**Marshall’s Sales Data**

**Client Brief**

The client runs a medium sized garage business in the local area. He is not very good with analysing his sales figures, and by looking at the visual data he hopes it will help him direct his marketing budget effectively. Currently he spends his marketing budget on generic marketing materials and could target his funds towards promoting areas of his business that are profitable rather than those that are unpopular and do not contribute to turnover.

Both charts will enable the client to view his sales from a different perspective. Rather than guessing which sales code generates the most turnover he can now see exactly where his marketing budget would be best spent.

* What, if any, effect has employing an additional mechanic had on the sales figures, have the sold hours increased?
* The client has employed an additional mechanic and an apprentice mechanic and would like to see the affect on sales.
* The client finds it difficult to identify trends in sales from figures alone. Viewing a graphical representation of key data and metrics should improve his ability to grasp information hiding in the data.

The chart will enable the client to visualize relationships and patterns between operational and business activities. One of the key benefits of data visualization is it enables users to more effectively see connections as they are occurring between operating conditions and business performance.

In today’s highly competitive business environment, finding these correlations among the data has never been more important.

Unlike one-dimensional tables and charts that can only be viewed, data visualization tools enable clients to interact with data.

The spline area chart shows the trends over a twelve-month period for different cost centres that the client has set up within his garage accounts software. The client can see the effect that having an additional mechanic full time in the business and can identify how many more hours are sold when the apprentice is not in college over the summer and working full time in the business.

**Results**

The doughnut chart has allowed the client to see the annual turnover for each department's sales. So for example, it is easy to see which areas of the business are most profitable. He can now target his sales towards the most lucrative department.

As a result of these findings the client the collation of the figures has made the client aware of poor areas of sales and seasonal differences. He has decided to further drill down his cost departments and separate off his Taxi Mot Tests from the VOSA Mot tests. This way he can see what percentage of his sales come from taxi customers as opposed to his normal sales customers.

He has also invested in upgrading his current garage management software which is based on his local machine, to a cloud based service that will allow him to spend more time out of his standard work times analysing his business figures. Currently he cannot work from home and he hopes that having an online system will give him the thinking time to analyse his figures in a more effective way.

Both charts *have* enabled the client to view his sales from a different perspective. Rather than guessing which sales code generates the most turnover he can now see exactly where his marketing budget would be best spent.

* What, if any, effect has employing an additional mechanic had on the sales figures, have the sold hours increased?
* The client tells me that the jump in sales during July was due to the employment of an additional mechanic and the apprentice mechanic being in the workplace for an additional day each week.
* The client has found it difficult to identify trends in sales from figures alone. Viewing a graphical representation of key data and metrics should improve their ability to grasp information hiding in their data.

**How I Created the Charts**

I used the Bootstrap framework and the canvas.js library and their chart gallery to get the initial code for the charts. I was only going to use the spline chart initially but this changed after speaking to the client. I changed the currency and the date format in the chart and the colours. I changed the data points and index labels to reflect my clients business activities. I inputted the sales figures into the Javascript code that my client had generated from his existing software.

I created the doughnut chart using the same library and changed the data points and index labels. I used the annual sales figures and input those figures into the chart so that the client could see the annual sales figures visually, and assess where his greatest profit lies.

The canvas.js library allows you to dynamically change the type of chart by just changing the chart type in the JavaScript. Being able to view data from a different perspective can generate alternative channels of income generation in a targeted way.

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**Peer Review**

Katie Ferguson

* Good display of graphical data
* Could have used different colours for each bar
* Instead of ‘hundreds’ could have used % of students

Wayne Casey

* Good display of graphical data
* Could have used brighter colours