**Next Best Action**

1. **Understanding and Application**

Contlo is an AI native marketing platform that empowers modern fast-growing businesses to optimize their end-to-end marketing efforts using their brand's own generative AI Model. By leveraging contextual Generative AI marketing capabilities, Contlo enables businesses to drive customer retention through personalized campaigns and automated customer journeys across various touchpoints.

Contlo can make use of NBA and generate the customized recommendations based on the history, behaviour, and preferences of them.

1. **Strategy for Integration**

There are 4 things to consider before developing a model:

1. **Predictive Modelling**

To anticipate customer behaviour using machine learning techniques on the historical data to effectively segment the customers and generate customized content.

Algorithms like decision trees and neural networks are used for this model and the model's performance is evaluated using robust metrics like accuracy, precision, recall, and F1 score.

1. **Personalization Techniques**

The AI algorithms utilized to analyse customer preferences, understanding their inclinations and tastes. These tastes are incorporated into history insights and a pattern is generated.

These techniques should be able to adapt based on the real time data and evolves based on customer’s change in behaviour.

1. **Data-Driven Decision Making**

The model developed should be able to adapt based on the real time data. The model should be adaptable that respond dynamically to shifts in customer behaviour and preferences.

1. **Expected Impact**

Anticipate the increase in user engagement rates by 20% and improvement of 15% user lifetime value. This integration of Next Best Action ensures that customers receive timely and relevant content, enhancing their overall experience and loyalty.

1. **Technology Requirements**

**Key Requirements**

* Machine learning algorithms like decision trees and neural networks
* AI analytics tools like Google analytics or custom analytic solutions should be needed.
* Infrastructure Upgrades are important to ensure stability and to handle the increased data processing requirements.

**Implementation**

* Conduct a data audit and prepare demo data for model training.
* Train predictive models on historical customer data.
* Integrate AI analytics tools into platform.
* Upgrade infrastructure to accommodate increased computational demands.
* Conduct pilot tests using demo data to validate the effectiveness of the integration.

1. **Scalability and Personalization**

We can employ scalability and personalization methods such as

**Cloud Based Infrastructure**

Cloud-based infrastructure involves utilizing services provided by cloud platforms such as AWS, Azure, or Google Cloud. This approach is scalable and flexible which can dynamically adjust to the workload.

**Automated Workflows**

Automated workflows can cover various aspects, from data processing to content deployment, ensuring a smooth and scalable operational environment. Automated Workflows involves streamlining the routine tasks and thus reducing the manual intervention in routine tasks.

**Dynamic Content Generation**

AI is used for dynamic content generation which involves creating personalized and contextually relevant content for individual user preferences. This will maintain scalability while ensuring the personalization.

**Human Interaction Elements**

The AI integrated bots ensure customer support to handle the queries and issues. These bots generate instant response, but they need to be maintained and updated which can be accomplished by the feedback received from the customers.

1. **Measurements of Success**

The measurement of success of a model is determined by the KPI metrics.

* User engagement rates: The percentage increase in the user engagement. Which is anticipated to increase around 20%.
* Click through rate on recommendations: The percentage increase in the users who click through the predicted content as soon as it is presented to them.
* Revenue impact: The total revenue generated from users who have acted upon the recommendations.

**Improvement methods**

* Analyse the KPIs for the areas of improvement.
* Conduct A/B demo testing to observe the customer preference changes to adapt.
* We also incorporate the customer feedback and improve the performance of our model.

Let’s consider the data,

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Customer ID | Age | Gender | Purchase History | Interaction Frequency | Engagement Score | Predicted Response |
| 001 | 30 | Female | High | Moderate | High | Action A |
| 002 | 25 | Male | Low | Low | Low | Action B |
| 003 | 35 | Male | Moderate | High | Moderate | Action C |
| 004 | 28 | Female | High | Low | High | Action A |
| 005 | 40 | Male | Moderate | High | Moderate | Action C |

Purchase History: Historical purchase behaviour of the customer

Interaction Frequency: Frequency of interactions with the platform

Engagement Score: Overall engagement score

Predicted Response: Predicted response for each customer based on predictive modelling.

This dataset can be used to train predictive models, analyse customer behaviour, and implement personalized marketing actions in line with the Next Best Action strategy outlined in the case study.

**Appendix**

The recommendation systems also work on the same methodology of predictive response. I have worked on Anime recommendation system.

**Methodology**

In the anime recommendation system, we use SVD to provide personalized anime recommendations to users based on preferences and watch history. In this project, we propose an anime recommendation system using SVD, a matrix factorization technique mainly used in recommendation systems. Our dataset contains the user ratings for different anime.

Below attached is the document for my work on anime recommendation system.

**Document Attached**

<https://docs.google.com/document/d/1UnpERqURV5A_WhN0B81e6Omzkyz8jjfI/edit?usp=sharing&ouid=108862245159086501325&rtpof=true&sd=true>