Forecasting digital interactions

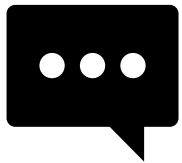Philip Stubbs, Atlantic Insight   Thursday 14 October 2021

The importance of data accuracy

#1 Make sure your historical data is accurate

#2 Understand in detail the sources of digital volume data

#3 Automate the assembly of digital volumes

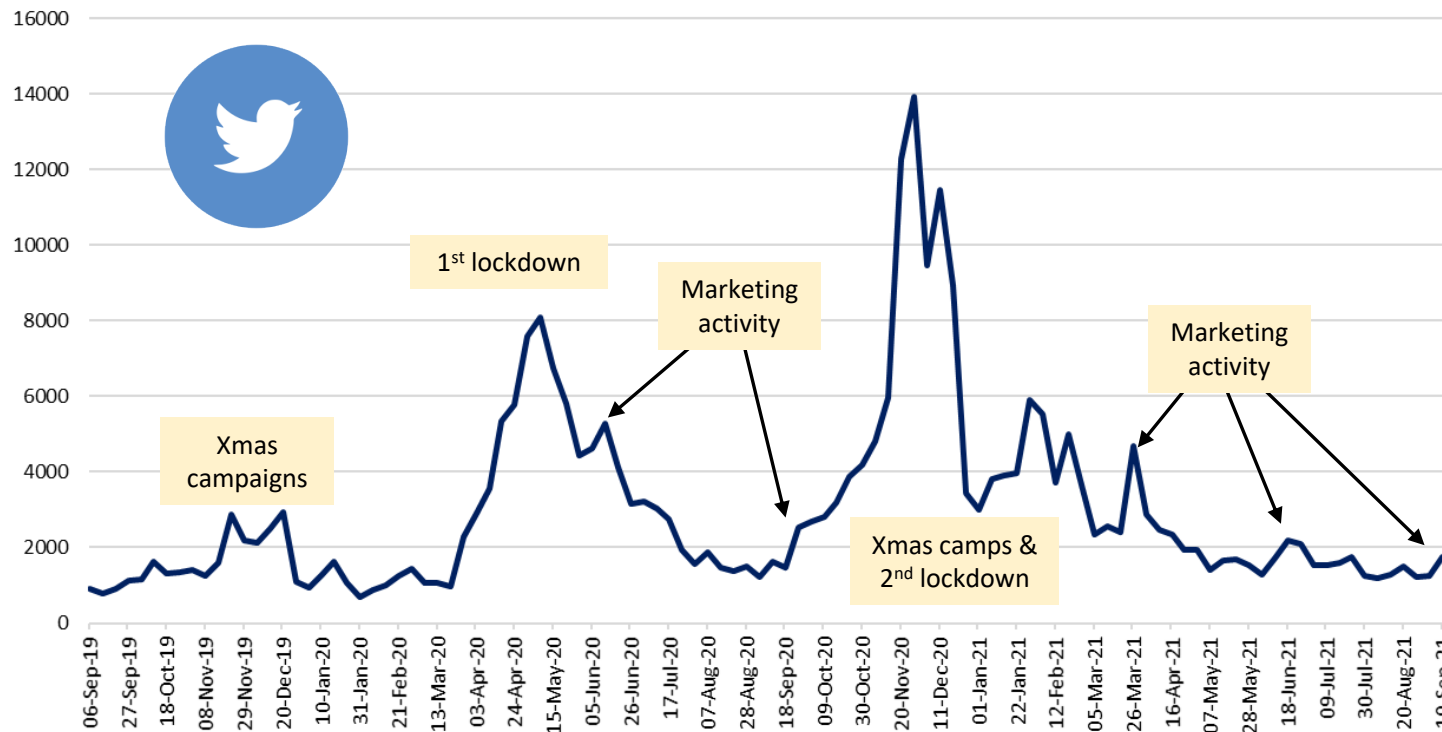#4 Understand when demand was constrained

Chat graph

#5 Data Preparation – fix data before passing it into a model

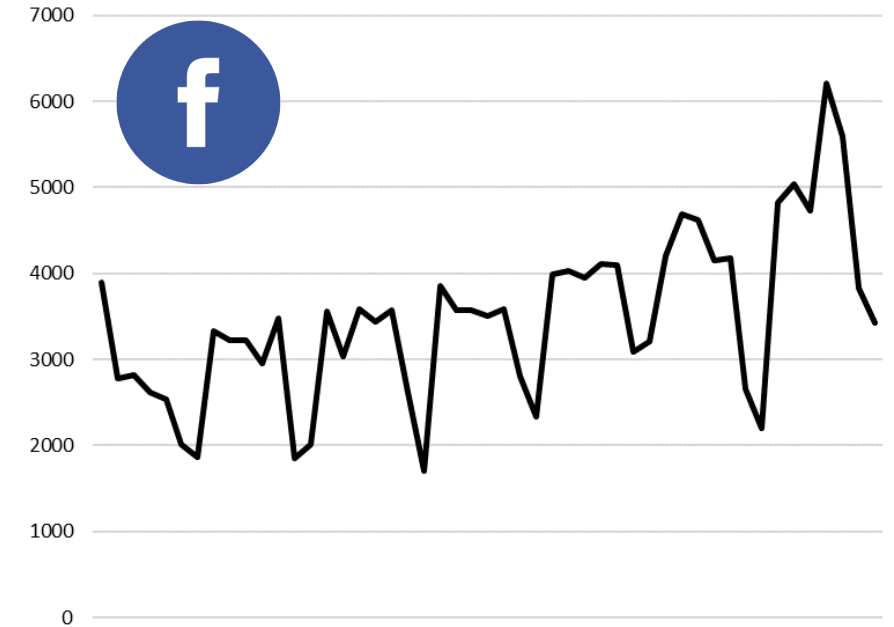# Understand the historical variation in digital volumes

Understand future impacts to digital volumes

#10 Identify individuals whose actions contribute to variation

#11 Get accurate information about digital volume drivers with enough time to change the resource plan

#12 Challenge the accuracy and timeliness of drivers

#13 Keep very close to website changes & changes to customer communications

#14 Be conservative with respect to promises of a new system and/or process
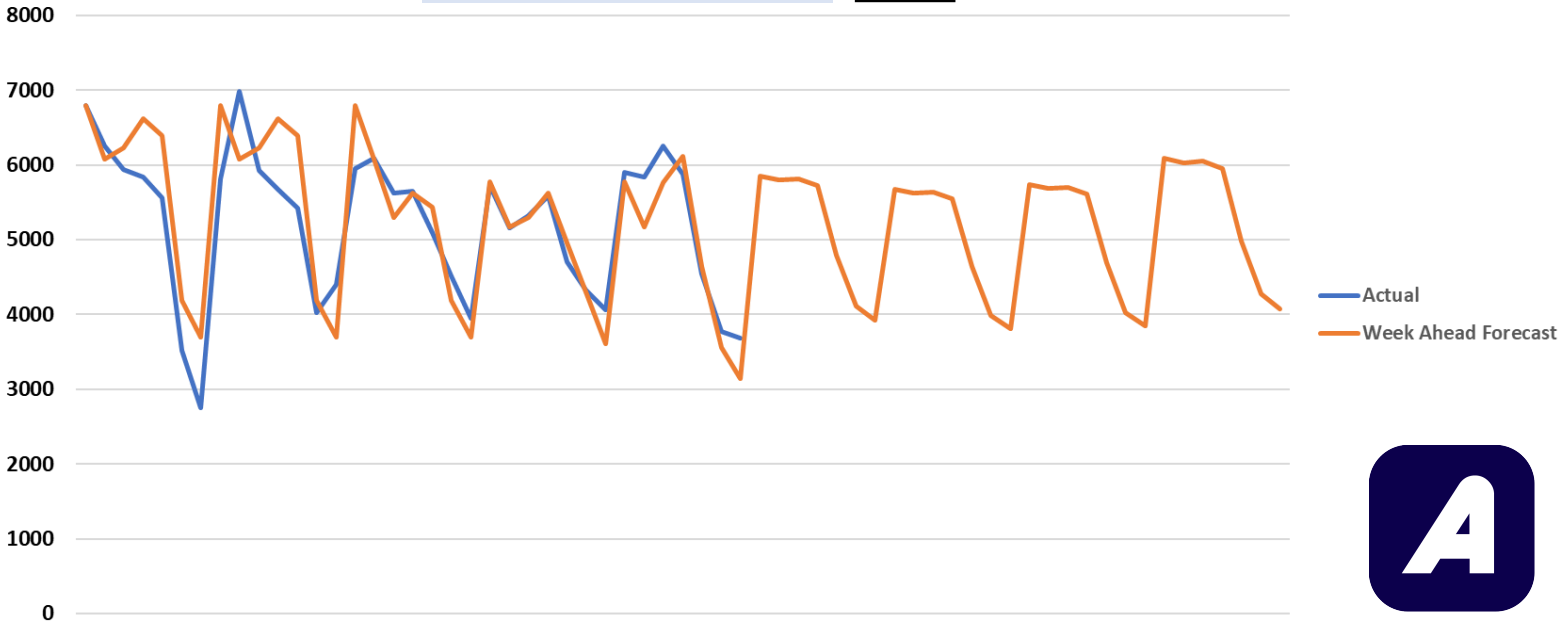
Forecasting process

#15 Judgement from stakeholders can improve accuracy

#16 Study errors & share with clients and suppliers

#17 Graph forecasts next to recent actuals

Emails received

Other forecasting points

#18 Channel shift will change the total number of enquiries

#19 Using scenarios more important when uncertainty greater

#20 Automate forecasting when conditions are right

- Automated forecasts are more accurate analysis + judgement
- Errors on these digital channels don't have CX / commercial impact
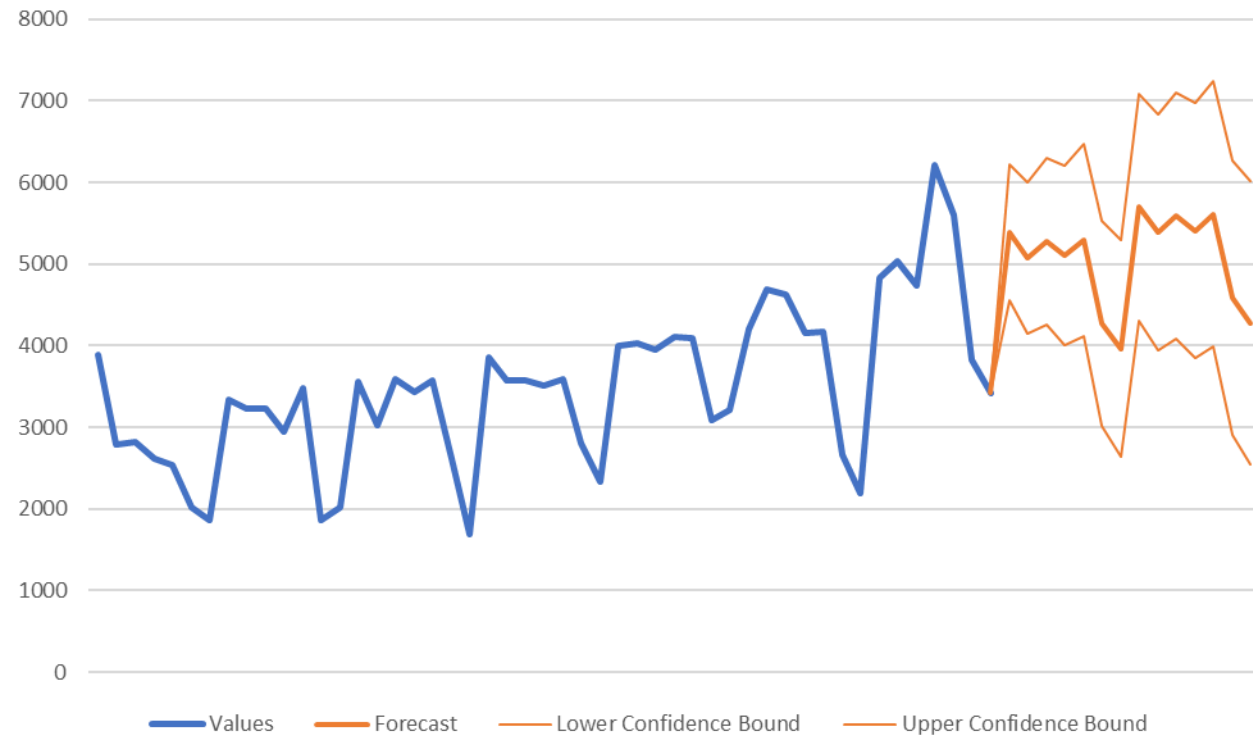- Forecast analyst support is limited
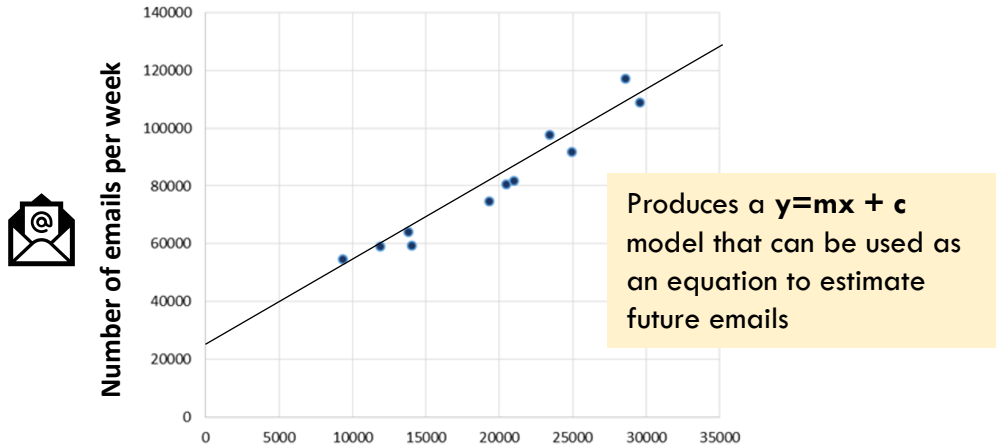
Time series models

Only look at historical values of what we are trying to forecast – no external variable involved

- Simple averages
- Weighted averages
- Bespoke model
- Exponential Smoothing, eg Holt Winters
- ARIMA

Causal models

#22 Try regression

Produces a **y=mx + c** model that can be used as an equation to estimate future emails

#23 Make sure three assumptions are in place before you use a Causal model:

1. A strong relationship exists with the driver
2. Expect the relationship will continue to exist in the future
3. Reliable forecasts of the driver exist

#24 Time Series models often outperform Causal models

#25 Dig a little deeper to find a causal model

Initial Regression Model

This Weeks Emails = 834 + 0.134 * This Weeks Orders

Lagged Regression Model

This Weeks Emails = 892 +

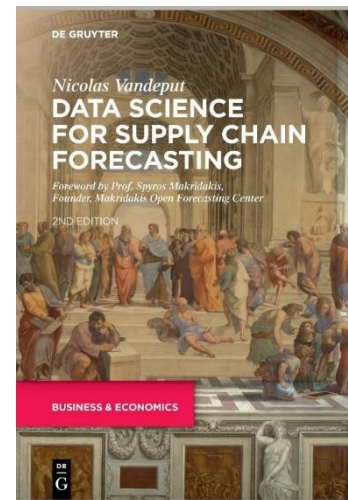0.079 * Last Weeks Orders +
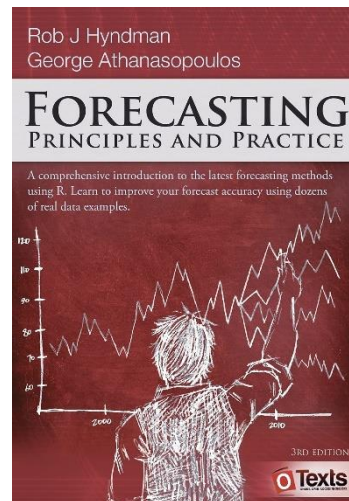
0.053 * Week -3 Orders

Final points

#26 Select model based on its forecasting ability, and not on model fit

#27 Try Machine Learning models

#28 Look into SAS, R or Python

#29 Further Reading (buy the latest editions)

Forecasting Digital Interactions

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