CUSTOMER PERSONALITY ANALYSIS

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# Document Version Control

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## Abstract

Customer Personality Analysis is a detailed analysis of a company’s ideal customers. It helps a business to better understand its customers and makes it easier for them to modify products according to the specific needs, behaviors and concerns of different types of customers.

Customer personality analysis helps a business to modify its product based on its target customers from different types of customer segments. For example, instead of spending money to market a new product to every customer in the company’s database, a company can analyze which customer segment is most likely to buy the product and then market the product only on that particular segment.

1. **Introduction**

###### Why this High-Level Design Document?

The purpose of this High-Level Design (HLD) Document is to add the necessary detail to the current project description to represent a suitable model for coding. This document is also intended to help detect contradictions prior to coding, and can be used as a reference manual for how the modules interact at a high level.

The HLD will:

* + - Present all of the design aspects and define them in detail
    - Describe the user interface being implemented
    - Describe the hardware and software interfaces
    - Describe the performance requirements
    - Include design features and the architecture of the project
    - List and describe the non-functional attributes like: o Security
      * Reliability
      * Maintainability
      * Portability
      * Reusability
      * Application compatibility
      * Resource utilization
      * Serviceability

##### Scope

The HLD documentation presents the structure of the system, such as the database architecture, application architecture (layers), application flow (Navigation), and technology architecture. The HLD uses non-technical to mildly-technical terms which should be understandable to the administrators of the system.

* 1. **Definitions**

Term

*Database*

*IDE*

*Description*

Collection of all the information monitored by this system

Integrated Development Environment

### General Description

#### Product Perspective

Customer personality analysis is essential for personalizing marketing, developing products that meet diverse needs, enhancing customer experiences, and creating accurate segments. It helps in identifying churn risks and developing retention strategies, building brand loyalty through strong emotional connections, and gaining a competitive advantage with relevant offerings. For Nasher Miles, this analysis can improve marketing efforts, product development, and customer service, resulting in higher customer satisfaction and loyalty..

* 1. Problem statement

What people say about your product: what gives customers’ attitude towards the  product.

. What people do: which reveals what people are doing rather than what they are  saying about your product.

* 1. Tools used

Python programming language and frameworks such as NumPy, Pandas, Scikit-learn, are used to build the whole model.



* + - For visualization of the plots, Matplotlib, Seaborn and Plotly are used.
    - MySQL/MongoDB is used to retrieve, insert, delete, and update the database.
    - GitHub is used as version control system.

##### **Design Details**

##### 

##### **Error Handling**

Should errors be encountered, an explanation will be displayed as to what went wrong? An error will be defined as anything that falls outside the normal and intended usage.

#### Reusability

The code written and the components used should have the ability to be reused with no

problems.

#### Application Compatibility

The different components for this project will be using Python as an interface between them. Each component will have its own task to perform, and it is the job of the Python to ensure proper transfer of information.

#### Resource Utilization

When any task is performed, it will likely use all the processing power available until that function is finished.

## Conclusion

**Cluster 1:**

People with less expenses

people who are married and parents of more than 3 kids

people which low income

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**Cluster 2:**

people with more expenses

people who are single or parents who have less than 3 kids

people with high income

Age is not the criteria but it is observed to some extent that people who are older fall in this group

So, the customers falling in cluster 2 likes to spend more...so the Firm's can target people falling in cluster 2 for the sale of their Products....

## References

<https://www.python.org/dev/peps/pep-0008/>

pwskills.com