

Який сегмент користувачів іде з продукту найчастіше? - **самий високий Churn Rate 49.20% - SeniorCitizen No Partner No Dependents, 36.33% - SeniorCitizen Partner No Dependents, 31.15% - наймасовіший сегмент, No Partner No Dependents.** Також Churn Rate менший у користувачів які отримали тех підтримку.

Питання, що можуть допомогти:

чи залежить Churn від демографічних характеристик користувача? (SeniorCitizen, Partner, Dependents) - Так, залежить. Сегментувала користувачів за допомогою SQL, і помітна чітка залежність. (Див. наступна вкладка)

чи залежить Churn від технічних характеристик користувача? - **Найвищий Churn у Fiberoptic, No Multiple Lines, але за кількістю Fiberoptic, Multiple Lines. Можливо, користувачі вирішують перейти на іншого провайдера.**

чи залежить Churn від оплат = Total Charges? - **Залежить найвищий у 51-100, 0-50, по кількості у 601-1200, 51-100. Більше за всього відвалюються користувачі з month-to-month contract.**

SeniorCitizen	Partner	Dependents	Total_Customers	Churned_Customers	Churn_Rate	Churn rate Percent
0	No	No	2719	847	0.3115115851	31.15%
0	Yes	No	1163	242	0.2080825451	20.81%
0	Yes	Yes	1666	229	0.2080825451	20.81%
1	Yes	No	490	178	0.3632653061	36.33%
0	No	Yes	353	75	0.2124645892	21.25%
1	No	No	561	276	0.4919786096	49.20%
1	Yes	Yes	83	20	0.2409638554	24.10%
1	No	Yes	8	2	0.25	25.00%

Total Charges Bucket

TotalCharges_Segm	Total_Customers	Churned_Customers	Churn_Rate
0-50	365	150	41.10
101-300	681	246	36.12
1201-2400	1252	263	21.01
2401-3800	816	196	24.02
301-600	698	202	28.94
3801-4800	504	82	16.27
4800+	444	68	15.32
4801-5800	471	77	16.35
51-100	423	266	62.88
5801-6800	387	48	12.40
601-1200	1002	271	27.05

Чи залежить Churn від Total Charges?

```
SELECT
CASE
WHEN TotalCharges BETWEEN 0 AND 50 THEN '0-50'
WHEN TotalCharges BETWEEN 51 AND 100 THEN '51-100'
WHEN TotalCharges BETWEEN 101 AND 300 THEN '101-300'
WHEN TotalCharges BETWEEN 301 AND 600 THEN '301-600'
WHEN TotalCharges BETWEEN 601 AND 1200 THEN '601-1200'
WHEN TotalCharges BETWEEN 1201 AND 2400 THEN '1201-2400'
WHEN TotalCharges BETWEEN 2401 AND 3800 THEN '2401-3800'
WHEN TotalCharges BETWEEN 3801 AND 4800 THEN '3801-4800'
WHEN TotalCharges BETWEEN 4801 AND 5800 THEN '4801-5800'
WHEN TotalCharges BETWEEN 5801 AND 6800 THEN '5801-6800'
ELSE '4800+'
END AS TotalCharges_Segment,
COUNT(*) AS Total_Customers,
SUM(CASE WHEN Churn = 'Yes' THEN 1 ELSE 0 END) AS Churned_Customers,
(SUM(CASE WHEN Churn = 'Yes' THEN 1 ELSE 0 END) / COUNT(*)) * 100 AS Churn_Rate
FROM
Lecture19
GROUP BY
TotalCharges_Segment
ORDER BY
TotalCharges_Segment;
```

TotalCharges_Segment	Total_Customers	Churned_Customers	Churn_Rate
0-50	365	150	41.095890411
101-300	681	246	36.123348018
1201-2400	1252	263	21.006389776
2401-3800	816	196	24.019607843
301-600	698	202	28.93982808
3801-4800	504	82	16.26984127

Чи залежить Churn від демографічних характеристик користувача? (SeniorCitizen, Partner, Dependents)

```
SELECT
SeniorCitizen,
Partner,
Dependents,
COUNT(*) AS Total_Customers,
SUM(CASE WHEN Churn = 'Yes' THEN 1 ELSE 0 END) AS Churned_Customers,
SUM(CASE WHEN Churn = 'Yes' THEN 1 ELSE 0 END) / COUNT(*) AS Churn_Rate
FROM
Lecture19
GROUP BY
SeniorCitizen, Partner, Dependents;
```

SeniorCitizen	Partner	Dependents	Total_Customers	Churned_Customers	Churn_Rate
0	No	No	2719	847	0.311511585
0	Yes	No	1163	242	0.208082545
0	Yes	Yes	1666	229	0.137454982
1	Yes	No	490	178	0.363265306
0	No	Yes	353	75	0.212464589
1	No	No	561	276	0.49197861
1	Yes	Yes	83	20	0.240963855
1	No	Yes	8	2	0.25

Lecture19

Шерешовець Ірина дз Lecture19 - Home_task.csv

customerID	gender	SeniorCitizen	Partner	Dependents	PhoneService	MultipleLines	Intern
6823-SIDFQ	Male	0	No	No	Yes	No	No
9764-REAFF	Female	0	Yes	No	Yes	No	No
0827-ITJPH	Male	0	No	No	Yes	No	No
0621-CXBKL	Female	0	No	No	Yes	No	No
9945-PSVIP	Female	0	Yes	Yes	Yes	No	No
9426-SXNHE	Female	0	No	No	Yes	No	No
2967-MXRRAV							No

Чи залежить Churn від Tech Support?

```
SELECT
TechSupport,
COUNT(*) AS Total_Customers,
SUM(CASE WHEN Churn = 'Yes' THEN 1 ELSE 0 END) AS Churned_Customers,
SUM(CASE WHEN Churn = 'Yes' THEN 1 ELSE 0 END) / COUNT(*) AS Churn_Rate
FROM
Lecture19
GROUP BY
TechSupport;
```

4800+	444	68	15.315315315	TechSupport;			
4801-5800	471	77	16.348195329				
51-100	423	266	62.884160757				
5801-6800	387	48	12.403100775				
601-1200	1002	271	27.045908184				
				TechSupport	Total_Customers	Churned_Customers	Churn_Rate
				No internet service	1526	113	0.074049803
				No	3473	1446	0.416354737
				Yes	2044	310	0.151663405

Чи залежить Churn від Payment Method?

SELECT

PaymentMethod,
COUNT(*) AS Total_Customers,
SUM(CASE WHEN Churn = 'Yes' THEN 1 ELSE 0 END) AS Churned_Customers,
SUM(CASE WHEN Churn = 'Yes' THEN 1 ELSE 0 END) / COUNT(*) AS Churn_Rate
FROM
Lecture19
GROUP BY
PaymentMethod;

PaymentMethod	Total_Customers	Churned_Customers	Churn_Rate
Credit card (automatic)	1522	232	0.152431012
Bank transfer (automatic)	1544	258	0.167098446
Mailed check	1612	308	0.191066998
Electronic check	2365	1071	0.452854123