

The Welsh Revenue Authority (Awdurdod Cyllid Cymru in Welsh) is an independent division that manages and gathers taxes on behalf of the Welsh Government. The Land Transaction Tax and Landfill Disposals Tax, two taxes designed expressly for Wales, are being collected by the Welsh Revenue Authority (WRA), which started operating fully in April 2018. Moreover, it is now in charge of additional devolved taxes. The two taxes that the WRA handles are aimed at raising funds that can be used to support vital public services in Wales, including the National Health Service (NHS) and local schools across the nation. The organisation's unique strategy, known as "Our Approach," which emphasises a distinctly Welsh viewpoint on taxation, is being put into practice with the goal of ensuring that the tax system in Wales is reasonable and equitable. As the WRA is an organisation with a large customer base that uses its services, it is vital for its functioning to constantly evaluate its performance by collecting feedback. Gaining customer reviews allows businesses to measure their performance and pinpoint areas needing improvement. In such a way, WRA can ensure that its services are being used properly and that customers are having a satisfactory experience. It is now more crucial than ever for organisations to pay attention to customer feedback in order to improve their services as a result of the increasing popularity of online services. Each business that wants to stay competitive in today's market needs to use feedback analysis as a tool. With that feedback, they can find opportunities for improvement by examining customer feedback and can use that information to guide data-driven decisions that will improve how the organisation can serve their customers. The WRA developed one such feedback dataset using a series of surveys conducted over a span of 3 years starting from the year 2019. The feedback dataset contains raw text input from the customers. The objective of this project is to conduct sentiment analysis on this dataset with the aim of gaining a deeper understanding of the customers through their feedback. Before, a member of the organisation would spend a lot of time manually reviewing each feedback and classifying it as positive, negative, or neutral. It is a valuable method for evaluating the emotions and opinions conveyed in the text. Sentiment analysis is a technique employed to evaluate the tone of spoken or written language and determine if it is positive, negative, or neutral,

and to what degree. The WRA intends to use the understanding from this study to improve its services in the customer department. The aim of this study is to help the company understand the wants and needs of its customers so that their products and services can be used by more people. Before building a model, the dataset needs to be analysed and evaluated, using a number of preprocessing steps such as data cleansing, stop word removal, tokenization, filtering, and stemming. The most efficient text classification algorithms, including multinomial Naive Bayes, Support Vector Machine (SVM), and Random Forest Classifier, are used in this project, along with vectorization techniques like Count Vectorization and TF-IDF. After the models are built, hyperparameter optimization is done to improve performance effectiveness. The model with high accuracy and good performance can be used by the WRA organisation to detect future feedback by integrating it on their websites. Although the results of the feedback analysis have been helpful in identifying areas that need improvement, it is necessary to acknowledge the limitations of our research. In the future, the techniques, and algorithms need to be adjusted or changed depending on the size of the dataset. This project and the algorithms used are not applicable to other context texts as this data is about tax and Welsh Revenue Organisation (WRA), it may not be generalised to other industries or organisations. This analysis is limited to a specific time period, as the feedback pattern may change over time. Despite these limitations, the analysis that was provided by this project will give beneficial information about the positive and negative of the organisation and guide them to enhance their performance and future efforts.