**Research Plan – Auswide Bank and Home Loan Applications**

***Background***

Auswide Bank (Auswide) is a publicly listed company on the Australian Stock Exchange. As a bank, its primary business is the storing of deposits and the provision of credit to its customers. Having its grass roots as a community-focused bank in regional Queensland, it has since expanded its operations into South-East Queensland and continues to expand Australia-wide while still maintaining its corporate values and strategic objectives (see the latest [Annual Report](https://www.asx.com.au/asxpdf/20211022/pdf/451z0tx4xhwgj5.pdf) at pages 2, 11 and 14-15). Auswide’s Chief Transformation Officer has stated that its digital framework and its use of data is key to its transformation and growth strategy (you can listen to her podcast [here](https://www.itnews.com.au/news/auswide-bank-crafts-digital-framework-to-guide-its-transformation-573574)). At the same time, Auswide Bank does not have the same resources as the big banks, so it must be careful in the way it uses data to make business decisions moving forward.

Like most small banks, Auswide Bank has experienced significant growth in its operations and profitability in recent years. In its most recent annual report for the 2020-2021 financial year (FY20-21), Auswide Bank saw a net increase in its loan book (total value of outstanding loans) of 10%, which is 3.2 times greater than the average growth of 3.1% across the entire banking system (see the Annual Report at page 27). A significant portion of this growth was due to the increase in home loan approvals, where the total value of home loans approved by the bank in FY20-21 increased by 38.1% to $1.012 billion.

The large growth in lending, particularly in the home loan space, can be attributed to a combination of [record low interest rates](https://www.rba.gov.au/statistics/cash-rate/) and government intervention into the property market through schemes such as the [First Home Loan Deposit Scheme](https://www.nhfic.gov.au/what-we-do/support-to-buy-a-home/first-home-loan-deposit-scheme/) and [New Home Guarantee](https://www.nhfic.gov.au/what-we-do/support-to-buy-a-home/new-home-guarantee/) initiatives. This has sparked an increase in the demand for property and home loans, as well as [growth in property prices](https://www.abs.gov.au/statistics/economy/price-indexes-and-inflation/residential-property-price-indexes-eight-capital-cities/latest-release) that increase loan amounts that banks can earn interest on. The bank has invested heavily into broker channels to increase its exposure to the property market with great success. However, there are concerns about a slowing in the housing market and what this might mean for banks, particularly as it is predicted that interest rates will increase and that government schemes will be wound back.

***Your task***

The bank has recently expressed interest in data-driven decision-making and has hired you as a data analyst to support their digital transformation strategy. Both you and the bank know that data analytics can help the bank understand problems, business opportunities and make better decisions to solve business problems and take advantage of business opportunities. All of these would help the bank achieve their economic objectives while embodying its own personal values, thus creating more value for the business and its stakeholders.

Given the current environment in relation to booming house prices and the demand for home loans, the Chief Risk Officer of the bank has taken a particular interest in understanding the characteristics of customers who are applying for home loans so that he can better understand their exposure to potential opportunities and risks in the home lending space. To this end, he has provided you with the data on home loan applications processed by the bank over the previous five years (from July 2016 to June 2021). He has instructed you to develop a research plan that the organisation can use to undertake further research using the data, which requires you to use critical thinking and analytics techniques to look for and evaluate preliminary insights and hidden trends in the data.

***Structure of your plan***

From your studies, you know about the CRISP-DM framework, and decide to use this framework to layout a research plan to present to the Chief Risk Officer as follows (note that you do not need an introduction and conclusion for this task):

1. **Business background and analytics goals (500 words):** In this section, you should draw on your own research and the task background to develop an understanding of Auswide Bank, its objectives/values, and the environment it operates in to clarify the bank’s potential challenges and/or opportunities for value creation. From this business background, you then derive research questions for the analytical project that are aligned with the task context and business understanding, and are answerable with the data you have got. Make sure you *explicitly* link your research questions back to the idea of value creation for the bank.
2. **Data preparation & understanding (600 words):** You should show your preliminary understanding of the data by describing the variables in the dataset, assessing reliability/validity/ethics, and discussing any cleaning or transformations you have done to prepare the data for analysis. Once this is done, you should use data visualisation and descriptive statistics to provide insights on the “typical” home loan applicant for Auswide Bank. You might use confidence intervals or probability concepts to evaluate the strength of your summary statistics.
3. **Modelling & Evaluation (600 words):** This section should focus on creating and justifying *logical* expectations of relationships that might exist in the data, and then identifying, justifying, and applying appropriate modelling techniques (such as hypothesis testing or correlation analysis) to provide more insights into the research questions. This is also your opportunity to be *explicit* about how your specific findings could potentially be exploited by the business to create value.
4. **Capability (300 words):** In this section, you should focus your discussion on the business’s analytics capability and potential improvements to aspects of the bank’s overall data strategies that they might need so that data can be collected and used in a more meaningful way to create value. For example, you can draw on information that is available about Auswide Bank and the way it talks about data within the organisation, its data strategy, and general challenges faced by banks in the use of data. You could also talk about other data that might be needed to derive better insights that are related to your research questions.