Booking Drop: Root Cause Analysis

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INTRODUCTION

The task involved analyzing booking data for different countries and finding the root cause behind the booking drop for the United Kingdom in a certain period:

- The dataset contains **1500** entries with **19** features.

- Features include booking origin, location for bookings, booking date, browser, device, platform, and others.

- The key task was to analyze this data for the United Kingdom for a certain period and find out the reasons behind the booking drop.

There is a **50%** drop in booking when comparing Oct 3rd to Oct 10th.

- The bookings are following a certain cyclic pattern where every week there is a noticeable rise in booking and then a sudden fall.

- There could be a possible capacity issue where the high booking on certain days might have filled up the available slots, leading to fewer bookings in the rest of the week.

- One-day sales or specific day promotions can also be the reason behind the variation.
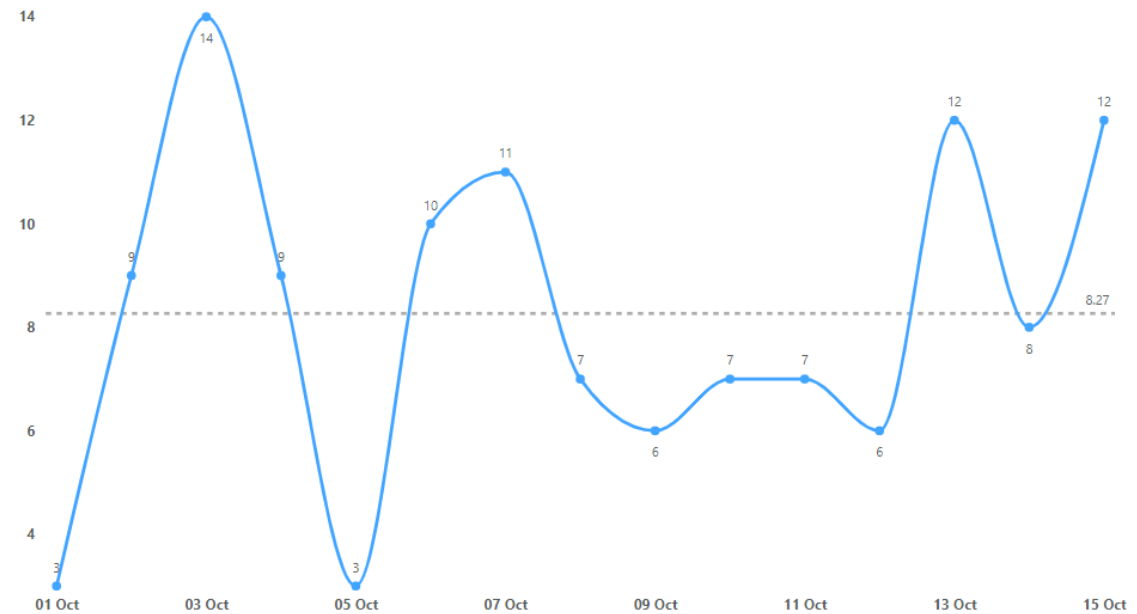
Oct 3rd is the only day within the period from Oct 3rd to Oct 10th where more than 2 bookings were made in a specific hour.
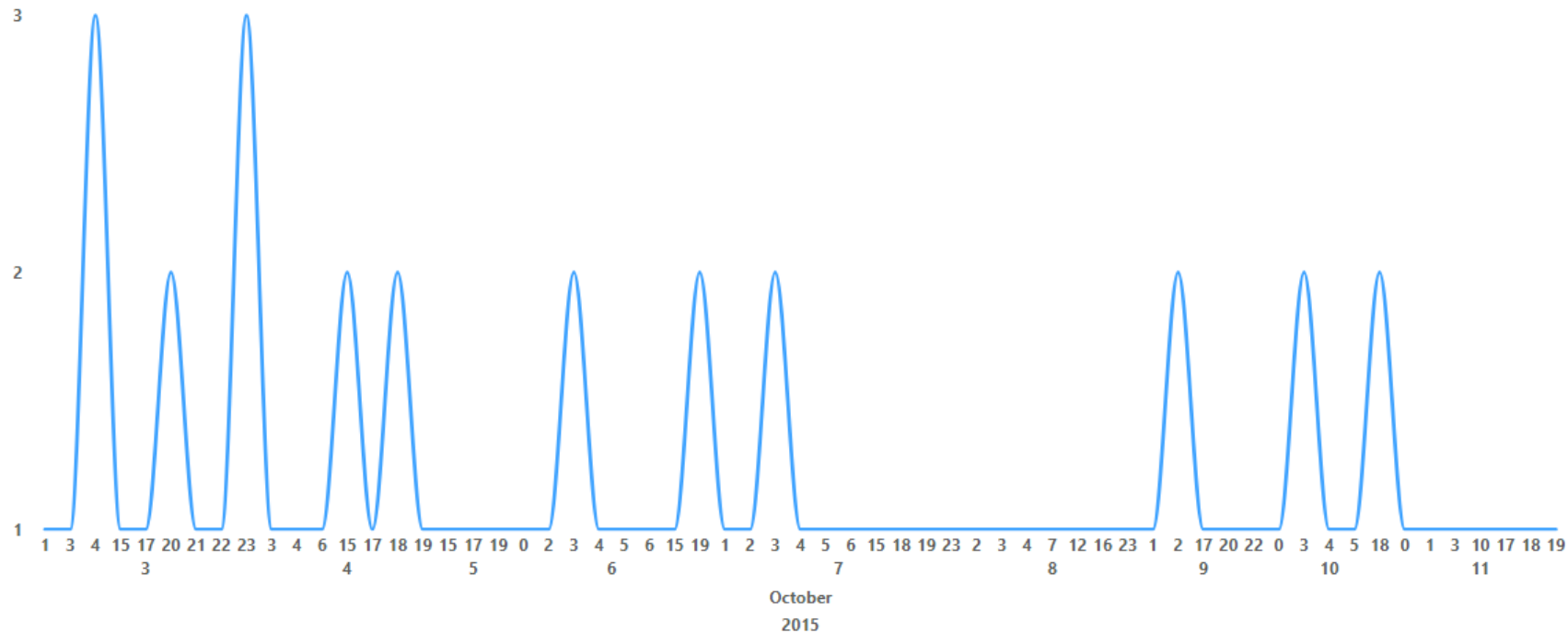

- For every day, the booking times fall either in the early morning or evening, except on October 4, when the first booking was made in the afternoon.
- On all days except October 3, there were 2 bookings made during each specific hour.
- On October 3, there were 3 bookings in the early morning, 2 in the evening, and 3 more late at night, which suggests that a special promotion may have been active that day.

For the UK, **55%** of the booking came from desktops and that dropped **67%** on Oct 10 compared to Oct 3.
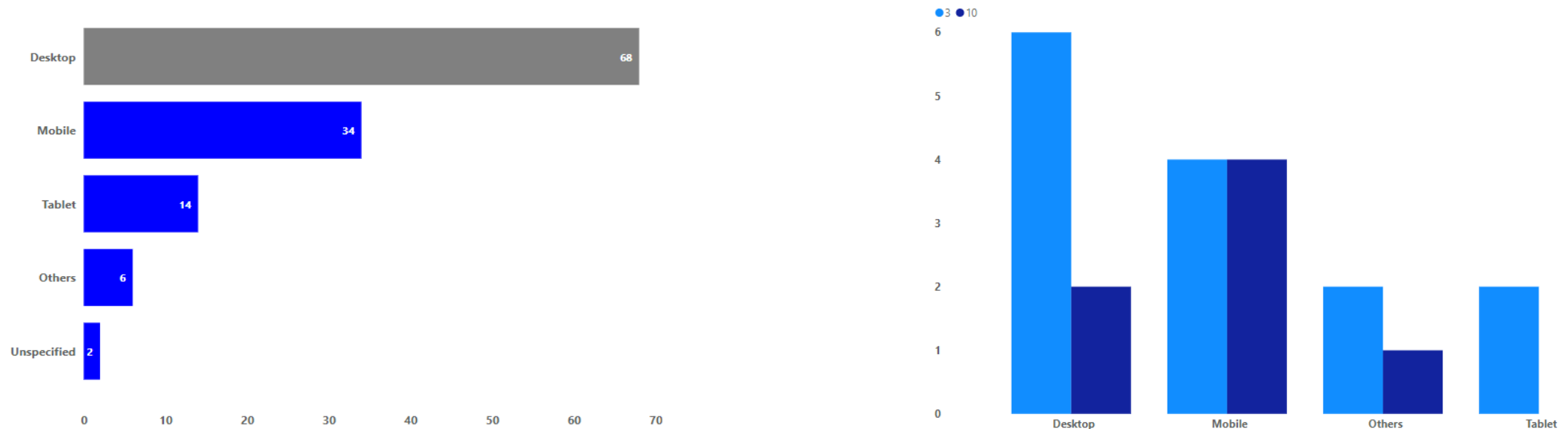

- **67%** drop in booking from desktops, a **50%** drop in others, and a **100%** drop in tablets compared on Oct 10 compared to Oct 3. Only the bookings from mobile were the same.
- **55%** of the total bookings in the UK are done by using a desktop. That indicates a possibility of an issue with the website on Oct 10 that caused the booking drop, especially by desktop and tablet.

From **21%** booking share through mobile application dropped to **0%** on Oct 10th.

Total Bookings on October 3rd

21.43%

78.57%

● Website
● Mobile application

Total Bookings on October 10th

100%
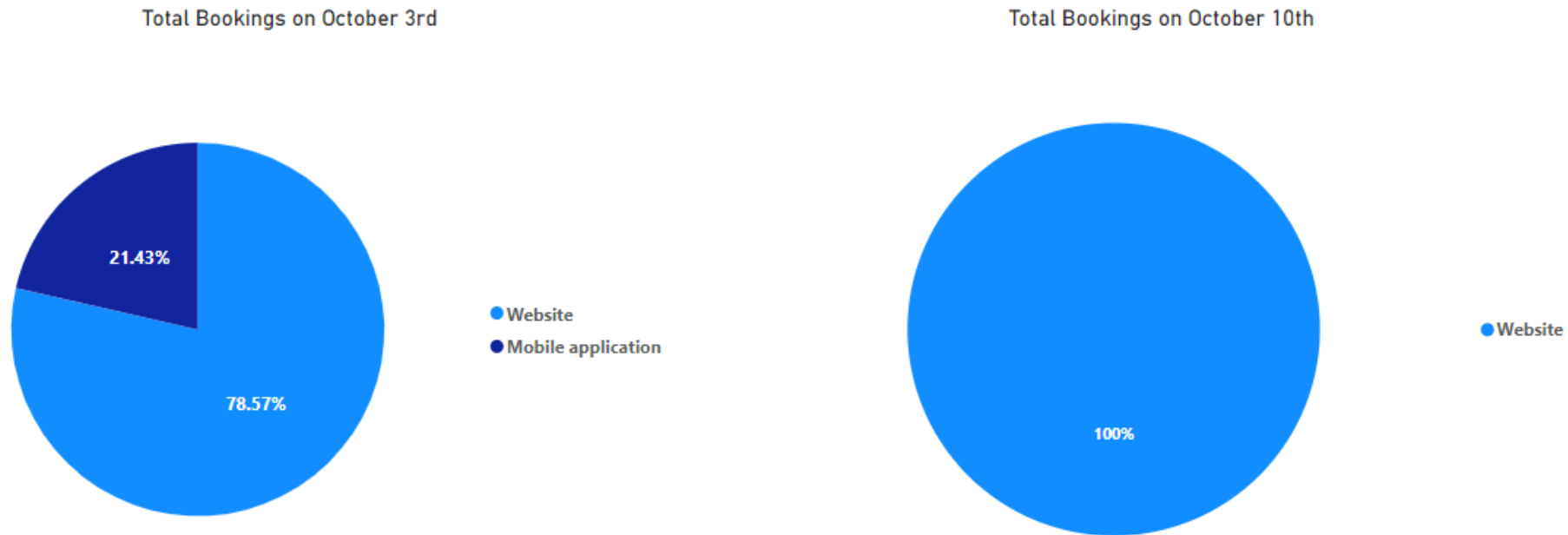
● Website

- Earlier we noticed that booking through desktop dropped on Oct 10th. However, the total booking came from a website instead of a mobile application even on mobile.
- Drop in booking numbers on mobile applications with a share of **21%** to **0%** is a huge drop. Need to investigate the issue in the application.

Only in the case of the Android and Chrome browsers, the total bookings were higher on Oct 10ᵗʰ compared to Oct 3ʳᵈ
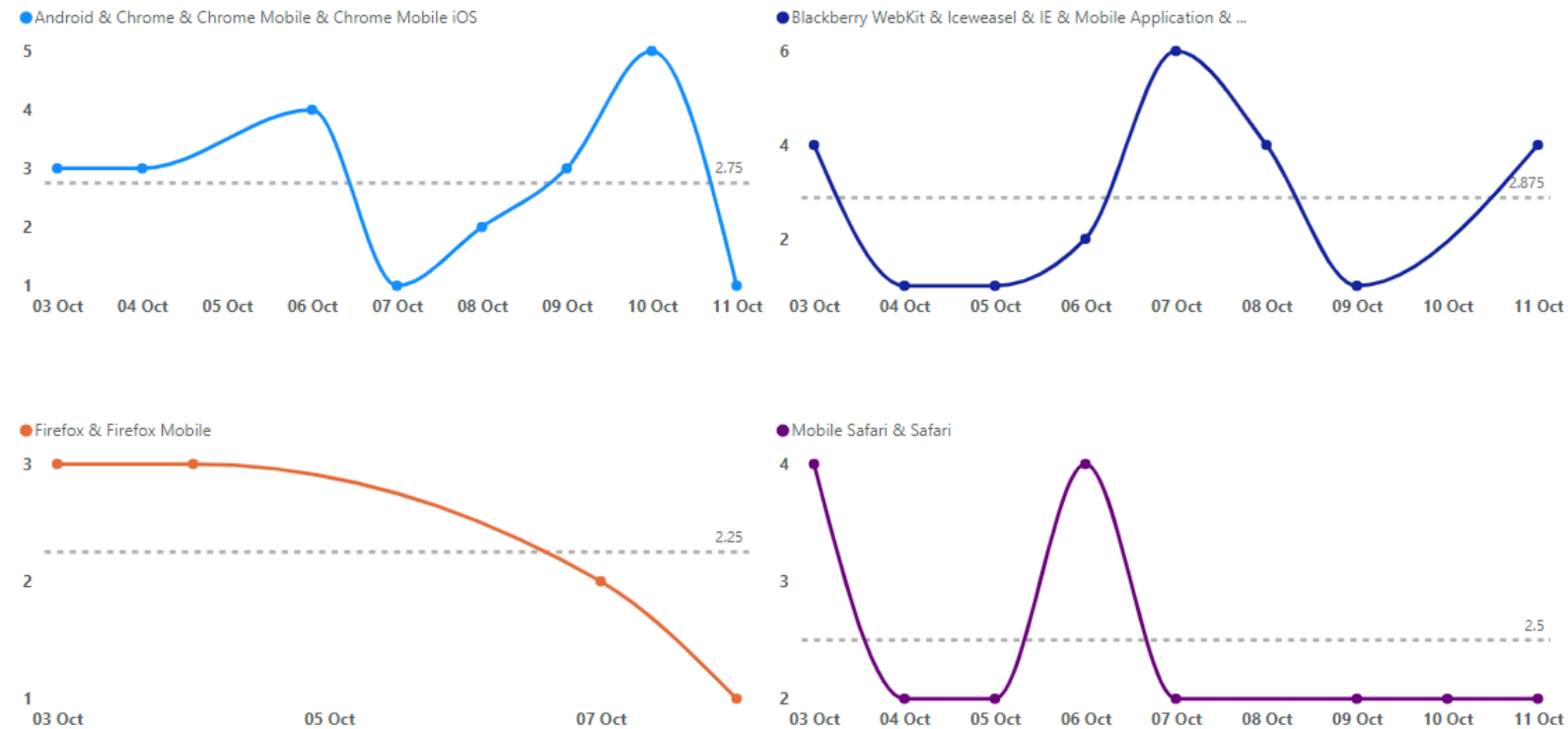
- In the case of Android and Chrome, bookings were higher on Oct 3ʳᵈ and Oct 10ᵗʰ than average bookings.
- In the case of Blackberry and IE, we can notice a cyclic pattern. However, bookings were lower on 10th Oct.
- For Firefox it is going in one direction that is downwards and for Safari, from the 7ᵗʰ It got constant for the remaining days which was the lowest value.

Oct 10th had bookings from **5** countries whereas Oct 3rd had bookings from **6** countries with more population.

- On Oct 3rd the booking came from 6 countries and on 10th the total booking came from 5 countries.
- Also, in those 6 countries France, Germany, and Poland were contributors but not on Oct 10th.

The average customer amount increased **56%** from Oct 3rd to Oct 10th.

- The average customer amount on Oct 3rd was **491.88** and on Oct 10th was **766.71**. That shows an increase of **56%** approximately.

- As we know, bookings decreased on October 10th, implying that this quantity is due to the high price rather than a large number of bookings. That could be the cause for the reduction in bookings.
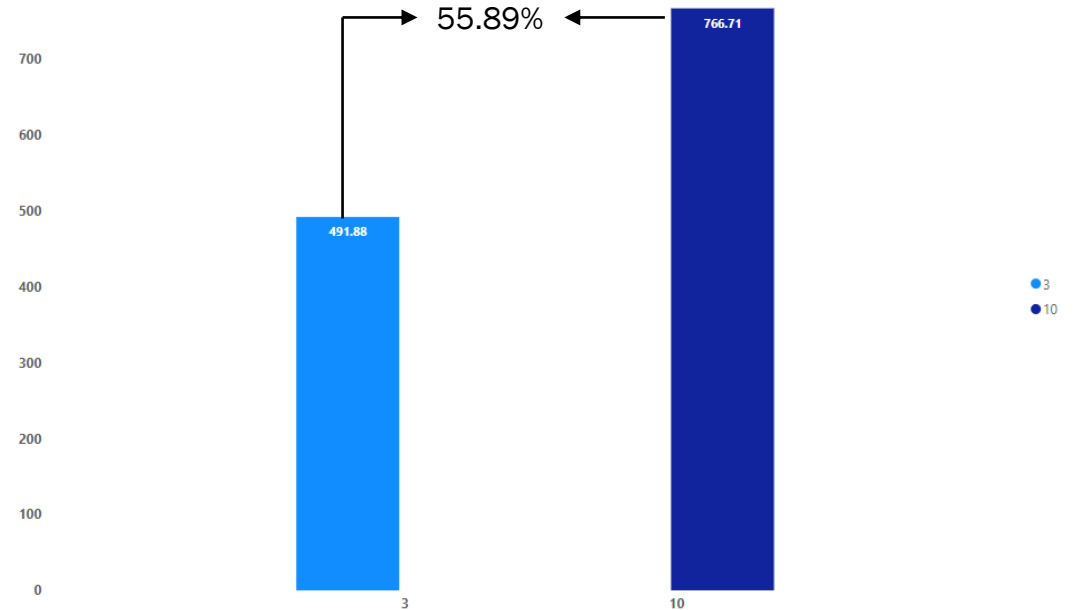
SUMMARY

- Bookings showed a cyclic pattern, which can be possible due to ongoing promotional activity or capacity limits.

- Noticed high booking on Oct 3rd during various hours. That indicates the consequences of a one-day promotion or any other discount.

- There was a drop of 67% in bookings made by desktop on Oct 10th. That somehow shows that there was some technical issue while booking.

- Bookings through mobile applications dropped from 21% to 0% and all the bookings were made through the website on Oct 10th. That indicates the possibility of some technical issues in the app.

- Only the Android and Chrome browsers showed higher bookings on Oct 10th than on Oct 3rd. All other browser groups showed a decline in booking on Oct 10th. There might be compatibility issues or mismatches in the advertisement for these browsers.

- Booking on Oct 10th came from a smaller number of nations compared to Oct 3rd. Also, they were less populated countries.

- The average customer amount increased by 56% and if the number of bookings dropped that indicates a price increase.

Thank You