**PROJECT PROPOSAL**

**submitted To**

IBM NAAN MUTHALVAN

**APPLIED DATA SCIENCE**

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**Project titlie**: customer segmentation using data science project definition

**Project introduction**-  
  
 Customer segmentation is a critical process in customer relationship management (CRM) that involves dividing a company's customers into groups or segments that share similar characteristics such as age, gender, interests, spending habits, etc. The goal of this process is to allow a company to better tailor its marketing efforts to various subsets of its customers.  
  
   
  
In the realm of data science, customer segmentation projects typically involve the use of machine learning algorithms (like K-means clustering, hierarchical clustering, etc.) to segment customers. These projects can be quite complex and involve several steps:

* Data Collection
* Data Preprocessing
* Feature Selection/Extraction
* Model Training
* Interpretation/Evaluation
* Action

**Project definition**-

A customer segmentation project in data science involves using various techniques to divide the customer base into smaller groups based on certain characteristics. This helps marketing managers better understand their customers' preferences and present them with more targeted advertisements.

For instance, a project might involve analyzing demographics data for customers of a mail-order sales company in Germany, comparing it against demographics information for the general population. The purpose is to find similar characteristics in both groups, signaling good candidates among the general population for a marketing campaign.

**Design thinking-**

Customer segmentation using data science and design thinking involves a process that is both analytical and creative. Here's how the two fields intersect:

1. Understanding the Customer
2. Segmentation
3. Ideation and Prototyping
4. Testing and Iteration  
     
      
     
   **Abstract**-  
     
   Customer segmentation is a critical strategy in marketing that allows businesses to target specific groups of customers who share similar characteristics. With the advent of data science, this process has become more efficient and precise. This project explores the application of data science techniques in customer segmentation. It involves collecting customer data, preprocessing the data, selecting relevant features, applying clustering algorithms to segment customers, and interpreting the results to gain insights into customer behavior. The ultimate goal is to enhance marketing strategies by delivering more personalized and effective messages to each customer segment. This project demonstrates the power of data science in transforming traditional marketing approaches and offers valuable insights for businesses aiming to improve their customer relationship management.