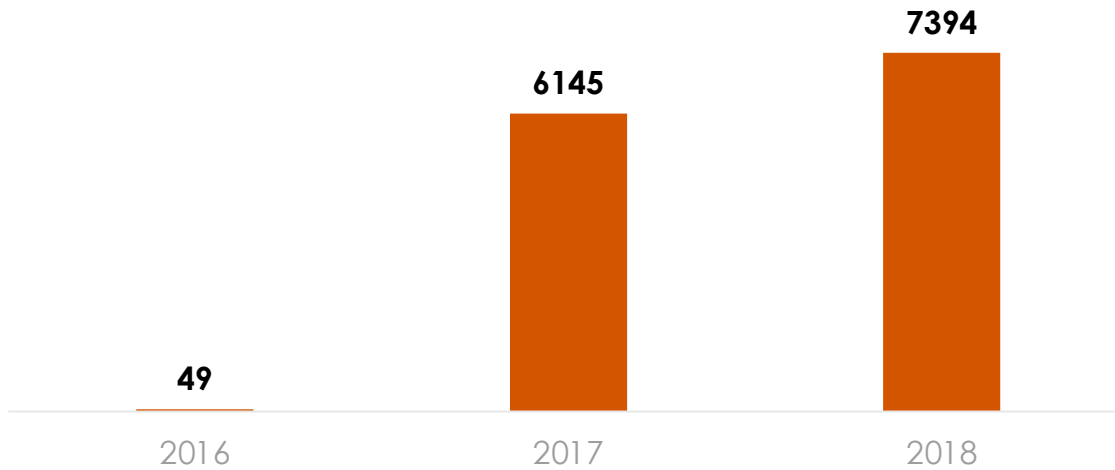
- How should marketing efforts be prioritized? Will marketing strategies differ by region?

Hypothesis:

- Intuitively, I would think that marketing efforts should be prioritized in regions where LoMo is still not widely used. Marketing strategies should also differ across region – more digital focused in more digitized regions, and perhaps more traditional marketing strategies for regions that are less technologically advanced

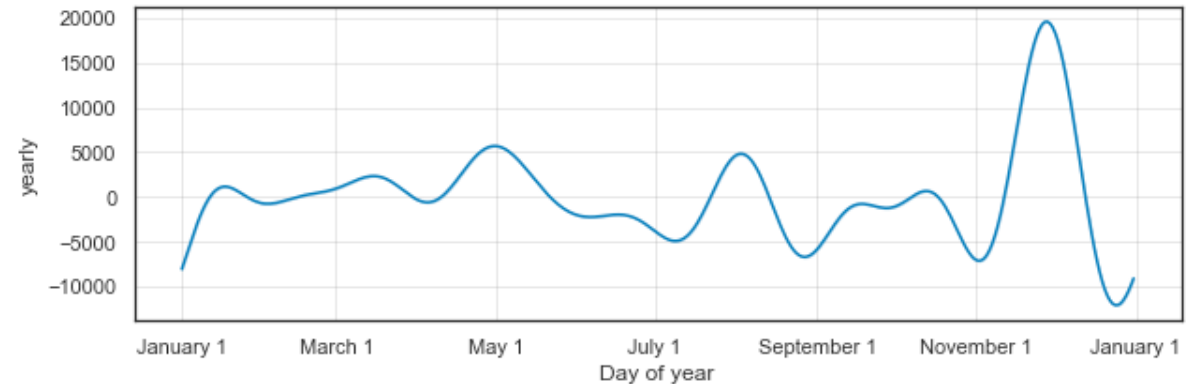
Sales Performance: LoMo's overall sales rose sharply from 2016 to 2018

Total Sales across all products (in thousands)



- In 2016, total sales across all products on LoMo's e-commerce website was just \$49,000 but it has impressively risen to \$7 million in 2018

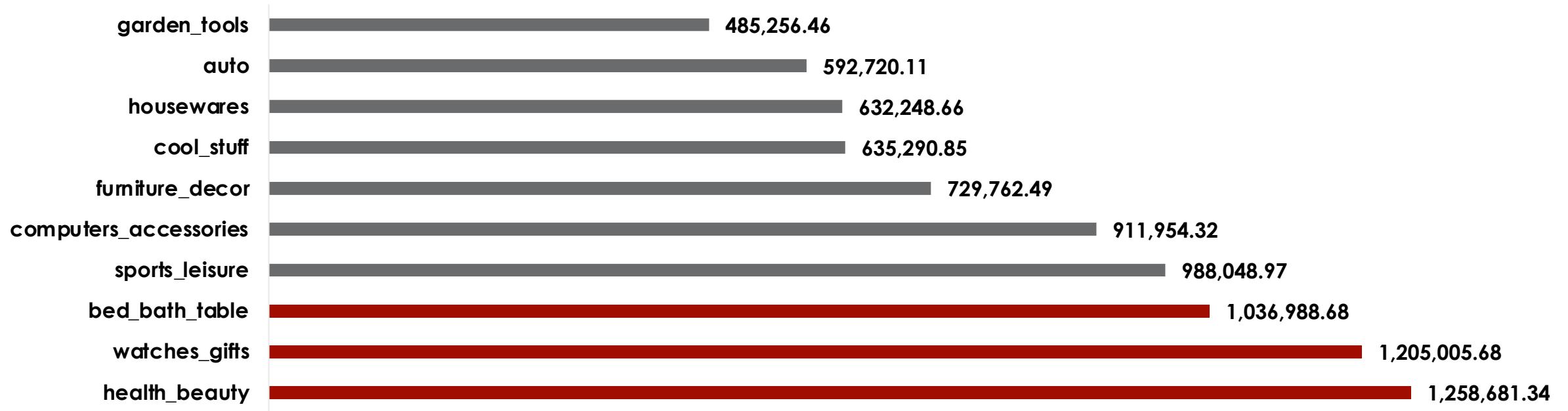
LoMo's total sales seasonality across the year



- LoMo's e-commerce website sees the highest increase in sales towards the end of the year, highly likely due to the holiday season when customers spend/purchase more

Sales Performance: Beauty health products were the best performing category

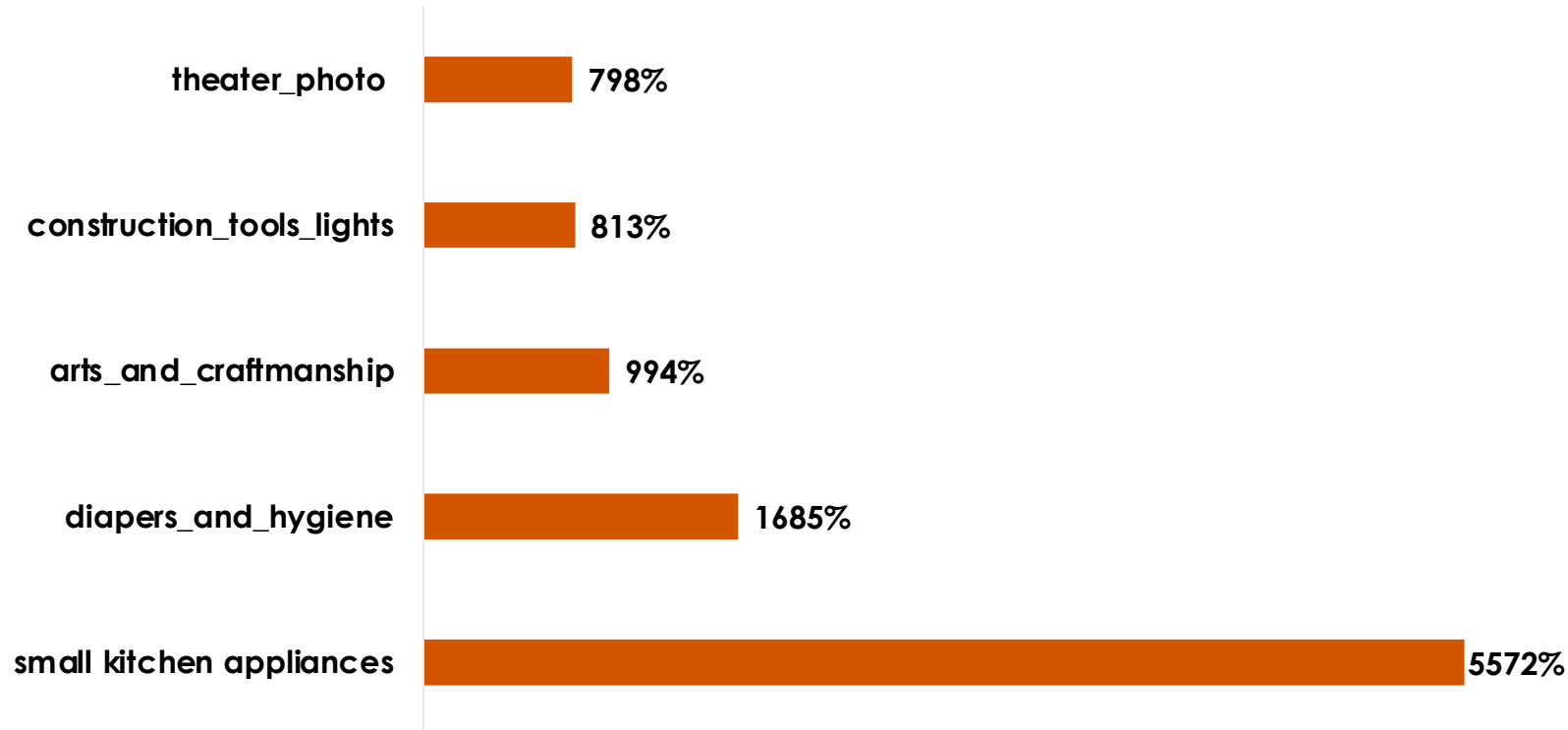
Top performing product categories by total sales



- Ranking product categories by total gross merchandise values (price of good * quantity of goods sold) across 2016 to 2018, **beauty health products comes in first, followed by watch gifts, then bed bath table**
- This finding comes as a bit of a surprise compared with our initial hypothesis that fashion apparels would be the best-selling category
- One reason for this might be that the **shoppers are from Thailand where health and beauty products are more popular**

Sales Performance: Small kitchen appliances have the highest potential

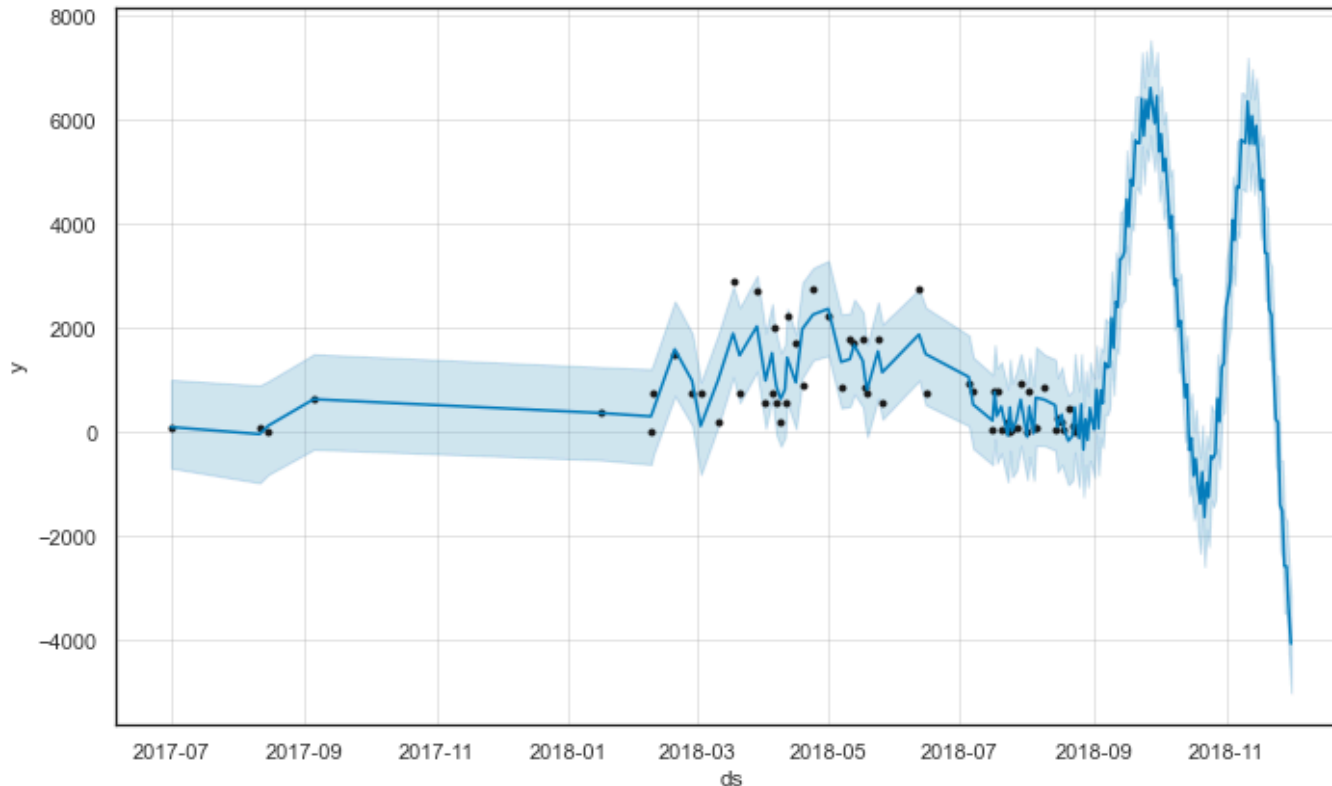
% Growth in Sales of top 5 highest potential product categories from 2017 to 2018



- To determine the product category with the highest potential, I calculated the **percentage change in Gross Merchandise Value from 2017 to 2018** (the most recent year)
- This would tell us which product category has grown the fastest in the past year, possibly indicating that there is a growing demand for this product category
- Knowing the product category with the highest potential will allow LoMo to **focus onboarding sellers within these categories to meet future demand spikes**

Sales Prediction: Using fbprophet to forecast future sales of high potential products

Time Series Forecast of Small Kitchen Appliances product category using fbprophet



- Using Facebook's open-source software 'Prophet' we can obtain time series sales prediction for every product category
- In this plot, the black dots are historical data, the blue line is predicted data, and the shaded region is the 95% confidence interval of the prediction
- From the historical results, we can see that the model has done a decent job predicting sales data but more validation work must be done for this model to be deployed in real time

Marketing Efforts: A geospatial analysis reveals that most customers are from Central Thailand



- The geospatial representation of customers that shop on LoMo shows us where majority of LoMo's customers are located
- The numbers represent the number of unique locations customers are located, and darker color represents areas with more customers
- This geospatial analysis allows us to perform geographically targeted advertising – since majority of our customers within Thailand are situated in the central regions, **we should prioritize marketing efforts on the Northern and Southern regions of Thailand**

Thank you

Links:

[Python Notebook](#) | [Github Portfolio](#) | [Linkedin](#)