

Executive Report

**Individual Assessment**

**Web Analytics, Quality Alloys**

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Quality Alloys, Inc. (QA) is a relatively small (less than $75 million in annual sales) US- based distributor of different grades of a variety of alloys used in industrial manufacturing. Its customers usually small companies and they purchase alloys to make their parts and sell them. QA considered to have a B2B business model. In the case study, the purpose is to analyze data to find out insights to give QA management team advises.

The data given in the case includes some website metrics but also associated financial metrics as well. I start with trying the understand data. What kind of metrics we have, how they might be related, using my intuition I made some assumptions.

1. **Website Vistis**

Starting with, I thought it’s better to analyze the website visits over the time periods which are Initial, Pre-Promotion, Promotion and Post Promotion periods. I have observed that Unique Visits has a pick in the Promotion period. It made sense considering the page got more click on the given period when promotion is happening. However, it was tough to see the improvement in the financial data looking at these. (*Please see figure #1 in the appendix.)*

Moving forward, I decide to take the averages of Visits, Unique Visits, Revenue, Profit and Lbs. Sold to get a deeper understanding what’s going on.

As you can see figures above, these statistics showed me that when there is a pick in the website metrics in the Promotion Period, financial metrics (Revenue), does not reflect that. This shows me that the rate of visits converting a purchase is not high. So, from a brand marketing standpoint, we could say promotion is successful because it generated high rate of increase in the visits and unique visits to the page. However, from the business development-financial standpoint it's hard to say that promotion was successful before doing further analysis.

1. **Financial Data**

Moving forward further in the case, it made sense to create a scatter plot to analyze the financial data further. Taking the x axis as Lbs. Sold and y axis as Revenue, I wanted to see the relationship between these two variables. Chart shoed me a positive linear association and I did not surprise me. Calculating the correlation coefficient, I found that there is a very high correlation between Revenue and Lbs. Sold. (*0.87 – Please see appendix figures #5)*

1. **Financial Data vs. Website Metrics**

These findings encouraged me to find out correlation between Revenue and Visits. I figured a small negative linear relationship. That didn’t surprise me as well. Visits not being positively correlated with Revenue, which means that most of the visits not ended up with a purchase. Thinking about the business type, QA is not a type of business that people would follow a promotion link and make a purchase. They would maybe save the link for the future when they need to buy alloys. So, the visits to the page is not being correlated to revenue. It's more of a need-based business. *(Please see figures #6 in the appendix)*

Given the data Lbs. Sold per week, I wanted to see the distribution to cross check if there is a jump, or it’s more of a normal distribution. Having the bell-shape in the histogram, I conclude that the Lbs. Sold. per week has a normal distribution which means it didn’t get too much effect from the promotion.

1. **Demographics**

Before moving forward to conclusions and recommendations, I would like to see some demographics data to show the sources of the visits and reasons.

Given data has 6 different sections showing demographics. In the first section I analyzed all the traffic sources of visits. My findings showed that over 50% of the visits coming from referring sites. Considering QA just got into web analytics it’s not a big surprise. QA also uses traditional marketing campaigns such has emails. These also contributes to this specific metric.

In the second section we see referring sites, and the site sends the highest visitors to QA website which happens to be “googleads.g.doubleclick.net’. We can see that GoogleAds has a significant effect on getting more clicks to the website. Here we can also see sites globalspec and thomasnet which are the new paid web portals to increase the web presence of QA. In the other sections we see that the most visitors come from Google as a search engine. This metric is also not suprising considering GoogleAds.

Moving into geographic data, visits come most likely from American Regions. The highest rate is with the South America region. South America has more industrial sites, so this metric reflects that. Investing in more marketing for South America would be beneficial for QA. You can also see the shift to manufacturing in the Pacific Rim in this metric. Asian regions are starting to get into the scene.

1. **Conclusion with Recommendations**

QA is a B2B business with a more traditional customer base. Getting the website metrics higher gets more visibility to its brand but it’s not enough for generating revenue and profit. Supporting online advertisement, trying to get buyers on social media or emails would be beneficial. Also supporting the online advertisement with materials that gets to the potential buyers via traditional methods such as brochures in mails and magazines could be helpful as well. Being consistent with the materials is the key point here. Lastly, adding a shopping cart to the website could get QA more immediate purchase so it can track better metrics.

1. **References:**

*Weitz & Rosenthal, (July 2011).* Web Analytics at Quality Alloys, Inc. Columbia Business School- Columbia Case Works, ID# CU44

1. **Apendix:**

**Figure #1 (Question 1)**

**Figure #2 (Question 2)**

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| --- | --- | --- | --- | --- | --- | --- |
| **VISIT AND FINANCIAL SUMMARY MEASURES–INITIAL PERIOD** | | | | | | |
|  | Visits | Unique Visits | Revenue | Profit | Lbs. Sold |  |
| mean | 1,055 | 976 | 608,250 | 200,233 | 18,737 |  |
| median | 899 | 846 | 586,170 | 208,913 | 17,270 |  |
| std. dev. | 355 | 320 | 155,930 | 60,692 | 5,427 |  |
| minimum | 626 | 594 | 274,568 | 62,580 | 8,633 |  |
| maximum | 1,580 | 1,509 | 890,077 | 275,218 | 28,053 |  |
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| **VISIT AND FINANCIAL SUMMARY MEASURES–PRE PROMOTION** | | | | | | |
|  | Visits | Unique Visits | Revenue | Profit | Lbs. Sold |  |
| mean | 563 | 517 | 534,314 | 159,932 | 18,441 |  |
| median | 558 | 510 | 534,542 | 152,476 | 17,215 |  |
| std. dev. | 81 | 71 | 150,503 | 42,683 | 5,966 |  |
| minimum | 383 | 366 | 315,647 | 100,388 | 8,992 |  |
| maximum | 795 | 734 | 951,216 | 273,175 | 31,969 |  |
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| **VISIT AND FINANCIAL SUMMARY MEASURES–PROMOTION** | | | | | | |
|  | Visits | Unique Visits | Revenue | Profit | Lbs. Sold |  |
| mean | 1,814 | 1,739 | 456,399 | 131,930 | 17,113 |  |
| median | 1,663 | 1,585 | 413,937 | 114,328 | 17,299 |  |
| std. dev. | 758 | 743 | 161,741 | 47,777 | 6,519 |  |
| minimum | 1,000 | 930 | 268,160 | 81,841 | 7,814 |  |
| maximum | 3,726 | 3,617 | 897,164 | 266,477 | 31,496 |  |
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|  |  |  |  |  |  |  |
| **VISIT AND FINANCIAL SUMMARY MEASURES–POST PROMOTION** | | | | | | |
|  | Visits | Unique Visits | Revenue | Profit | Lbs. Sold |  |
| mean | 857 | 801 | 371,728 | 111,046 | 14,578 |  |
| median | 848 | 800 | 348,397 | 104,530 | 13,647 |  |
| std. dev. | 71 | 72 | 145,728 | 49,065 | 5,942 |  |
| minimum | 772 | 709 | 133,967 | 32,825 | 3,826 |  |
| maximum | 963 | 912 | 615,950 | 206,441 | 23,762 |  |

**Figure #3 (Question 3)**

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| --- | --- | --- | --- | --- | --- |
| **Means** | | | | | |
|  | Visits | Unique Visits | Revenue | Profit | Lbs. Sold |
| **Initial Period** | 1,055 | 976 | 608,250 | 200,233 | 18,737 |
| **Pre-Promotion** | 563 | 517 | 534,314 | 159,932 | 18,441 |
| **Promotion** | 1,814 | 1,739 | 456,399 | 131,930 | 17,113 |
| **Post Promotion** | 857 | 801 | 371,728 | 111,046 | 14,578 |

**Figure #4 (Question 3)**

**Figure #5 (Question 5)**

|  |  |  |
| --- | --- | --- |
|  | *Revenue(Y)* | *Lbs. Sold(X)* |
| Revenue(Y) | 1 | 0.87 |
| Lbs. Sold(X) | 0.87 | 1 |

**Figure #6 (Question 6)**

|  |  |  |
| --- | --- | --- |
|  | *Revenue* | *Visits* |
| Revenue | 1 | -0.06 |
| Visits | -0.06 | 1 |

**Figure #7 (Question 8-a)**

|  |  |
| --- | --- |
| *Lbs. Sold* | |
|  |  |
| Mean | 18681.56 |
| Standard Error | 401.6885 |
| Median | 17673 |
| Mode | 28865 |
| Standard Deviation | 6840.508 |
| Sample Variance | 46792549 |
| Kurtosis | 0.563661 |
| Skewness | 0.632307 |
| Range | 40914 |
| Minimum | 3826 |
| Maximum | 44740 |
| Sum | 5417651 |
| Count | 290 |

**Figure #8 (Question 8-b)**

**Figure #9 (Question 10)**

Chart, pie chart

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Chart, pie chart

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