Capital One Findings

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| Wallace Inc. |

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| To: | Logan Crawford |
| From: | Alex Wallace |
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| Date: | 05/15/2022 |
| Re: | Data On Capital One Customers |
| Comments: | With the data we received, we were able to find correlations that show which customers are more reliable to pay back their loans. |

My initial thoughts from gleaming the data showed that university graduates who defaulted on their loans outnumbered the amount of high school graduates that had, which surprised me. However, after going further into the data this makes sense, because university graduates were by far the most likely to receive a loan. Out of nearly 30,000 customers, 14,000 of them had a degree from a university, while almost 5,000 only had a high school education. I had also assumed that married couples would be more likely to be approved for a loan compared to people that identified as single, but there are more single university graduates than married ones (7015 to 6836) and there were FAR more loans for single post-university graduates than married (6796 to 3713). This surprised me, as married couples are likely to have double income or at the very least tax breaks, and think that this might be something that Credit One needs to take into consideration when approving loans.

I had also assumed that the bigger the loan would mean the more likely one would default, my reasoning being that individuals were taking out more than they could handle and therefore would have to default. However, I found the opposite to be true, as nearly a quarter of individuals that took out loans ranging between $10,000 to $50,000 had defaulted. This is 25% of the group, while percentage wise no other group has defaulters in the double digits; the closest is one bracket higher, $50,000 to $100,000 at 6.13%. The difference in this is honestly astounding and was a complete opposite of my initial thoughts.

My recommendations to the data science team would be to take these two factors into account. Education may play a role in the ability for one to pay back a loan, but to keep in mind that university graduates are the most likely to be approved for a loan and therefore more likely to default. If those with high school educations are making decent salaries, they shouldn’t be turned away as frequently simply because they are less formally educated. Also, those that are taking out smaller loans are more likely to default on them. I can only assume what the context behind this is, but I think those that are taking out smaller loans are more likely to have money troubles, where those taking out bigger loans are more likely to do something that will see a return, such as opening a business. I hope that these findings will help lower the amounts of defaults in the future.