VERTEX MOBILE NET. TELECOM CHURN ANALYTICS PROJECT

Vertex Mobile Net. is a telecom company that provides communication services to individuals and organizations. The services they provide include:

- **Telephone Services**: this includes both landline and mobile phone services. They provide the necessary infrastructure and services for voice calls, voicemail, and other related features.
- **Internet Services**: they offer broadband and dial-up internet access to consumers and businesses. This also includes providing the necessary infrastructure for high-speed internet connections.
- **Data Services**: many telecom companies provide data services, including SMS (Short Message Service) and MMS (Multimedia Messaging Service) for mobile phones.
- **Television Broadcasting**: some telecom companies also offer cable or satellite TV services, including digital television and streaming services.
- **Wireless Communication**: This includes Wi-Fi services and other wireless communication technologies.
- **Cloud Services and Networking**: With the advancement in technology, many telecom companies now provide cloud services, virtual networking, and other IT solutions for businesses.

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Business Problem

For subscription-based businesses, reducing customer churn is a top priority. **In this case study, you'll analyze a dataset from a telecom company called Vertex Mobile.**

The manager has concluded that it is time to make fundamental changes in customer retention strategies and business operations due to a reduction in revenue over the few months.

For these reasons, we will analyze customer data to track customer attrition rate so that we can help adjust the company policies and **thus keep the customers happy as they use the company's telecom services.**

Dataset:

Customer ID	Churn Label	Account Length (in month	Local Calls	Local Mins	Intl Calls	Intl Mins
4444-BZPU	No	1	3	8	0	0
5676-PTZX	No	33	179	431.3	0	0
8532-ZEKQ	No	44	82	217.6	0	0
1314-SMPJ	No	10	47	111.6	60	71
2956-TXCJ	No	62	184	621.2	310	694.4
9152-DEPY	No	17	68	120.7	0	0
1958-SDSO	No	57	428	849.2	0	0
8787-QZUC	No	25	54	203.7	0	0
7768-OQJE	No	70	171	627.4	0	0
7716-RHEB	No	50	206	445.8	0	0
4139-EXJK	No	69	430	899.4	0	0
1133-QYCQ	No	21	85	227.6	0	0
3423-EQRP	No	10	31	61.3	0	0

The meta data details will be provided to you for further reference and examination.

Task:

You have been entrusted with conducting a thorough examination of Vertex Mobile Net.'s telecom data to determine the factors contributing to customer churn and devise effective strategies for reducing churn and boosting customer retention.

Using Power BI as the main BI tool:

- Analyze customer data to track customer attrition.
- Investigate churn reasons & understand why customers become churners
- Dig deeper into churn categories and identify the most prevalent churn category, followed by the percentage of total churners.
- Analyze the different demographic fields from the dataset
- Create a line and stacked column chart that shows the number of customers and churn rate for every age bracket.

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- Vertex Mobile Net. offers group contracts to customers from the same household. The advantage for the customer is a discounted rate, while it's a great way for Vertex Mobile Net. to grow its customer base. Your task is to analyze if customers that are part of a group indeed have a lower phone bill and if it has an impact on the churn rate.
- Now observe how yearly and monthly contracts affect the churn rate. Next, create a clustered column chart to see how customers differ in terms of churn rate by looking at their contract categories and gender.
- Vertex Mobile Net. has a hypothesis that people who are not on an unlimited data plan are more likely to churn. Your task is to investigate how the Unlimited Data Plan influences the churn rate.
- The analysis requirement given by Vertex Mobile Net. includes a request to analyze the international activity of customers and its relationship to churn. They are curious about the behaviour of customers who call internationally, and if paying for an international plan influences their loyalty. Create a matrix that shows the churn rate by the variables IntlPlan and IntlActive, from the metadata sheet
- The report should cover insights about the Data and any relevant charges.
- Vertex Mobile Net. also wants to improve its customer service since there have been some reported issues. Your job is to investigate three important topics related to customers: they include payment method, contact type, and how many months a person is a customer. Evaluate if the churn rate decreases over time. Create a Line Chart using the account length and churn rate.
- Now it's a good idea to look at the data through a different lens to produce some more interesting insights. Check the characteristics of the states regarding the customer service calls and the churn label. Next, create a Line chart to show the Churn Label and the Avg Customer Service Calls from your data model. Add markers to your line chart, and place the visual to the bottom left corner of the page, under the cards. Investigate the relationships on your visualization.
- Vertex Mobile Net. is wondering if it has impacted their customers. Your job is to create a map in Power BI to investigate the churn rate by state. You definitely want to add the Churn rate to the map, but adding only percentages to a visualization can give a distorted view. It could be you discover a churn rate of 50%, but that statistic is (almost) meaningless if Vertex Mobile Net. had only 2 customers in that state. Now, select a Map visualization. Add Churn Rate, Number of Customers, and Number of Churned Customers to tooltips in your visualization. You will also need to use the State column

from your table. Use a different gradient of colour so it's easy to spot states with a higher churn rate. Question: Which state has the highest churn rate?

- You discovered that the churn rate for customers who pay for an international plan but don't call internationally is sky-high. What would you advise Vertex Mobile Net.?
- What other insights can we obtain from the data.
- **Finally, what solutions and recommendations do you propose?**