

## CUSTOMER SEGMENTATION GROUPS BY AGE & JOB

**NGUYEN HOA  
ANH THAO**

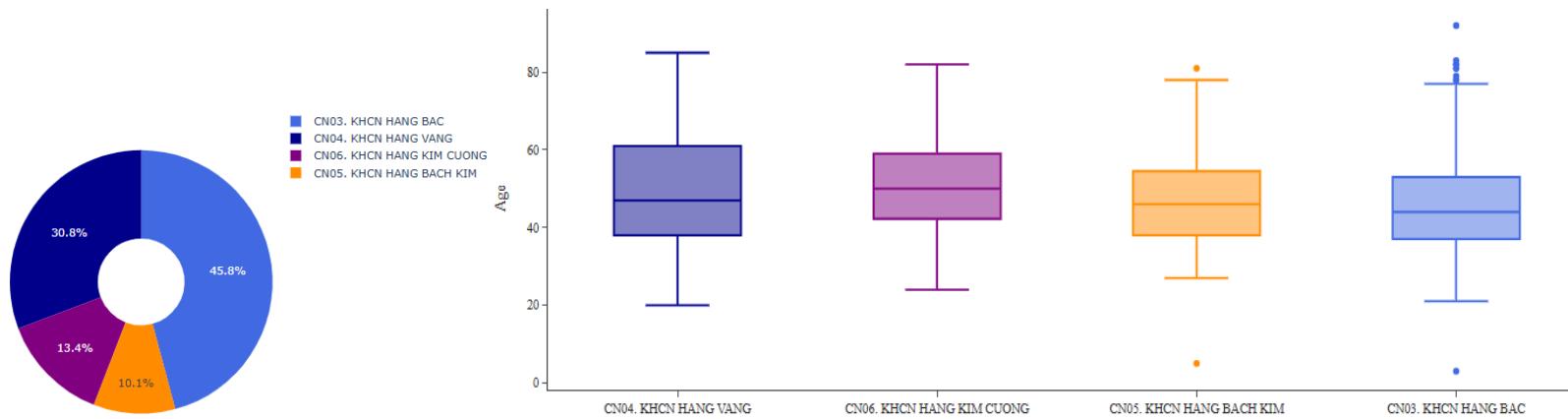
```
import plotly.express as px

px.pie(df, names='Phan khuc KH', title='Phan khuc KH',
       hole=0.33,color_discrete_sequence=['royalblue','darkblue','purple','darkorange'])# Next quarter there will be no silver group, delete royalblue
# Convert 'Nam sinh' to datetime objects, coercing errors
df['Nam sinh'] = pd.to_datetime(df['Nam sinh'], errors='coerce', dayfirst=True)

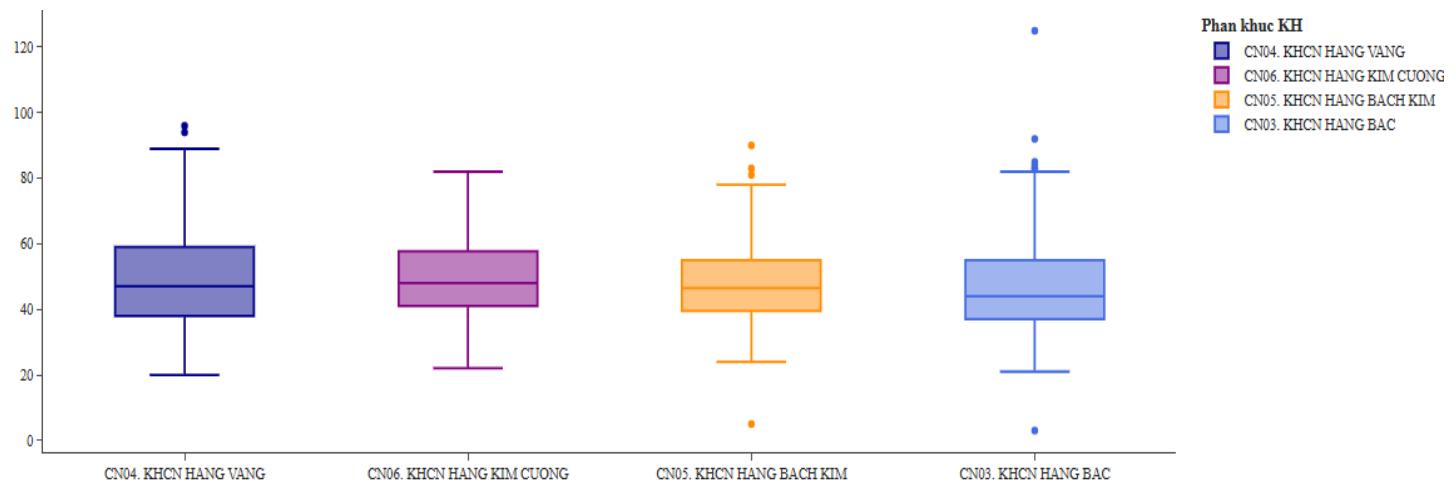
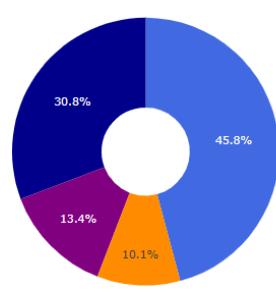
# Calculate age based on current date
current_year = pd.to_datetime('today').year
df['Age'] = current_year - df['Nam sinh'].dt.year

fig=px.box(df,x='Phan khuc KH',y='Age',color='Phan khuc
KH',color_discrete_sequence=['darkblue','purple','royalblue','darkorange'],template='simple_white',title='<b>Distribution of age
based on Phan khuc KH type' ) #quý sau không còn nhóm bạc xóa royalblue
fig.update_layout(title_x=0.5,font_family="Times New Roman",legend_title_text="<b>Phan khuc KH")
```

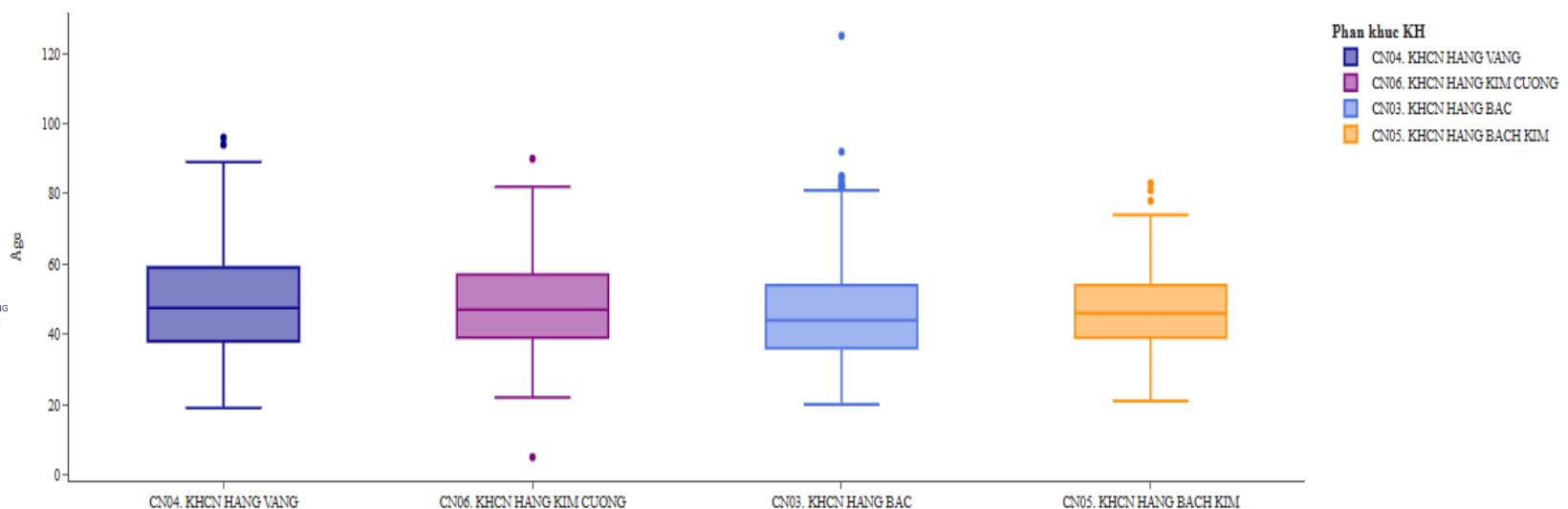
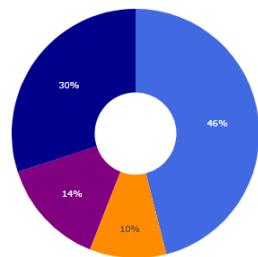
Q1/2023



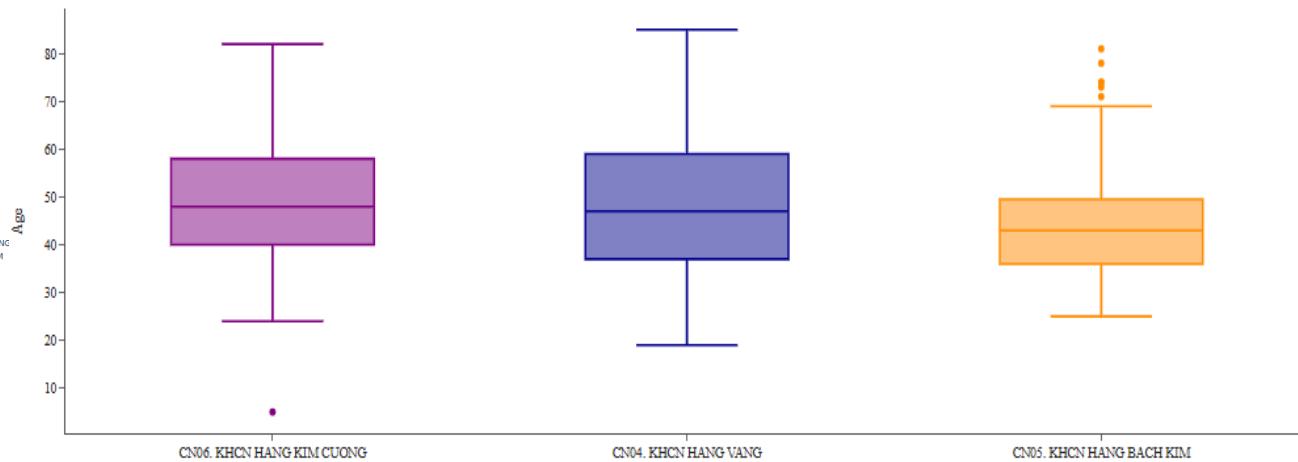
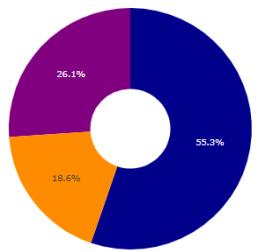
Q2/2023: Silver customer group has more customers over 120 years old, platinum and gold customer groups have more customers over 80 years old



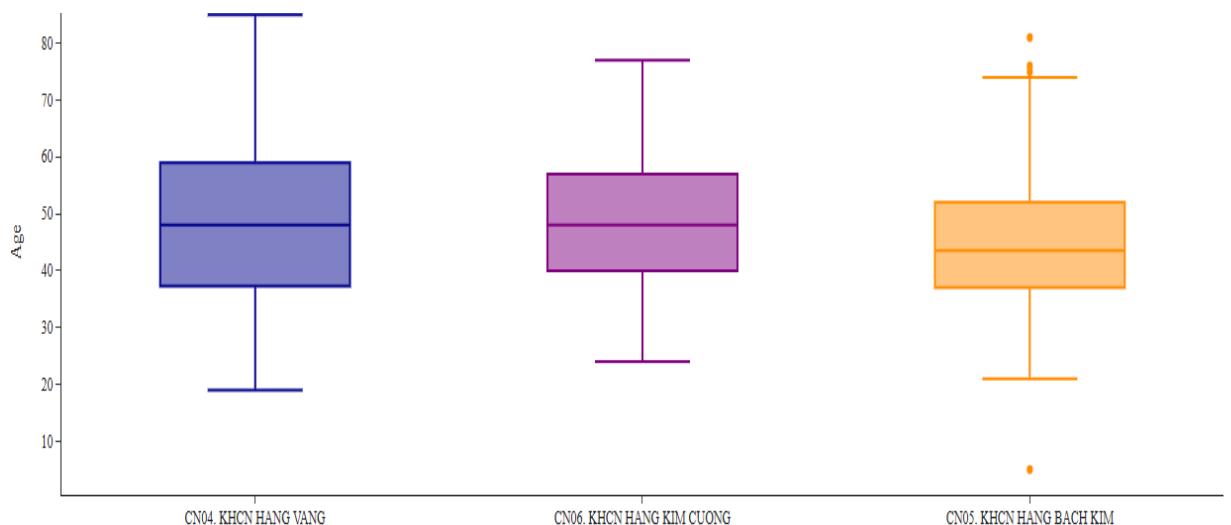
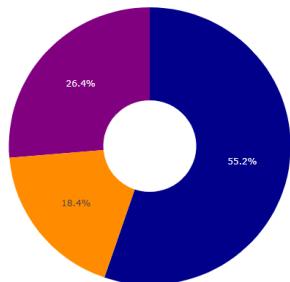
Q3/2023: Diamond customer group has more young customers and customers over 80 years old, silver and platinum customer groups no longer have customers under 20 years old



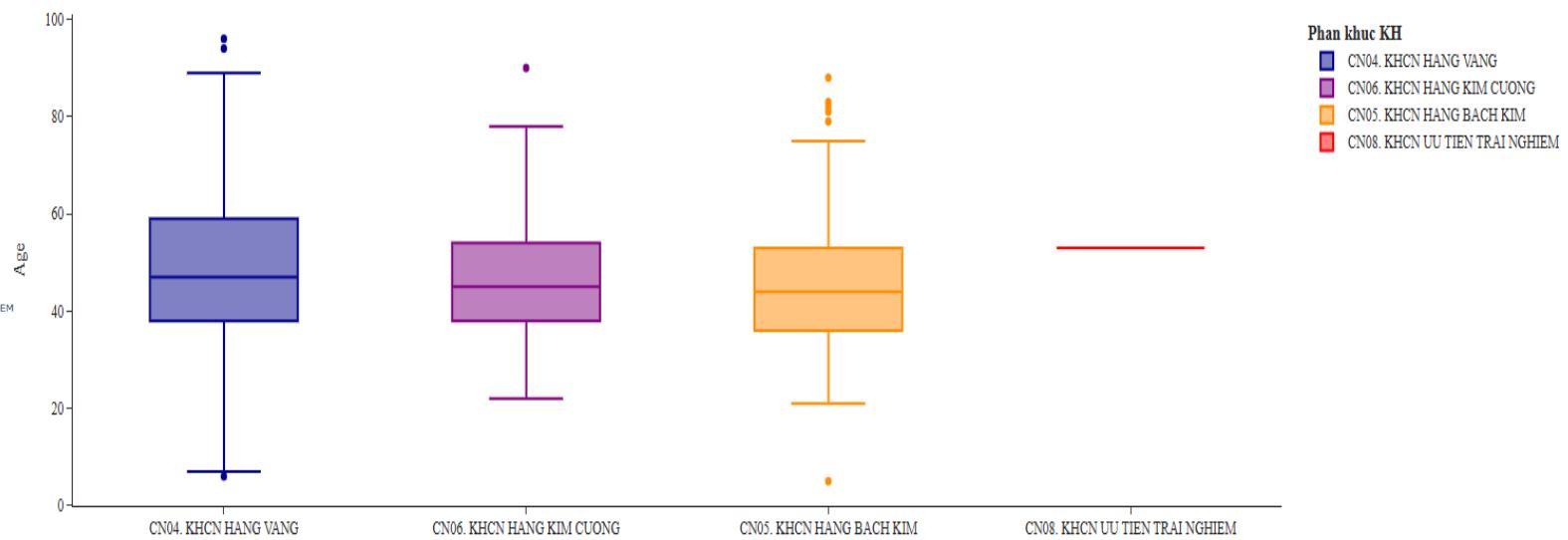
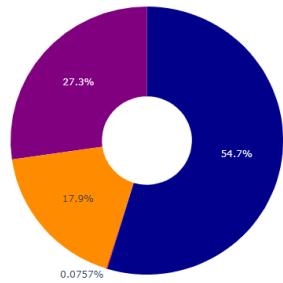
## Q4/2023: Silver customer dropout data



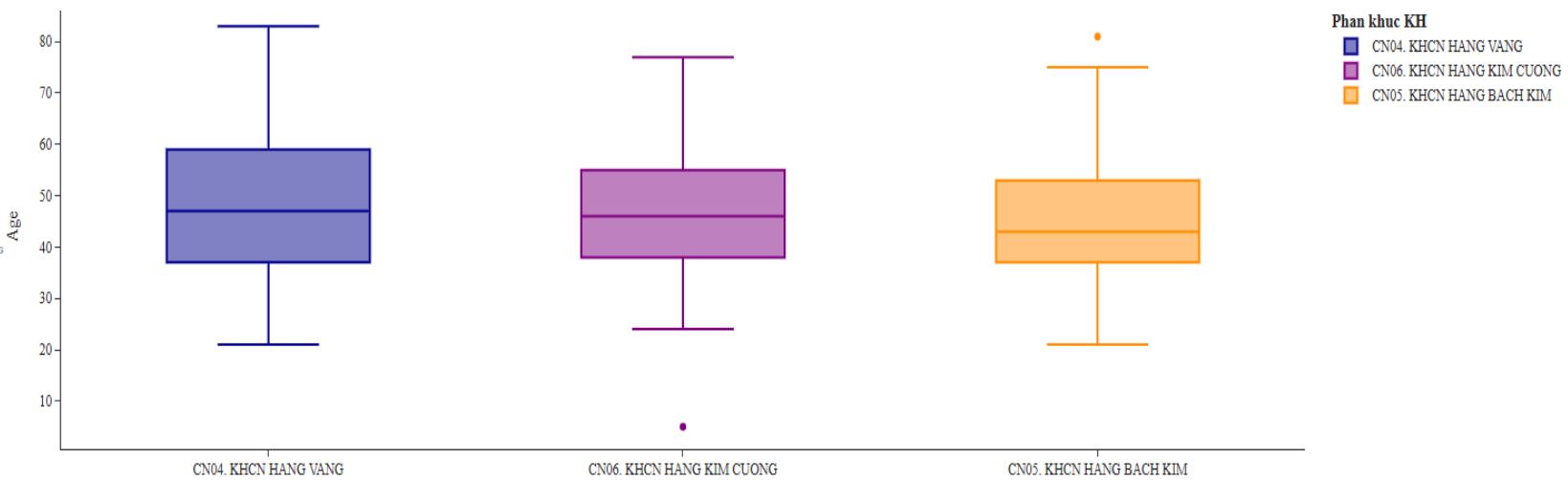
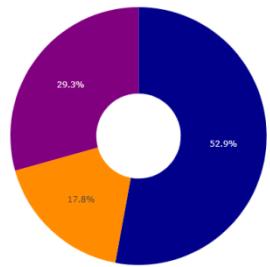
## Q1/2024: Platinum group has more young customers



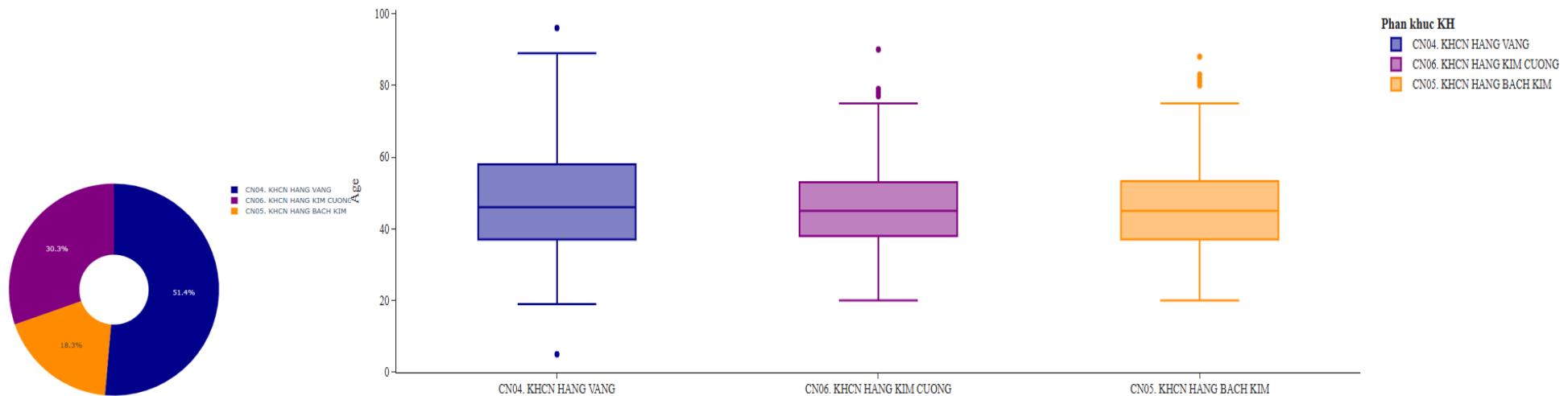
Q2/2024: have more customers prioritize experience



Q3/2024: The diamond customer group has more young customers.



## Q4/2024: GROUPS WITH MORE CUSTOMERS OVER 80 YEARS OLD



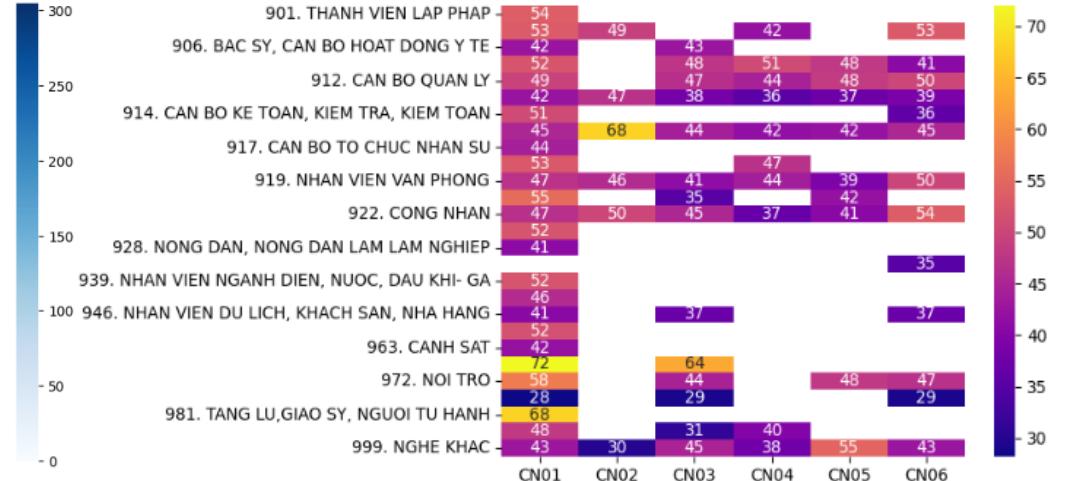
## Chart of professional relationships with Priority Loan Customers

```
# Visualize the relationships between categorical variables using heatmaps
categorical_cols = ['Nghe nghiep', 'KHUT tien vay']
for i in range(len(categorical_cols)):
    for j in range(i + 1, len(categorical_cols)):
        plt.figure(figsize=(10, 6))
        # Create a cross-tabulation of the two categorical columns
        ct = pd.crosstab(df[categorical_cols[i]], df[categorical_cols[j]])
        sns.heatmap(ct, annot=True, fmt='d', cmap='Blues')
        plt.title(f'Relationship between {categorical_cols[i]} and {categorical_cols[j]}')
        plt.show()

ax=pd.pivot_table(data=df,index="Nghe nghiep",columns='KHUT tien vay',values='Age')
sns.heatmap(ax,annot=True,cmap='plasma')
plt.show()
```

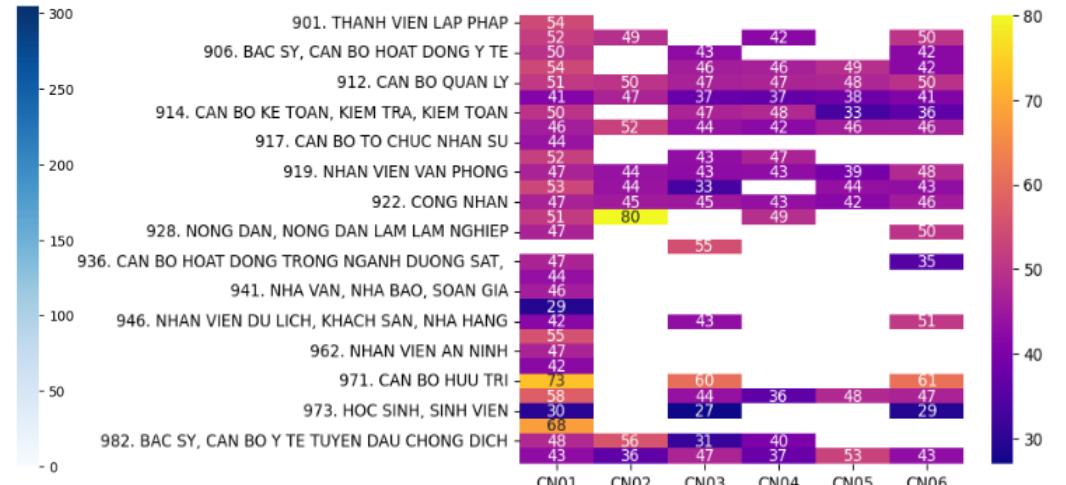
## Q1/2023

	CN01	CN02	CN03	CN04	CN05	CN06
901. THANH VIEN LAP PHAP -	12	0	0	0	0	0
905. GIAO VIEN, GIANG VIEN, CAN BO NGANH GIAO -	11	1	0	1	0	3
906. BAC SY, CAN BO HOAT DONG Y TE -	9	0	3	0	0	1
908. CONG CHUC, VIEN CHUC -	74	0	7	9	3	6
912. CAN BO QUAN LY -	42	1	5	7	9	17
913. NHAN VIEN NGAN HANG-TC-BAO HIEM-CHUNG KH -	11	1	16	6	6	5
914. CAN BO KE TOAN, KIEM TRA, KIEM TOAN -	14	0	1	1	1	1
916. KINH DOANH -	305	4	49	21	35	51
917. CAN BO TO CHUC NHAN SU -	2	0	0	0	0	0
918. THU KHO, THU QUY -	5	0	1	1	0	0
919. NHAN VIEN VAN PHONG -	245	5	24	10	21	17
921. KY SU, CAN BO KY THUAT -	16	1	2	0	2	2
922. CONG NHAN -	185	3	11	13	7	7
927. THO THU CONG -	11	1	0	1	0	0
928. NONG DAN, NONG DAN LAM LAM NGHIEP -	2	0	0	0	0	1
931. CAN BO HOAT DONG TRONG NGANH HANG KHONG -	0	0	1	0	0	0
936. CAN BO HOAT DONG TRONG NGANH DUONG SAT, -	1	0	0	0	0	1
939. NHAN VIEN NGANH DIEN, NUOC, DAU KHI- GA -	2	0	0	0	0	0
941. NHA VAN, NHA BAO, SOAN GIA -	1	0	0	0	0	0
943. NGHE SY, NGUOI HOAT DONG NGHE THUAT -	1	0	0	0	0	0
946. NHAN VIEN DU LICH, KHACH SAN, NHA HANG -	10	0	2	0	0	2
953. KIEM SAT VIEN -	3	0	0	0	0	0
962. NHAN VIEN AN NINH -	1	0	0	0	0	0
963. CANH SAT -	4	0	0	0	0	0
971. CAN BO HUU TRI -	84	0	3	0	0	1
972. NOI TRO -	121	0	3	1	3	2
973. HOC SINH, SINH VIEN -	21	0	3	0	0	2
981. TANG LU,GIAO SY, NGUOI TU HANH -	1	0	0	0	0	0
982. BAC SY, CAN BO Y TE TUYEN DAU CHONG DICH -	16	1	1	1	0	0
999. NGHE KHAC -	226	4	16	8	7	9

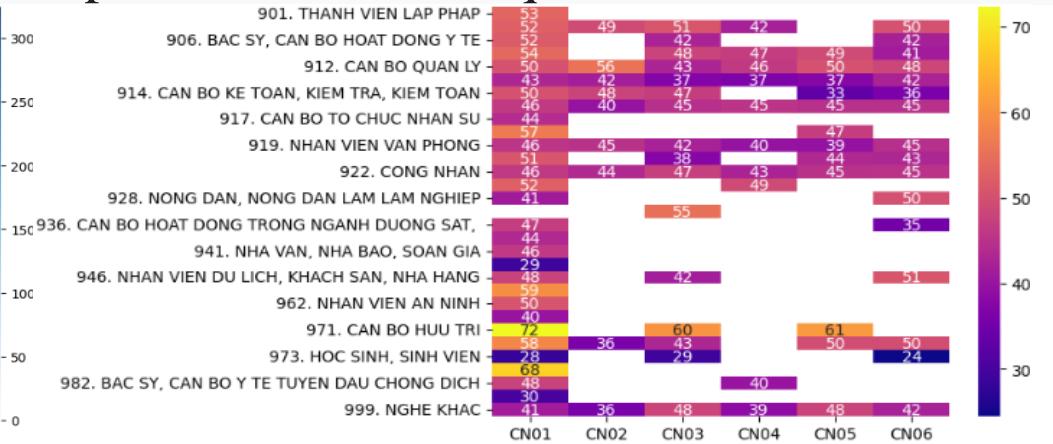
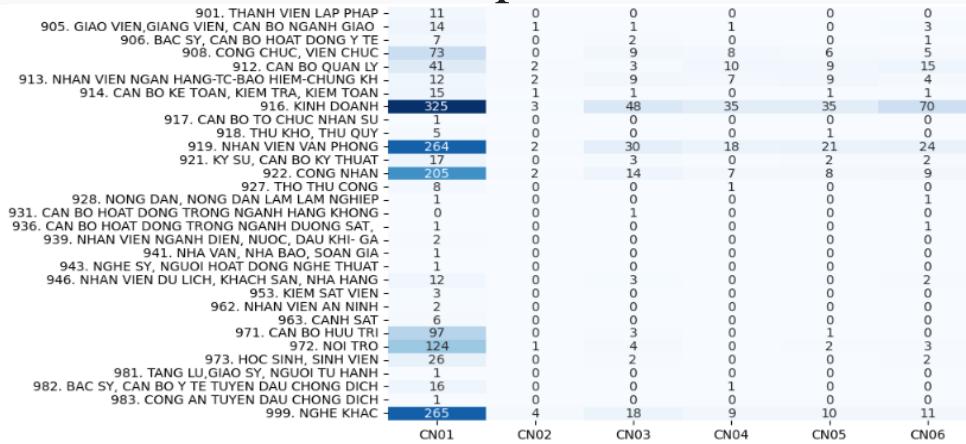


## Q2/2023

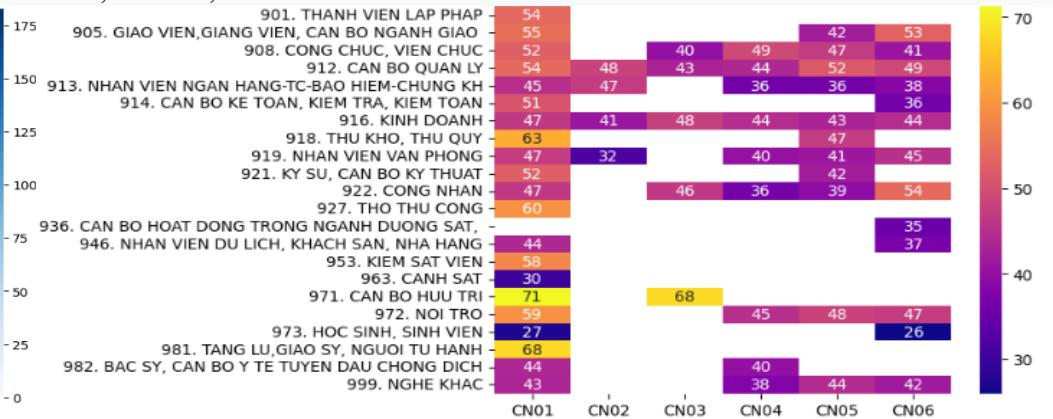
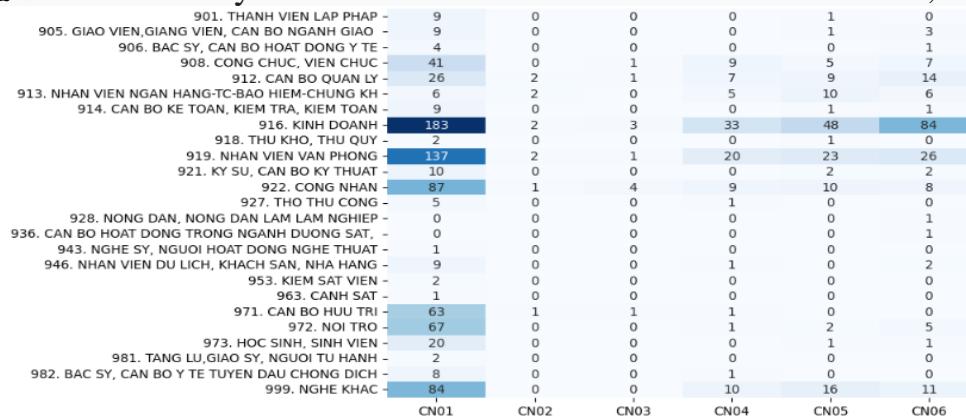
	CN01	CN02	CN03	CN04	CN05	CN06
901. THANH VIEN LAP PHAP -	12	0	0	0	0	0
905. GIAO VIEN, GIANG VIEN, CAN BO NGANH GIAO -	11	1	0	1	0	3
906. BAC SY, CAN BO HOAT DONG Y TE -	9	0	3	0	0	1
908. CONG CHUC, VIEN CHUC -	74	0	7	9	3	6
912. CAN BO QUAN LY -	42	1	5	7	9	17
913. NHAN VIEN NGAN HANG-TC-BAO HIEM-CHUNG KH -	11	1	16	6	6	5
914. CAN BO KE TOAN, KIEM TRA, KIEM TOAN -	14	0	1	1	1	1
916. KINH DOANH -	305	4	49	21	35	51
917. CAN BO TO CHUC NHAN SU -	2	0	0	0	0	0
918. THU KHO, THU QUY -	5	0	1	1	0	0
919. NHAN VIEN VAN PHONG -	245	5	24	10	21	17
921. KY SU, CAN BO KY THUAT -	16	1	2	0	2	2
922. CONG NHAN -	185	3	11	13	7	7
927. THO THU CONG -	11	1	0	1	0	0
928. NONG DAN, NONG DAN LAM LAM NGHIEP -	2	0	0	0	0	1
931. CAN BO HOAT DONG TRONG NGANH HANG KHONG -	0	0	1	0	0	0
936. CAN BO HOAT DONG TRONG NGANH DUONG SAT, -	1	0	0	0	0	1
939. NHAN VIEN NGANH DIEN, NUOC, DAU KHI- GA -	2	0	0	0	0	0
941. NHA VAN, NHA BAO, SOAN GIA -	1	0	0	0	0	0
943. NGHE SY, NGUOI HOAT DONG NGHE THUAT -	1	0	0	0	0	0
946. NHAN VIEN DU LICH, KHACH SAN, NHA HANG -	10	0	2	0	0	2
953. KIEM SAT VIEN -	3	0	0	0	0	0
962. NHAN VIEN AN NINH -	1	0	0	0	0	0
963. CANH SAT -	4	0	0	0	0	0
971. CAN BO HUU TRI -	84	0	3	0	0	1
972. NOI TRO -	121	0	3	1	3	2
973. HOC SINH, SINH VIEN -	21	0	3	0	0	2
981. TANG LU,GIAO SY, NGUOI TU HANH -	1	0	0	0	0	0
982. BAC SY, CAN BO Y TE TUYEN DAU CHONG DICH -	16	1	1	1	0	0
999. NGHE KHAC -	226	4	16	8	7	9



Q3/2023: Customers prioritize loans at CN01 level for business, office workers, retired cadres, housewives and other professions, increasing compared to the first 2 quarters of 2023

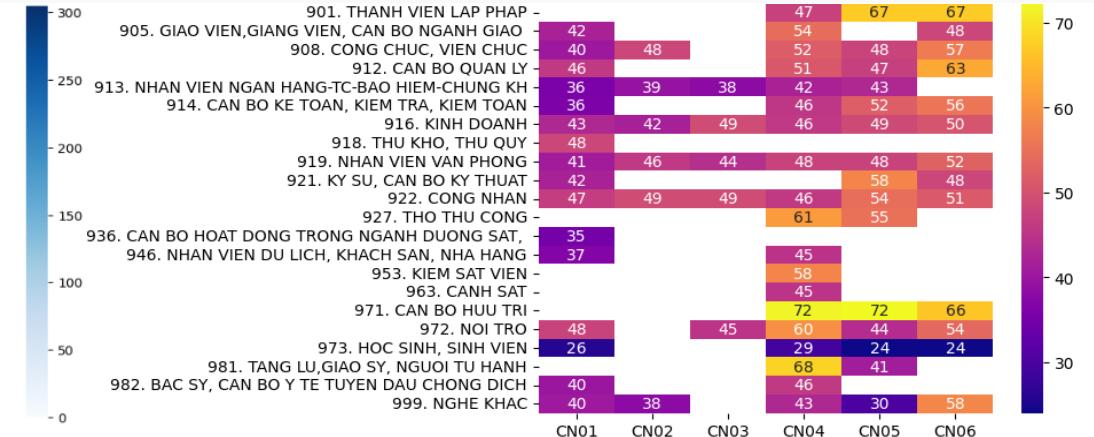


Q4/2023: Priority customers for loans at level CN01 decreased, levels CN04; CN05; CN06 in business and office workers increased



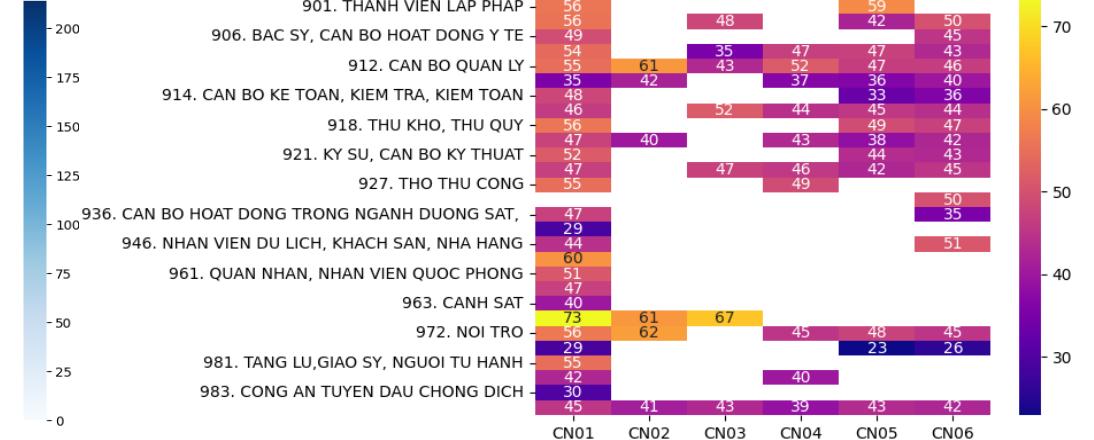
Q1/2024 : Priority customers for CN01 level loans are business people, office workers, workers, retired cadres, housewives and other professions.

901. THANH VIEN LAP PHAP -	12	0	0	0	0	0
905. GIAO VIEN, GIANG VIEN, CAN BO NGANH GIAO -	11	1	0	1	0	3
906. BAC SY, CAN BO HOAT DONG Y TE -	9	0	3	0	0	1
908. CONG CHUC, VIEN CHUC -	74	0	7	9	3	6
912. CAN BO QUAN LY -	42	1	5	7	9	17
913. NHAN VIEN NGAN HANG-TC-BAO HIEM-CHUNG KH -	11	1	16	6	6	5
914. CAN BO KE TOAN, KIEM TRA, KIEM TOAN -	14	0	1	1	1	1
916. KINH DOANH -	305	4	49	21	35	51
917. CAN BO TO CHUC NHAN SU -	2	0	0	0	0	0
918. THU KHO, THU QUY -	5	0	1	1	0	0
919. NHAN VIEN VAN PHONG -	245	5	24	10	21	17
921. KY SU, CAN BO KY THUAT -	16	1	2	0	2	2
922. CONG NHAN -	185	3	11	13	7	7
927. THO THU CONG -	11	1	0	1	0	0
928. NONG DAN, NONG DAN LAM NGHEP -	2	0	0	0	0	1
936. CAN BO HOAT DONG TRONG NGANH DUONG SAT -	1	0	0	0	0	1
939. NHAN VIEN NGANH DIEN, NUOC, DAU KHI- GA -	2	0	0	0	0	0
941. NHA VAN, NHA BAO, SOAI GIA -	1	0	0	0	0	0
943. NGHE SY, NGUOI HOAT DONG NGHE THUAT -	1	0	0	0	0	0
946. NHAN VIEN DU LICH, KHACH SAN, NHA HANG -	10	0	2	0	0	2
953. KIEM SAT VIEN -	3	0	0	0	0	0
962. NHAN VIEN AN NINH -	1	0	0	0	0	0
963. CANH SAT -	4	0	0	0	0	0
971. CAN BO HUU TRI -	84	0	3	0	0	1
972. NOI TRO -	121	0	3	1	3	2
973. HOC SINH, SINH VIEN -	21	0	3	0	0	2
981. TANG LU,GIAO SY, NGUOI TU HANH -	1	0	0	0	0	0
982. BAC SY, CAN BO Y TE TUYEN DAU CHONG DICH -	16	1	1	1	0	0
999. NGHE KHAC -	226	4	16	8	7	9



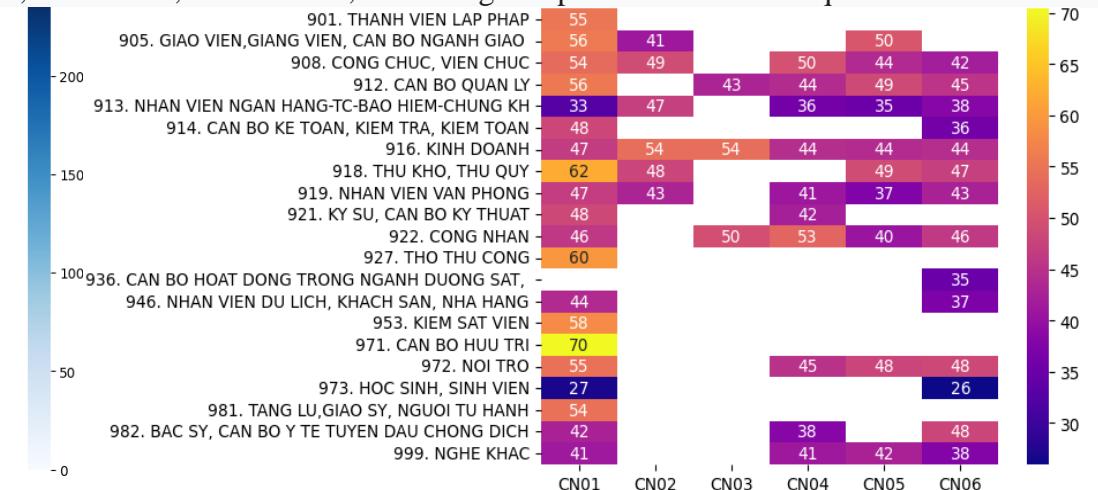
Q2/2024 : Priority customers for loans at level CN01 decreased, while levels CN03, CN04; CN05; CN06 in the business sector and office workers increased compared to the first quarter.

901. THANH VIEN LAP PHAP -	8	0	0	0	1	0
905. GIAO VIEN, GIANG VIEN, CAN BO NGANH GIAO -	8	0	1	0	1	3
906. BAC SY, CAN BO HOAT DONG Y TE -	7	0	0	0	0	2
908. CONG CHUC, VIEN CHUC -	38	0	1	6	6	9
912. CAN BO QUAN LY -	30	1	1	6	12	13
913. NHAN VIEN NGAN HANG-TC-BAO HIEM-CHUNG KH -	5	2	0	6	9	6
914. CAN BO KE TOAN, KIEM TRA, KIEM TOAN -	11	0	0	0	1	1
916. KINH DOANH -	214	0	2	36	44	115
918. THU KHO, THU QUY -	2	0	0	0	1	1
919. NHAN VIEN VAN PHONG -	147	1	0	18	24	30
921. KY SU, CAN BO KY THUAT -	6	0	0	0	2	2
922. CONG NHAN -	100	0	3	8	6	10
927. THO THU CONG -	6	0	0	0	1	0
928. NONG DAN, NONG DAN LAM NGHEP -	0	0	0	0	0	1
936. CAN BO HOAT DONG TRONG NGANH DUONG SAT -	1	0	0	0	0	1
943. NGHE SY, NGUOI HOAT DONG NGHE THUAT -	1	0	0	0	0	0
946. NHAN VIEN DU LICH, KHACH SAN, NHA HANG -	10	0	0	0	0	2
953. KIEM SAT VIEN -	2	0	0	0	0	0
961. QUAN NHAN, NHAN VIEN QUOC PHONG -	2	0	0	0	0	0
962. NHAN VIEN AN NINH -	1	0	0	0	0	0
963. CANH SAT -	3	0	0	0	0	0
971. CAN BO HUU TRI -	68	1	1	0	0	0
972. NOI TRO -	70	1	0	1	4	3
973. HOC SINH, SINH VIEN -	22	0	0	0	1	1
981. TANG LU,GIAO SY, NGUOI TU HANH -	3	0	0	0	0	0
982. BAC SY, CAN BO Y TE TUYEN DAU CHONG DICH -	6	0	0	1	0	0
983. CONG AN TUYEN DAU CHONG DICH -	1	0	0	0	0	0
999. NGHE KHAC -	91	1	1	12	14	20



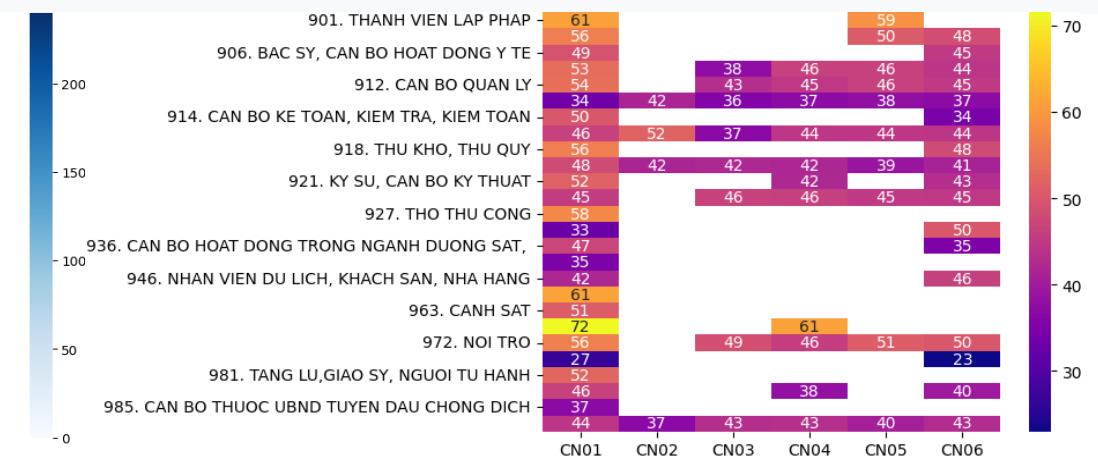
Q3 / 2024 : Customers prioritize loans at CN01 and CN06 levels for business, office staff, and workers, increasing compared to the second quarter of 2024.

	CN01	CN02	CN03	CN04	CN05	CN06
901. THANH VIEN LAP PHAP -	8	0	0	0	1	0
905. GIAO VIEN, GIANG VIEN, CAN BO NGANH GIAO -	11	1	0	0	2	2
906. BAC SY, CAN BO HOAT DONG Y TE -	3	0	0	0	0	2
908. CONG CHUC, VIEN CHUC -	35	1	0	8	7	14
912. CAN BO QUAN LY -	32	0	1	5	14	12
913. NHAN VIEN NGAN HANG-TC-BAO HIEM-CHUNG KH -	6	2	0	5	13	6
914. CAN BO KE TOAN, KIEM TRA, KIEM TOAN -	14	0	0	0	1	1
916. KINH DOANH -	235	1	4	50	59	135
918. THU KHO, THU QUY -	3	1	0	0	1	1
919. NHAN VIEN VAN PHONG -	149	2	0	18	19	37
921. KY SU, CAN BO KY THUAT -	7	0	0	1	1	2
922. CONG NHAN -	110	0	2	9	8	12
927. THO THU CONG -	5	0	0	1	0	0
928. NONG DAN, NONG DAN LAM LAM NGHIEP -	0	0	0	0	0	1
936. CAN BO HOAT DONG TRONG NGANH DUONG SAT, -	1	0	0	0	0	1
939. NHAN VIEN NGANH DIEN, NUOC, DAU KHI- GA -	1	0	0	0	0	0
946. NHAN VIEN DU LICH, KHACH SAN, NHA HANG -	8	0	0	0	1	3
953. KIEM SAT VIEN -	2	0	0	0	0	0
961. QUAN NHAN, NHAN VIEN QUOC PHONG -	1	0	0	0	0	0
962. NHAN VIEN AN NINH -	1	0	0	0	0	0
963. CANH SAT -	1	0	0	0	0	0
971. CAN BO HUU TRI -	76	0	0	0	1	0
972. NOI TRO -	70	0	0	2	3	5
973. HOC SINH, SINH VIEN -	26	0	0	0	0	2
981. TANG LU,GIAO SY, NGUOI TU HANH -	3	0	0	0	0	0
982. BAC SY, CAN BO Y TE TUYEN DAU CHONG DICH -	8	0	0	1	0	1
999. NGHE KHAC -	62	0	1	3	12	14



Q4 / 2024 : Customers who prioritize loans at CN01 and CN06 levels for business, workers, and tourism staff increased slightly compared to the third quarter of 2024.

	CN01	CN02	CN03	CN04	CN05	CN06
901. THANH VIEN LAP PHAP -	6	0	0	0	1	0
905. GIAO VIEN, GIANG VIEN, CAN BO NGANH GIAO -	7	0	0	0	2	2
906. BAC SY, CAN BO HOAT DONG Y TE -	7	0	0	0	0	2
908. CONG CHUC, VIEN CHUC -	39	0	2	7	7	14
912. CAN BO QUAN LY -	32	0	1	5	13	13
913. NHAN VIEN NGAN HANG-TC-BAO HIEM-CHUNG KH -	7	2	1	5	13	8
914. CAN BO KE TOAN, KIEM TRA, KIEM TOAN -	15	0	0	0	0	2
916. KINH DOANH -	240	3	3	51	68	144
918. THU KHO, THU QUY -	2	0	0	0	0	2
919. NHAN VIEN VAN PHONG -	143	2	1	17	26	40
921. KY SU, CAN BO KY THUAT -	9	0	0	1	0	2
922. CONG NHAN -	111	0	3	6	9	14
927. THO THU CONG -	3	0	0	0	0	0
928. NONG DAN, NONG DAN LAM LAM NGHIEP -	1	0	0	0	0	1
936. CAN BO HOAT DONG TRONG NGANH DUONG SAT, -	1	0	0	0	0	1
939. NHAN VIEN NGANH DIEN, NUOC, DAU KHI- GA -	1	0	0	0	0	0
946. NHAN VIEN DU LICH, KHACH SAN, NHA HANG -	7	0	0	0	0	4
953. KIEM SAT VIEN -	3	0	0	0	0	0
963. CANH SAT -	2	0	0	0	0	0
971. CAN BO HUU TRI -	74	0	0	2	0	0
972. NOI TRO -	68	0	3	3	1	5
973. HOC SINH, SINH VIEN -	25	0	0	0	0	3
981. TANG LU, GIAO SY, NGUOI TU HANH -	4	0	0	0	0	0
982. BAC SY, CAN BO Y TE TUYEN DAU CHONG DICH -	7	0	0	1	0	2
985. CAN BO THUOC UBND TUYEN DAU CHONG DICH -	1	0	0	0	0	0
999. NGHE KHAC -	59	1	1	5	9	19



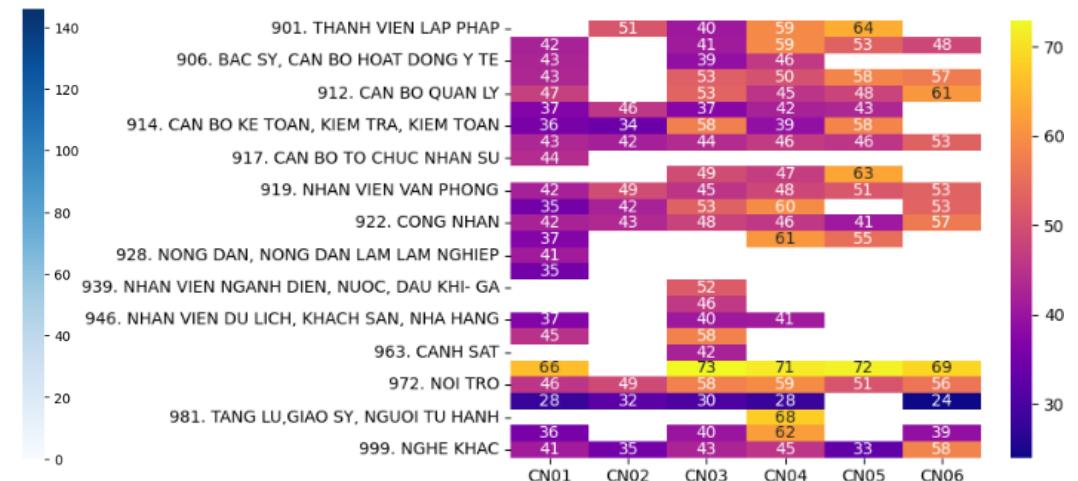
# Chart of professional relationships with Preferred Deposit Customers

```
# Visualize the relationships between categorical variables using heatmaps
categorical_cols = ['Nghe nghiep', 'KHUT tien gui']
for i in range(len(categorical_cols)):
    for j in range(i + 1, len(categorical_cols)):
        plt.figure(figsize=(10, 6))
        # Create a cross-tabulation of the two categorical columns
        ct = pd.crosstab(df[categorical_cols[i]], df[categorical_cols[j]])
        sns.heatmap(ct, annot=True, fmt='d', cmap='Blues')
        plt.title(f'Relationship between {categorical_cols[i]} and {categorical_cols[j]}')
        plt.show()
```

```
ax=pd.pivot_table(data=df,index="Nghe nghiep",columns='KHUT tien gui',values='Age')
sns.heatmap(ax,annot=True,cmap='plasma')
plt.show()
```

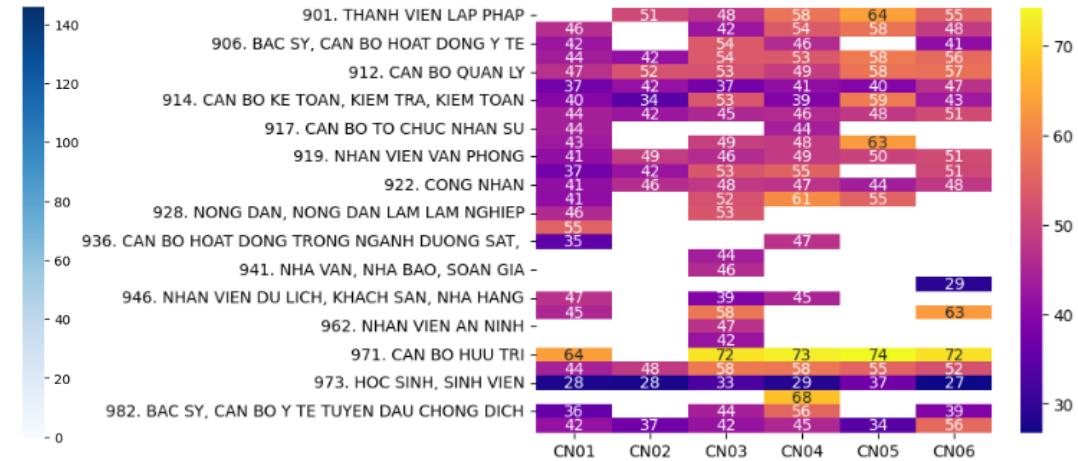
Q1/2023

	CN01	CN02	CN03	CN04	CN05	CN06
901. THANH VIEN LAP PHAP -	0	2	4	3	2	1
905. GIAO VIEN, GIANG VIEN, CAN BO NGANH GIAO -	3	0	2	7	2	2
906. BAC SY, CAN BO HOAT DONG Y TE -	4	0	5	3	0	1
908. CONG CHUC, VIEN CHUC -	20	2	27	35	2	13
912. CAN BO QUAN LY -	34	4	13	21	2	7
913. NHAN VIEN NGAN HANG-TC-BAO HIEM-CHUNG KH -	22	7	6	7	2	1
914. CAN BO KE TOAN, KIEM TRA, KIEM TOAN -	5	1	7	1	3	1
916. KINH DOANH -	146	17	135	108	23	36
917. CAN BO TO CHUC NHAN SU -	1	0	0	1	0	0
918. THU KHO, THU QUY -	1	0	3	2	1	0
919. NHAN VIEN VAN PHONG -	86	9	101	83	20	23
921. KY SU, CAN BO KY THUAT -	5	1	4	9	0	4
922. CONG NHAN -	45	4	92	62	12	11
927. THO THU CONG -	3	0	4	5	1	0
928. NONG DAN, NONG DAN LAM LAM NGHIEP -	2	0	1	0	0	0
931. CAN BO HOAT DONG TRONG NGANH HANG KHONG -	1	0	0	0	0	0
936. CAN BO HOAT DONG TRONG NGANH DUONG SAT, -	1	0	0	1	0	0
939. NHAN VIEN NGANH DIEN, NUOC, DAU KHI- GA -	0	0	2	0	0	0
941. NHA VAN, NHA BAO, SOAN GIA -	0	0	1	0	0	0
943. NGHE SY, NGUOI HOAT DONG NGHE THUAT -	0	0	0	0	0	1
946. NHAN VIEN DU LICH, KHACH SAN, NHA HANG -	4	0	5	5	0	0
953. KIEM SAT VIEN -	1	0	1	0	0	1
962. NHAN VIEN AI NINH -	0	0	1	0	0	0
963. CANH SAT -	0	0	4	0	0	0
971. CAN BO HUU TRI -	2	0	31	39	8	8
972. NOI TRO -	6	3	52	52	12	5
973. HOC SINH, SINH VIEN -	3	2	4	12	1	4
981. TANG LU,GIAO SY, NGUOI TU HANH -	0	0	0	1	0	0
982. BAC SY, CAN BO Y TE TUYEN DAU CHONG DICH -	2	0	9	7	0	1
999. NGHE KHAC -	94	3	107	51	4	11



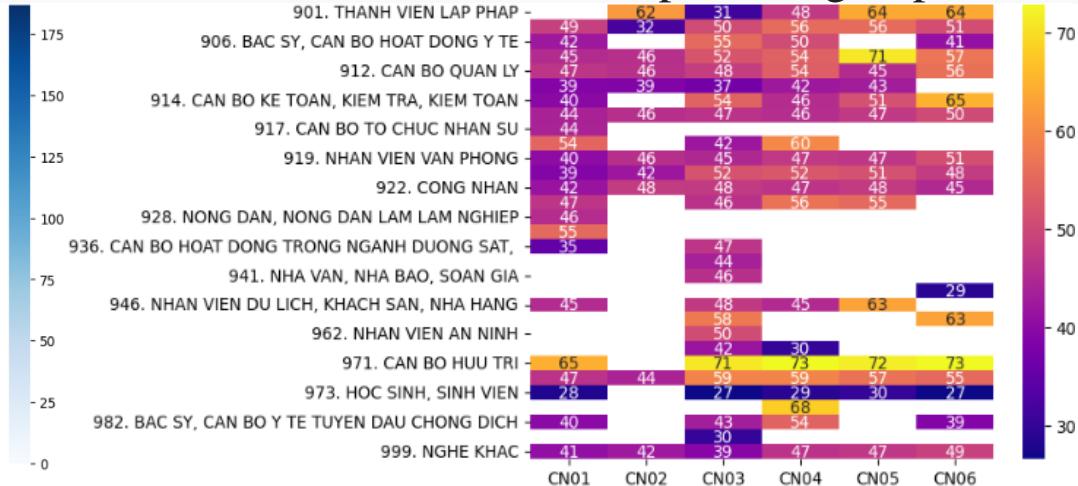
Q2/2023

901. THANH VIEN LAP PHAP -	0	2	4	3	2	1
905. GIAO VIEN, GIANG VIEN, CAN BO NGANH GIAO -	3	0	2	7	2	2
906. BAC SY, CAN BO HOAT DONG Y TE -	4	0	5	3	0	1
908. CONG CHUC, VIEN CHUC -	20	2	27	35	2	13
912. CAN BO QUAN LY -	34	4	13	21	2	7
913. NHAN VIEN NGAN HANG-TC-BAO HIEM-CHUNG KH -	22	7	6	7	2	1
914. CAN BO KE TOAN, KIEM TRA, KIEM TOAN -	5	1	7	1	3	1
916. KINH DOANH -	146	17	135	108	23	36
917. CAN BO TO CHUC NHAN SU -	1	0	0	1	0	0
918. THU KHO, THU QUY -	1	0	3	2	1	0
919. NHAN VIEN VAN PHONG -	86	9	101	83	20	23
921. KY SU, CAN BO KY THUAT -	5	1	4	9	0	4
922. CONG NHAN -	45	4	92	62	12	11
927. THO THU CONG -	3	0	4	5	1	0
928. NONG DAN, NONG DAN LAM LAM NGHIEP -	2	0	1	0	0	0
931. CAN BO HOAT DONG TRONG NGANH HANG KHONG -	1	0	0	0	0	0
936. CAN BO HOAT DONG TRONG NGANH DUONG SAT, -	1	0	0	1	0	0
939. NHAN VIEN NGANH DIEN, NUOC, DAU KHI- GA -	0	0	2	0	0	0
941. NHA VAN, NHA BAO, SOAN GIA -	0	0	1	0	0	0
943. NGHE SY, NGUOI HOAT DONG NGHE THUAT -	0	0	0	0	0	1
946. NHAN VIEN DU LICH, KHACH SAN, NHA HANG -	4	0	5	5	0	0
953. KIEM SAT VIEN -	1	0	1	0	0	1
962. NHAN VIEN AN NINH -	0	0	1	0	0	0
963. CANH SAT -	0	0	4	0	0	0
971. CAN BO HUU TRI -	2	0	31	39	8	8
972. NOI TRO -	6	3	52	52	12	5
973. HOC SINH, SINH VIEN -	3	2	4	12	1	4
981. TANG LU,GIAO SY, NGUOI TU HANH -	0	0	0	1	0	0
982. BAC SY, CAN BO Y TE TUYEN DAU CHONG DICH -	2	0	9	7	0	1
999. NGHE KHAC -	94	3	107	51	4	11



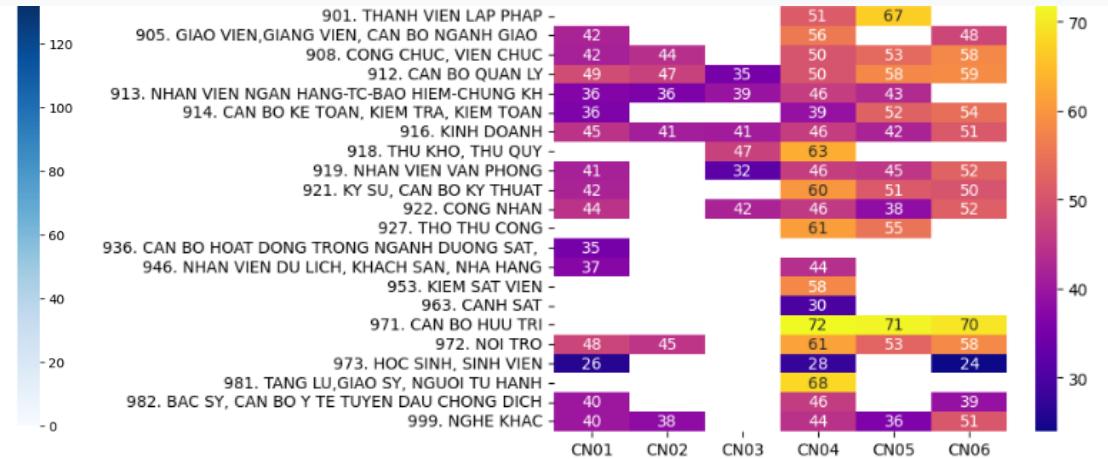
Q3 / 2023: CN01 and CN03 level customers increased slightly in the occupational groups of civil servants, public employees, business people, office workers, retired cadres and some other occupational groups.

901. THANH VIEN LAP PHAP -	0	1	1	5	2	2
905. GIAO VIEN, GIANG VIEN, CAN BO NGANH GIAO -	3	1	6	6	2	2
906. BAC SY, CAN BO HOAT DONG Y TE -	3	0	4	2	0	1
908. CONG CHUC, VIEN CHUC -	24	1	26	37	1	12
912. CAN BO QUAN LY -	37	5	11	17	3	7
913. NHAN VIEN NGAN HANG-TC-BAO HIEM-CHUNG KH -	22	6	5	9	1	0
914. CAN BO KE TOAN, KIEM TRA, KIEM TOAN -	5	0	5	5	3	1
916. KINH DOANH -	187	13	147	107	24	38
917. CAN BO TO CHUC NHAN SU -	1	0	0	0	0	0
918. THU KHO, THU QUY -	2	0	1	3	0	0
919. NHAN VIEN VAN PHONG -	115	9	104	83	23	25
921. KY SU, CAN BO KY THUAT -	6	1	7	6	3	1
922. CONG NHAN -	50	2	108	59	12	14
927. THO THU CONG -	2	0	2	4	1	0
928. NONG DAN, NONG DAN LAM LAM NGHIEP -	2	0	0	0	0	0
931. CAN BO HOAT DONG TRONG NGANH DUONG SAT, -	1	0	0	0	0	0
939. NHAN VIEN NGANH DIEN, NUOC, DAU KHI- GA -	0	0	1	0	0	0
941. NHA VAN, NHA BAO, SOAN GIA -	0	0	1	0	0	0
943. NGHE SY, NGUOI HOAT DONG NGHE THUAT -	0	0	0	0	0	1
946. NHAN VIEN DU LICH, KHACH SAN, NHA HANG -	5	0	5	6	1	0
953. KIEM SAT VIEN -	0	0	2	0	0	0
962. NHAN VIEN AN NINH -	0	0	2	0	0	0
963. CANH SAT -	0	0	5	1	0	0
971. CAN BO HUU TRI -	3	0	36	45	5	12
972. NOI TRO -	9	3	56	48	12	6
973. HOC SINH, SINH VIEN -	5	0	6	12	3	4
981. TANG LU,GIAO SY, NGUOI TU HANH -	0	0	0	1	0	0
982. BAC SY, CAN BO Y TE TUYEN DAU CHONG DICH -	1	0	8	7	0	1
983. CONG AN TUYEN DAU CHONG DICH -	0	0	1	0	0	0
999. NGHE KHAC -	113	4	123	63	4	10



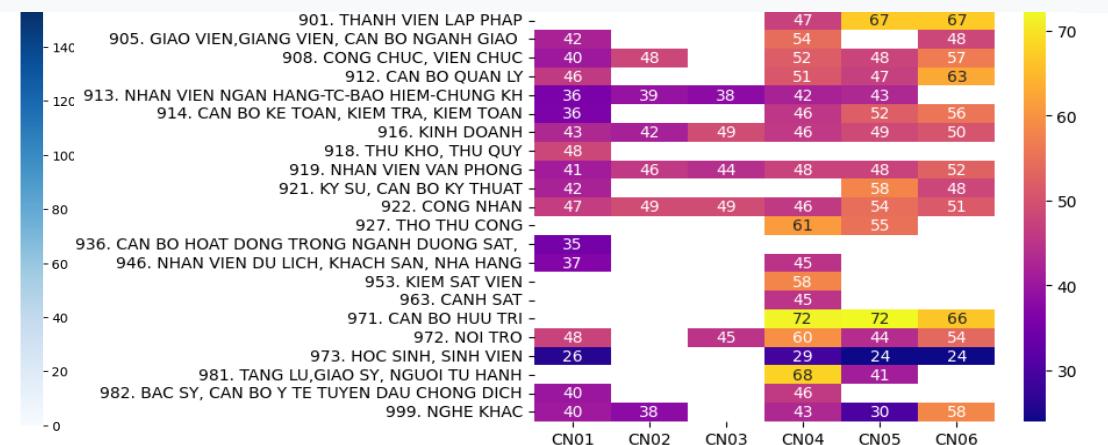
Q4/2023 : Priority customers with CN03 level deposits have a large reduction, CN01 has a small reduction in business, office workers, workers and some other industries.

901. THANH VIEN LAP PHAP -	1	0	0	6	2	1
905. GIAO VIEN, GIANG VIEN, CAN BO NGANH GIAO -	3	0	0	8	0	2
906. BAC SY, CAN BO HOAT DONG Y TE -	1	0	0	3	0	1
908. CONG CHUC, VIEN CHUC -	13	3	0	34	3	10
912. CAN BO QUAN LY -	22	3	3	19	3	9
913. NHAN VIEN NGAN HANG-TC-BAO HIEM-CHUNG KH -	9	5	7	7	1	0
914. CAN BO KE TOAN, KIEM TRA, KIEM TOAN -	2	0	0	3	3	3
916. KINH DOANH -	132	13	18	124	30	36
918. THU KHO, THU QUY -	0	0	1	2	0	0
919. NHAN VIEN VAN PHONG -	68	2	2	95	15	27
921. KY SU, CAN BO KY THUAT -	2	1	1	5	2	3
922. CONG NHAN -	22	0	3	72	10	12
927. THO THU CONG -	1	0	0	4	1	0
928. NONG DAN, NONG DAN LAM LAM NGHIEP -	1	0	0	0	0	0
936. CAN BO HOAT DONG TRONG NGANH DUONG SAT, -	1	0	0	0	0	0
943. NGHE SY, NGUOI HOAT DONG NGHE THUAT -	0	0	0	0	0	1
946. NHAN VIEN DU LICH, KHACH SAN, NHA HANG -	3	0	0	8	1	0
953. KIEM SAT VIEN -	0	0	0	1	0	1
963. CANH SAT -	0	0	0	1	0	0
971. CAN BO HUU TRI -	1	0	0	47	7	11
972. NOI TRO -	7	1	0	46	12	9
973. HOC SINH, SINH VIEN -	2	0	0	15	2	3
981. TANG LU,GIAO SY, NGUOI TU HANH -	0	0	0	2	0	0
982. BAC SY, CAN BO Y TE TUYEN DAU CHONG DICH -	1	0	0	7	0	1
999. NGHE KHAC -	44	1	1	63	2	10



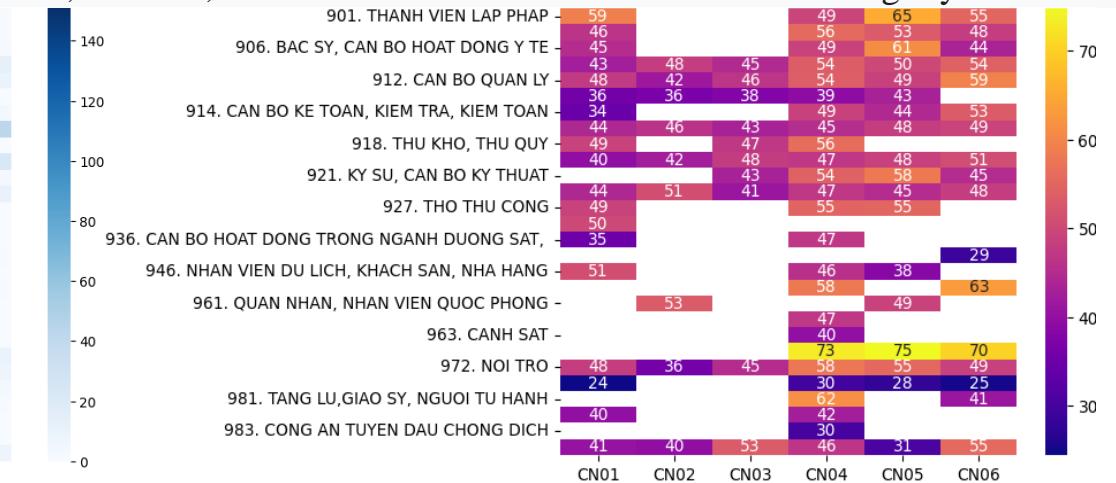
Q1/2024 : Priority customers with deposits at CN01 and CN04 levels increased slightly, belonging to business, management and some other industries

901. THANH VIEN LAP PHAP -	1	0	0	4	2	2
905. GIAO VIEN, GIANG VIEN, CAN BO NGANH GIAO -	3	0	0	8	0	1
906. BAC SY, CAN BO HOAT DONG Y TE -	2	0	0	3	1	2
908. CONG CHUC, VIEN CHUC -	12	2	3	29	4	12
912. CAN BO QUAN LY -	26	2	0	20	4	11
913. NHAN VIEN NGAN HANG-TC-BAO HIEM-CHUNG KH -	11	3	5	7	1	0
914. CAN BO KE TOAN, KIEM TRA, KIEM TOAN -	2	0	0	5	3	2
916. KINH DOANH -	153	12	14	132	27	42
917. CAN BO TO CHUC NHAN SU -	0	0	0	1	0	0
918. THU KHO, THU QUY -	2	0	0	1	0	0
919. NHAN VIEN VAN PHONG -	58	7	5	105	16	23
921. KY SU, CAN BO KY THUAT -	3	0	1	3	1	4
922. CONG NHAN -	18	3	1	77	10	9
927. THO THU CONG -	1	0	0	4	1	0
928. NONG DAN, NONG DAN LAM LAM NGHIEP -	1	0	0	0	0	0
936. CAN BO HOAT DONG TRONG NGANH DUONG SAT, -	1	0	0	1	0	0
943. NGHE SY, NGUOI HOAT DONG NGHE THUAT -	0	0	0	0	0	1
946. NHAN VIEN DU LICH, KHACH SAN, NHA HANG -	2	0	0	11	0	0
953. KIEM SAT VIEN -	0	0	0	1	0	1
963. CANH SAT -	0	0	0	2	0	0
971. CAN BO HUU TRI -	0	0	0	52	10	8
972. NOI TRO -	7	0	1	52	11	8
973. HOC SINH, SINH VIEN -	2	0	0	16	3	3
981. TANG LU,GIAO SY, NGUOI TU HANH -	0	0	0	2	1	0
982. BAC SY, CAN BO Y TE TUYEN DAU CHONG DICH -	1	0	0	5	0	0
983. CONG AN TUYEN DAU CHONG DICH -	0	0	0	1	0	0
999. NGHE KHAC -	48	1	1	80	5	8



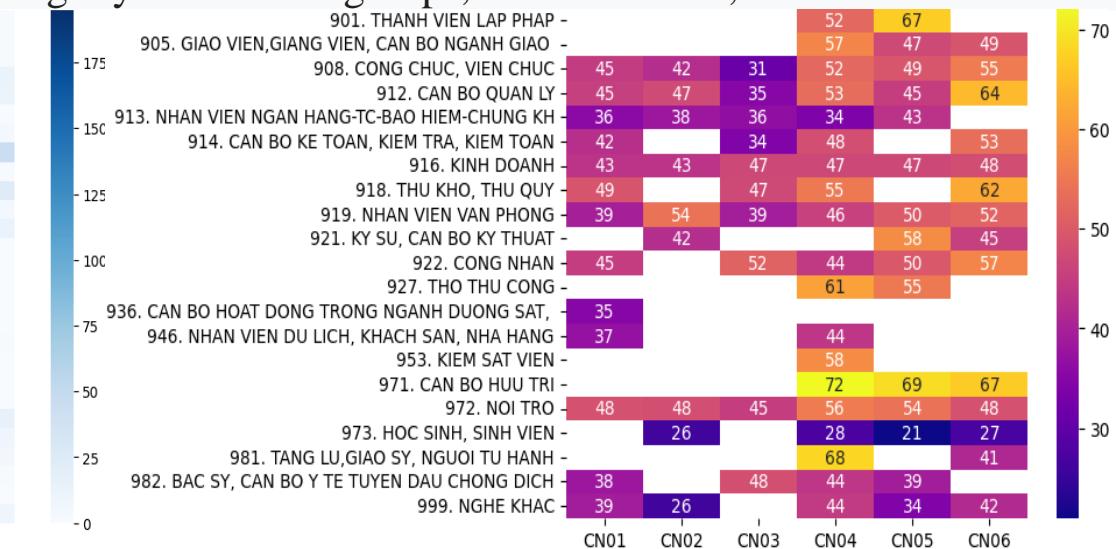
## Q2/2024 : Priority customers with CN04 level deposits in business, workers, housewives and office workers increased slightly

	CN01	CN02	CN03	CN04	CN05	CN06
901. THANH VIEN LAP PHAP -	1	0	0	4	3	1
905. GIAO VIEN, GIANG VIEN, CAN BO NGANH GIAO -	3	0	0	8	1	1
906. BAC SY, CAN BO HOAT DONG Y TE -	2	0	0	4	1	2
908. CONG CHUC, VIEN CHUC -	11	2	3	26	5	13
912. CAN BO QUAN LY -	23	4	2	20	4	10
913. NHAN VIEN NGAN HANG-TC-BAO HIEM-CHUNG KH -	12	2	5	8	1	0
914. CAN BO KE TOAN, KIEM TRA, KIEM TOAN -	2	0	0	3	5	3
916. KINH DOANH -	150	18	22	151	27	43
918. THU KHO, THU QUY -	1	0	1	2	0	0
919. NHAN VIEN VAN PHONG -	62	6	6	107	16	23
921. KY SU, CAN BO KY THUAT -	0	0	3	3	1	3
922. CONG NHAN -	18	2	2	86	8	11
927. THO THU CONG -	1	0	0	5	0	0
928. NONG DAN, NONG DAN LAM LAN NGHIEP -	1	0	0	0	0	0
936. CAN BO HOAT DONG TRONG NGANH DUONG SAT -	1	0	0	1	0	0
943. NGHE SY, NGUOI HOAT DONG NGHE THUAT -	0	0	0	0	0	1
946. NHAN VIEN DU LICH, KHACH SAN, NHA HANG -	2	0	0	8	2	0
953. KIEM SAT VIEN -	0	0	0	1	0	1
961. QUAN NHAN, NHAN VIEN QUOC PHONG -	0	1	0	0	1	0
962. NHAN VIEN AN NINH -	0	0	0	1	0	0
963. CANH SAT -	0	0	0	3	0	0
971. CAN BO HUU TRI -	0	0	0	51	9	10
972. NOI TRO -	6	1	1	54	9	8
973. HOC SINH, SINH VIEN -	2	0	0	15	3	4
981. TANG LU,GIAO SY, NGUOI TU HANH -	0	0	0	2	0	1
982. BAC SY, CAN BO Y TE TUYEN DAU CHONG DICH -	1	0	0	6	0	0
983. CONG AN TUYEN DAU CHONG DICH -	0	0	0	1	0	0
999. NGHE KHAC -	51	3	1	70	6	8



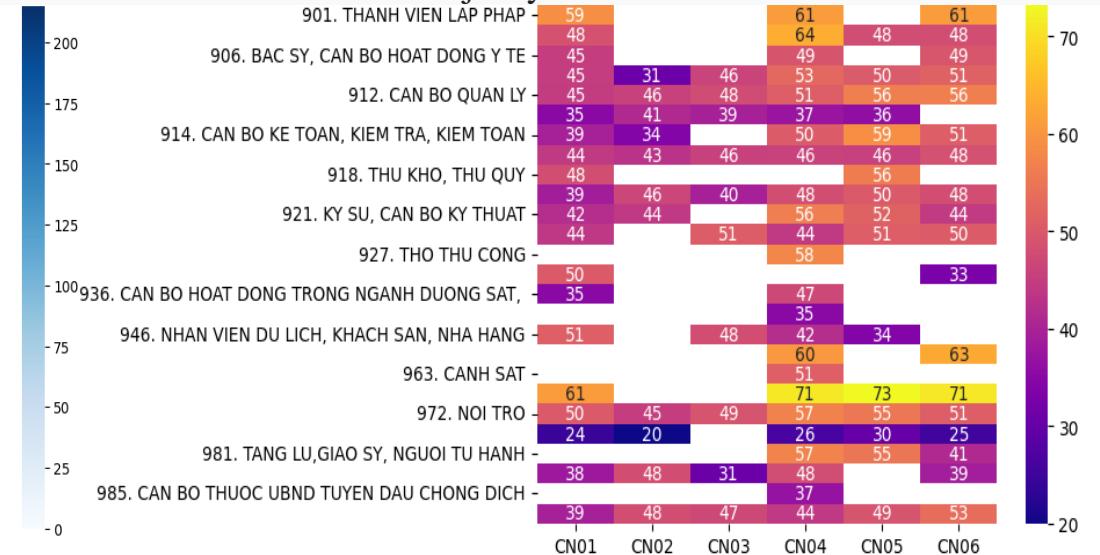
## Q3/2024 : CN01 and CN04 level customers increased slightly in business groups, office workers, and workers.

	CN01	CN02	CN03	CN04	CN05	CN06
901. THANH VIEN LAP PHAP -	1	0	0	6	1	1
905. GIAO VIEN, GIANG VIEN, CAN BO NGANH GIAO -	2	0	0	8	4	2
906. BAC SY, CAN BO HOAT DONG Y TE -	2	0	0	1	1	1
908. CONG CHUC, VIEN CHUC -	17	1	3	26	5	13
912. CAN BO QUAN LY -	24	4	2	20	3	11
913. NHAN VIEN NGAN HANG-TC-BAO HIEM-CHUNG KH -	14	2	5	10	1	0
914. CAN BO KE TOAN, KIEM TRA, KIEM TOAN -	3	0	1	5	3	4
916. KINH DOANH -	195	17	24	175	29	44
918. THU KHO, THU QUY -	1	0	1	3	0	1
919. NHAN VIEN VAN PHONG -	68	3	4	110	16	24
921. KY SU, CAN BO KY THUAT -	0	1	1	4	1	4
922. CONG NHAN -	25	0	4	88	11	13
927. THO THU CONG -	1	0	0	4	1	0
928. NONG DAN, NONG DAN LAM LAN NGHIEP -	1	0	0	0	0	0
936. CAN BO HOAT DONG TRONG NGANH DUONG SAT -	1	0	0	1	0	0
939. NHAN VIEN NGANH DIEN, NUOC, DAU KHI- GA -	0	0	0	1	0	0
946. NHAN VIEN DU LICH, KHACH SAN, NHA HANG -	2	1	0	9	0	0
953. KIEM SAT VIEN -	0	0	0	1	0	1
961. QUAN NHAN, NHAN VIEN QUOC PHONG -	0	0	0	1	0	0
962. NHAN VIEN AN NINH -	0	0	0	1	0	0
963. CANH SAT -	0	0	0	1	0	0
971. CAN BO HUU TRI -	1	0	0	50	11	15
972. NOI TRO -	7	2	1	48	13	9
973. HOC SINH, SINH VIEN -	1	1	0	18	2	6
981. TANG LU,GIAO SY, NGUOI TU HANH -	0	0	0	1	1	1
982. BAC SY, CAN BO Y TE TUYEN DAU CHONG DICH -	1	0	1	7	1	0
999. NGHE KHAC -	36	2	0	41	4	9



Q4/2023 : Customers with priority deposits at CN03 level decreased compared to the previous quarter; CN01 and CN04 increased in the banking, business and worker sectors; customers aged nearly 40 to under 60 accounted for the majority.

	CN01	CN02	CN03	CN04	CN05	CN06
901. THANH VIEN LAP PHAP -	1	0	0	4	0	2
905. GIAO VIEN, GIANG VIEN, CAN BO NGANH GIAO -	2	0	0	4	4	1
906. BAC SY, CAN BO HOAT DONG Y TE -	2	0	0	4	0	3
908. CONG CHUC, VIEN CHUC -	16	1	3	28	6	15
912. CAN BO QUAN LY -	25	4	2	15	5	13
913. NHAN VIEN NGAN HANG-TC-BAO HIEM-CHUNG KH -	16	4	3	12	1	0
914. CAN BO KE TOAN, KIEM TRA, KIEM TOAN -	3	1	0	8	1	4
916. KINH DOANH -	215	18	19	179	32	46
918. THU KHO, THU QUY -	2	0	0	0	2	0
919. NHAN VIEN VAN PHONG -	69	9	4	103	19	25
921. KY SU, CAN BO KY THUAT -	1	1	0	4	2	4
922. CONG NHAN -	27	0	3	90	11	12
927. THO THU CONG -	0	0	0	3	0	0
928. NONG DAN, NONG DAN LAM LAM NGHIEP -	1	0	0	0	0	1
936. CAN BO HOAT DONG TRONG NGANH DUONG SAT, -	1	0	0	1	0	0
939. NHAN VIEN NGANH DIEN, NUOC, DAU KHI GA -	0	0	0	1	0	0
946. NHAN VIEN DU LICH, KHACH SAN, NHA HANG -	2	0	1	7	1	0
953. KIEM SAT VIEN -	0	0	0	2	0	1
963. CANH SAT -	0	0	0	2	0	0
971. CAN BO HUU TRI -	2	0	0	51	11	12
972. NOI TRO -	6	1	1	53	10	9
973. HOC SINH, SINH VIEN -	2	1	0	16	4	5
981. TANG LU,GIAO SY, NGUOI TU HANH -	0	0	0	2	1	1
982. BAC SY, CAN BO Y TE TUYEN DAU CHONG DICH -	1	1	1	6	0	1
985. CAN BO THUOC UBND TUYEN DAU CHONG DICH -	0	0	0	1	0	0
999. NGHE KHAC -	37	2	2	41	4	8



Graph of the relationship between occupation and Preferred Cardholders and credit card transaction volume

```
# Visualize the relationships between categorical variables using heatmaps
categorical_cols = ['Nghe nghiep', 'KHUT the']
for i in range(len(categorical_cols)):
    for j in range(i + 1, len(categorical_cols)):
        plt.figure(figsize=(10, 6))
        # Create a cross-tabulation of the two categorical columns
        ct = pd.crosstab(df[categorical_cols[i]], df[categorical_cols[j]])
        sns.heatmap(ct, annot=True, fmt='d', cmap='Blues')
        plt.title(f'Relationship between {categorical_cols[i]} and {categorical_cols[j]}')
        plt.show()
```

```
fig = plt.figure(figsize=(10, 6))

histplot = sns.histplot(data=df, x="Doanh so giao dich the tin dung", bins=20,
color='#26090b', edgecolor='#26090b', kde=True)

# Set the color for the kernel density line
histplot.get_lines()[0].set_color('#26090b')

# Calculate mean and median
mean_value = df["Doanh so giao dich the tin dung"].mean()
median_value = df["Doanh so giao dich the tin dung"].median()

# Add mean and median lines
plt.axvline(mean_value, color='red', linestyle='dashed', linewidth=2, label=f'Mean: {mean_value:.2f}')
plt.axvline(median_value, color='blue', linestyle='dashed', linewidth=2, label=f'Median: {median_value:.2f}')

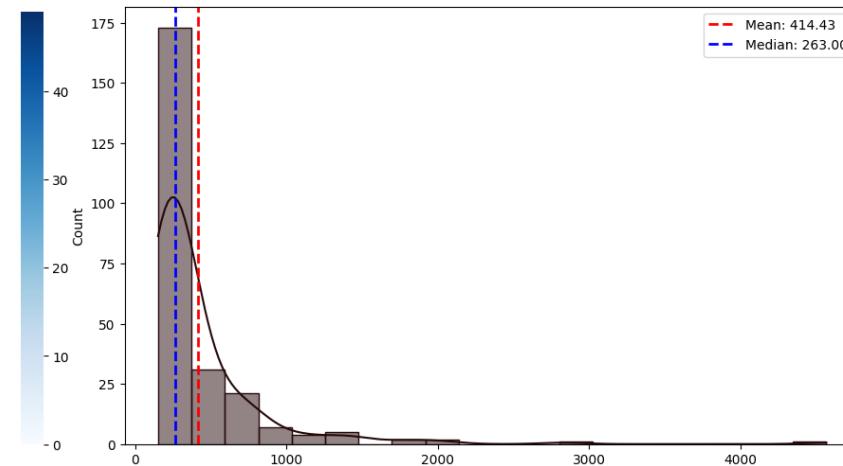
# Set labels and title
plt.title("Distribution of Doanh so giao dich the tin dung in df with Mean and Median")
plt.xlabel("Doanh so giao dich the tin dung")
plt.ylabel("Count")

# Show legend
plt.legend()

plt.show()
```

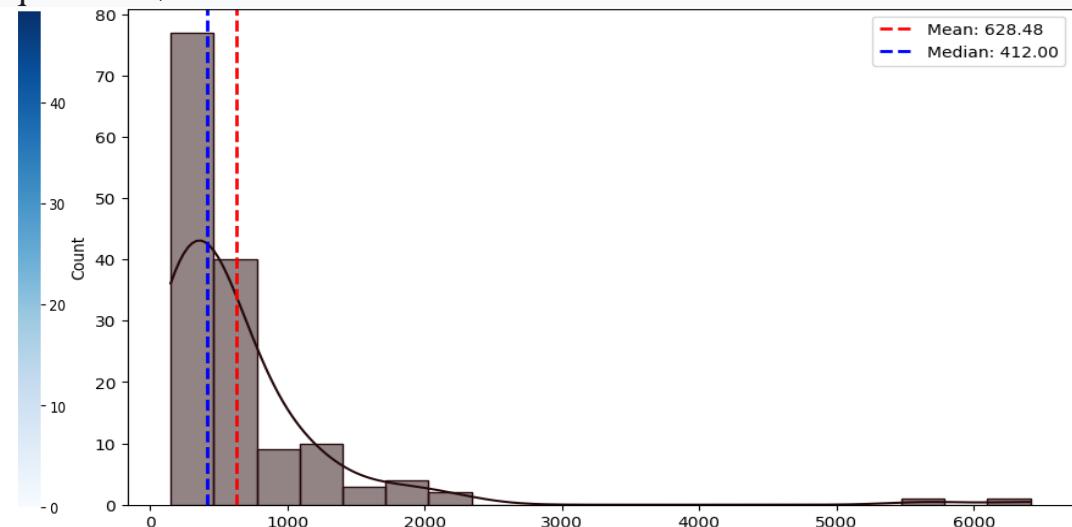
Q1/2023

	CN03	CN04	CN05	CN06
901. THANH VIEN LAP PHAP -	5	1	0	0
905. GIAO VIEN,GIANG VIEN, CAN BO NGANH GIAO -	0	2	0	0
906. BAC SY, CAN BO HOAT DONG Y TE -	3	0	0	0
908. CONG CHUC, VIEN CHUC -	6	5	0	0
912. CAN BO QUAN LY -	12	4	1	0
913. NHAN VIEN NGAN HANG-TC-BAO HIEM-CHUNG KH -	10	0	1	0
914. CAN BO KE TOAN, KIEM TRA, KIEM TOAN -	5	1	0	0
916. KINH DOANH -	49	7	4	0
919. NHAN VIEN VAN PHONG -	33	4	4	2
921. KY SU, CAN BO KY THUAT -	1	0	1	0
922. CONG NHAN -	17	1	0	0
927. THO THU CONG -	3	0	0	0
928. NONG DAN, NONG DAN LAM LAM NGHIEP -	2	0	0	0
939. NHAN VIEN NGANH DIEN, NUOC, DAU KHI- GA -	1	0	0	0
946. NHAN VIEN DU LICH, KHACH SAN, NHA HANG -	1	0	0	0
953. KIEM SAT VIEN -	2	0	0	0
971. CAN BO HUU TRI -	2	0	0	0
972. NOI TRO -	5	1	0	0
973. HOC SINH, SINH VIEN -	2	0	0	0
999. NGHE KHAC -	37	9	2	1



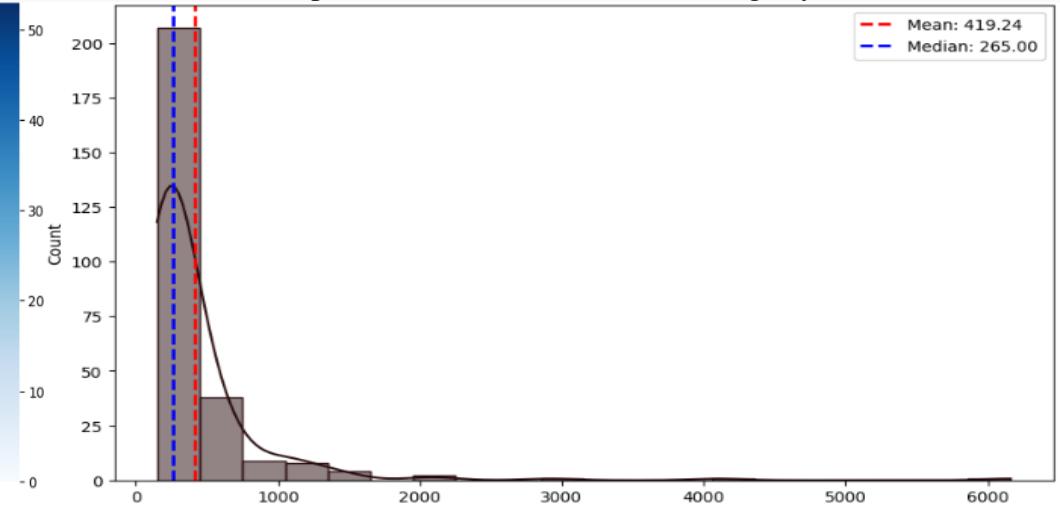
Q2 / 2023 : Credit card transaction volume increased quarter-on-quarter 1 / 2023

	CN03	CN04	CN05	CN06
901. THANH VIEN LAP PHAP -	5	1	0	0
905. GIAO VIEN,GIANG VIEN, CAN BO NGANH GIAO -	0	2	0	0
906. BAC SY, CAN BO HOAT DONG Y TE -	3	0	0	0
908. CONG CHUC, VIEN CHUC -	6	5	0	0
912. CAN BO QUAN LY -	12	4	1	0
913. NHAN VIEN NGAN HANG-TC-BAO HIEM-CHUNG KH -	10	0	1	0
914. CAN BO KE TOAN, KIEM TRA, KIEM TOAN -	5	1	0	0
916. KINH DOANH -	49	7	4	0
919. NHAN VIEN VAN PHONG -	33	4	4	2
921. KY SU, CAN BO KY THUAT -	1	0	1	0
922. CONG NHAN -	17	1	0	0
927. THO THU CONG -	3	0	0	0
928. NONG DAN, NONG DAN LAM LAM NGHIEP -	2	0	0	0
939. NHAN VIEN NGANH DIEN, NUOC, DAU KHI- GA -	1	0	0	0
946. NHAN VIEN DU LICH, KHACH SAN, NHA HANG -	1	0	0	0
953. KIEM SAT VIEN -	2	0	0	0
971. CAN BO HUU TRI -	2	0	0	0
972. NOI TRO -	5	1	0	0
973. HOC SINH, SINH VIEN -	2	0	0	0
999. NGHE KHAC -	37	9	2	1



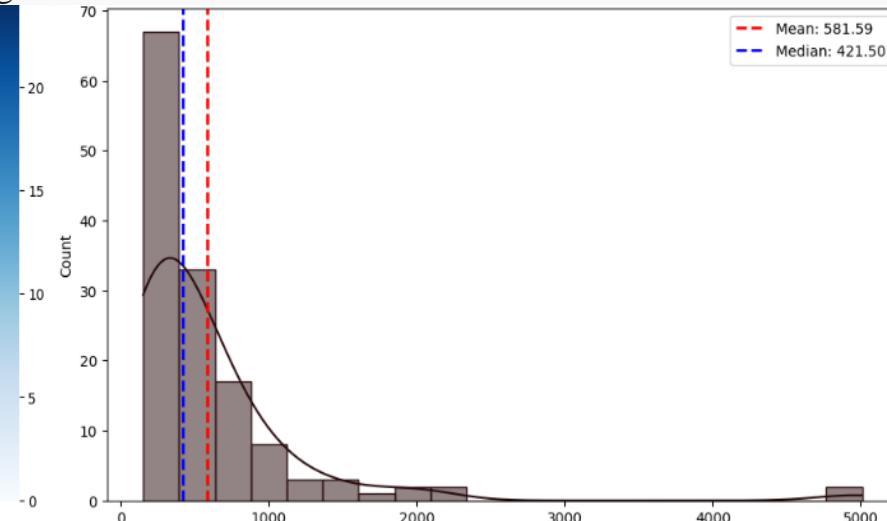
Q3 / 2023 : Priority customers for CN03 level cards in business, office workers and some other occupations outside the list increase slightly

	CN03	CN04	CN05	CN06
901. THANH VIEN LAP PHAP -	4	0	0	0
905. GIAO VIEN,GIANG VIEN, CAN BO NGANH GIAO -	2	1	0	0
906. BAC SY, CAN BO HOAT DONG Y TE -	3	0	0	0
908. CONG CHUC, VIEN CHUC -	10	1	1	0
912. CAN BO QUAN LY -	13	3	2	0
913. NHAN VIEN NGAN HANG-TC-BAO HIEM-CHUNG KH -	8	1	0	0
914. CAN BO KE TOAN, KIEM TRA, KIEM TOAN -	4	1	0	0
916. KINH DOANH -	53	11	2	3
917. CAN BO TO CHUC NHAN SU -	1	0	0	0
918. THU KHO, THU QUY -	1	0	0	0
919. NHAN VIEN VAN PHONG -	38	9	5	1
921. KY SU, CAN BO KY THUAT -	3	1	0	0
922. CONG NHAN -	15	3	0	0
927. THO THU CONG -	2	0	0	0
928. NONG DAN, NONG DAN LAM LAM NGHIEP -	2	0	0	0
939. NHAN VIEN NGANH DIEN, NUOC, DAU KHI- GA -	1	0	0	0
946. NHAN VIEN DU LICH, KHACH SAN, NHA HANG -	1	0	0	0
953. KIEM SAT VIEN -	1	0	0	0
971. CAN BO HUU TRI -	3	0	0	0
972. NOI TRO -	5	1	0	0
973. HOC SINH, SINH VIEN -	2	0	0	0
999. NGHE KHAC -	41	7	4	1



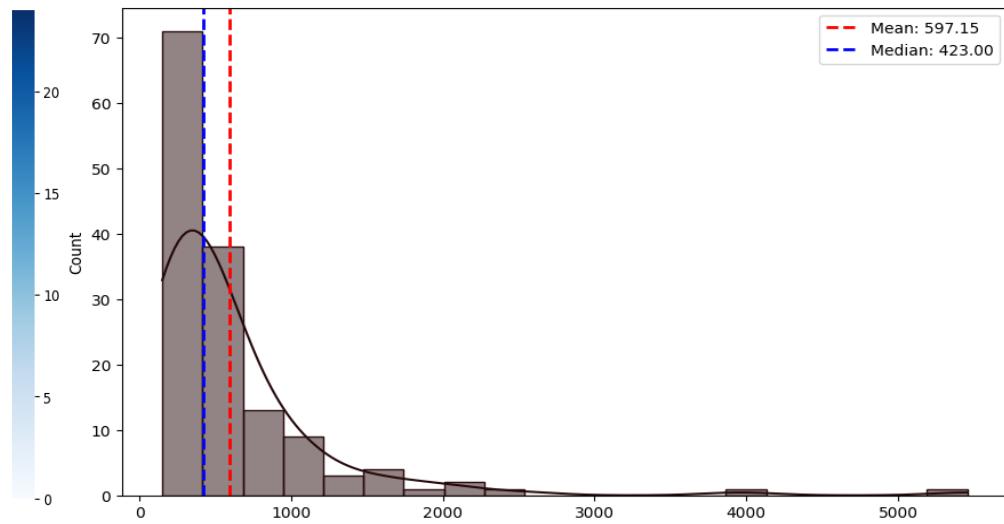
Q4 / 2023 : Priority customers of CN03 level cards mostly get big discounts

	CN03	CN04	CN05	CN06
901. THANH VIEN LAP PHAP -	1	1	0	0
905. GIAO VIEN,GIANG VIEN, CAN BO NGANH GIAO -	1	1	0	0
906. BAC SY, CAN BO HOAT DONG Y TE -	2	0	0	0
908. CONG CHUC, VIEN CHUC -	7	2	0	0
912. CAN BO QUAN LY -	6	2	2	0
913. NHAN VIEN NGAN HANG-TC-BAO HIEM-CHUNG KH -	5	2	0	0
914. CAN BO KE TOAN, KIEM TRA, KIEM TOAN -	1	1	0	0
916. KINH DOANH -	24	13	3	3
919. NHAN VIEN VAN PHONG -	20	6	4	1
921. KY SU, CAN BO KY THUAT -	1	0	0	0
922. CONG NHAN -	2	2	1	0
927. THO THU CONG -	1	0	0	0
928. NONG DAN, NONG DAN LAM LAM NGHIEP -	1	0	0	0
946. NHAN VIEN DU LICH, KHACH SAN, NHA HANG -	2	0	0	0
953. KIEM SAT VIEN -	1	0	0	0
971. CAN BO HUU TRI -	1	0	0	0
972. NOI TRO -	2	0	0	0
973. HOC SINH, SINH VIEN -	1	0	0	0
999. NGHE KHAC -	3	8	4	0



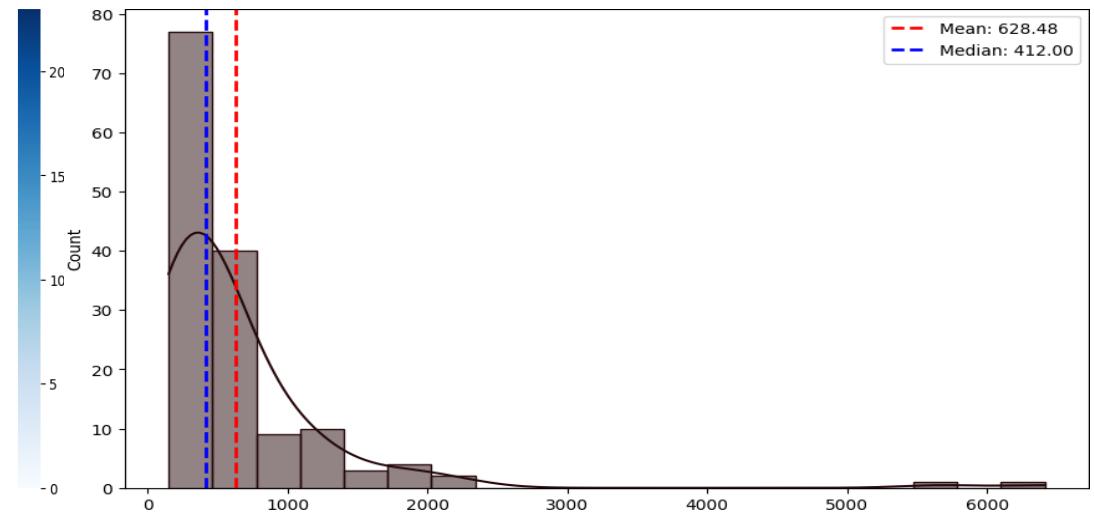
Q1/2024: Priority customers of CN03, CN04, CN05 cards decreased, credit card transaction turnover increased slightly

	CN03	CN04	CN05	CN06
901. THANH VIEN LAP PHAP -	2	1	0	0
905. GIAO VIEN, GIANG VIEN, CAN BO NGANH GIAO -	1	1	0	0
906. BAC SY, CAN BO HOAT DONG Y TE -	2	0	0	0
908. CONG CHUC, VIEN CHUC -	7	1	0	0
912. CAN BO QUAN LY -	7	2	1	0
913. NHAN VIEN NGAN HANG-TC-BAO HIEM-CHUNG KH -	6	1	0	0
914. CAN BO KE TOAN, KIEM TRA, KIEM TOAN -	1	1	0	0
916. KINH DOANH -	24	16	5	3
919. NHAN VIEN VAN PHONG -	16	5	4	1
921. KY SU, CAN BO KY THUAT -	1	0	0	0
922. CONG NHAN -	4	1	2	0
927. THO THU CONG -	1	0	0	0
928. NONG DAN, NONG DAN LAM LAM NGHIEP -	1	0	0	0
946. NHAN VIEN DU LICH, KHACH SAN, NHA HANG -	1	0	0	0
953. KIEM SAT VIEN -	1	0	0	0
971. CAN BO HUU TRI -	3	0	0	0
972. NOI TRO -	2	1	0	0
973. HOC SINH, SINH VIEN -	2	0	0	0
999. NGHE KHAC -	3	9	3	1



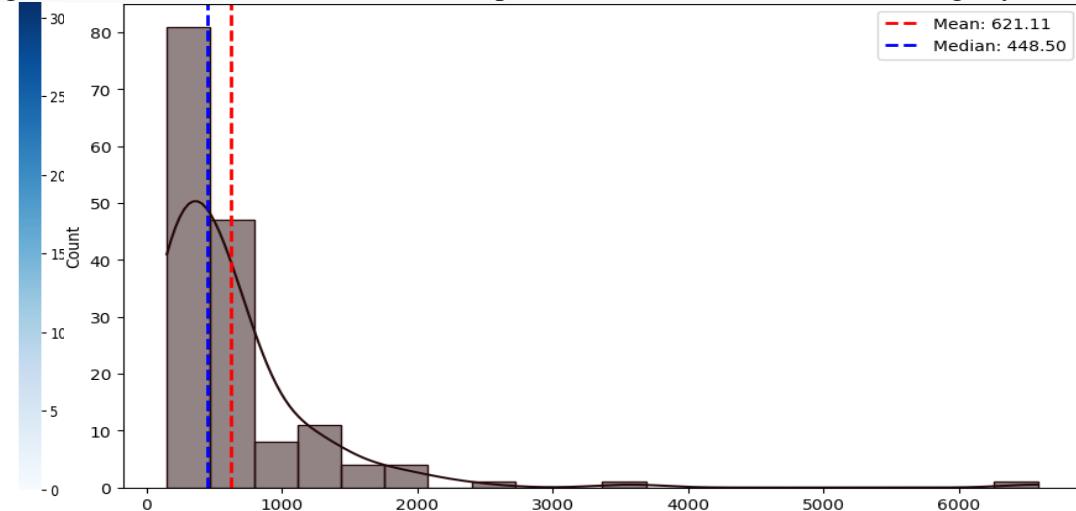
Q2/2024: Priority customers of CN03 level cards mostly get discounts

	CN03	CN04	CN05	CN06
901. THANH VIEN LAP PHAP -	2	1	0	0
905. GIAO VIEN, GIANG VIEN, CAN BO NGANH GIAO -	2	1	0	0
906. BAC SY, CAN BO HOAT DONG Y TE -	2	0	0	0
908. CONG CHUC, VIEN CHUC -	5	2	0	0
912. CAN BO QUAN LY -	8	1	1	0
913. NHAN VIEN NGAN HANG-TC-BAO HIEM-CHUNG KH -	5	2	0	0
914. CAN BO KE TOAN, KIEM TRA, KIEM TOAN -	3	1	0	0
916. KINH DOANH -	23	18	6	2
919. NHAN VIEN VAN PHONG -	15	5	4	2
921. KY SU, CAN BO KY THUAT -	1	0	0	0
922. CONG NHAN -	3	1	2	0
927. THO THU CONG -	1	0	0	0
928. NONG DAN, NONG DAN LAM LAM NGHIEP -	1	0	0	0
946. NHAN VIEN DU LICH, KHACH SAN, NHA HANG -	1	0	0	0
953. KIEM SAT VIEN -	1	0	0	0
971. CAN BO HUU TRI -	3	0	0	0
972. NOI TRO -	2	1	0	0
973. HOC SINH, SINH VIEN -	2	0	0	0
999. NGHE KHAC -	2	9	4	2



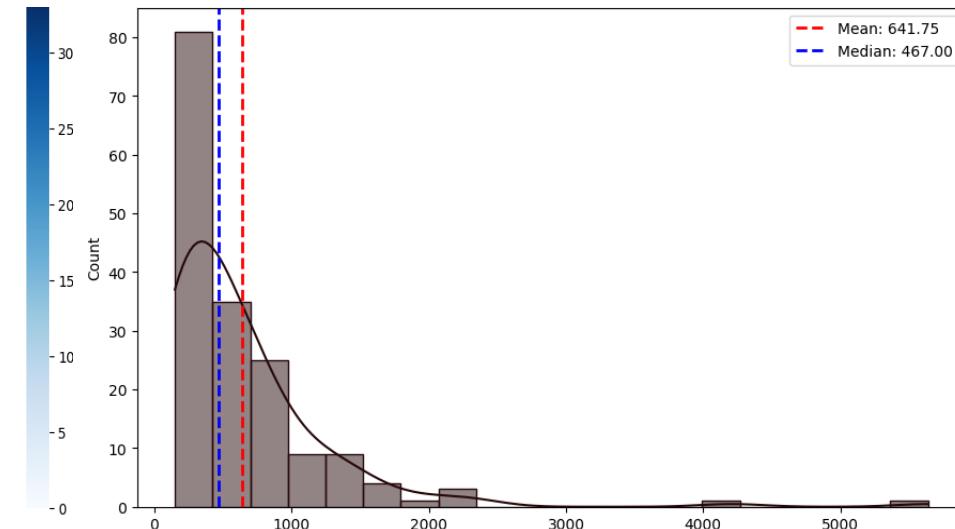
Q3/2024 : Priority customers of CN03 level cards mostly decreased, management, business and some other occupations outside the list increased slightly.

	CN03	CN04	CN05	CN06
901. THANH VIEN LAP PHAP -	1	1	0	0
905. GIAO VIEN, GIANG VIEN, CAN BO NGANH GIAO -	2	1	0	0
906. BAC SY, CAN BO HOAT DONG Y TE -	1	0	0	0
908. CONG CHUC, VIEN CHUC -	7	2	0	0
912. CAN BO QUAN LY -	4	4	1	1
913. NHAN VIEN NGAN HANG-TC-BAO HIEM-CHUNG KH -	4	2	0	0
914. CAN BO KE TOAN, KIEM TRA, KIEM TOAN -	4	2	0	0
916. KINH DOANH -	31	22	7	2
918. THU KHO, THU QUY -	1	0	0	0
919. NHAN VIEN VAN PHONG -	10	6	5	1
921. KY SU, CAN BO KY THUAT -	1	0	0	0
922. CONG NHAN -	4	1	3	0
927. THO THU CONG -	1	0	0	0
928. NONG DAN, NONG DAN LAM LAM NGHIEP -	1	0	0	0
946. NHAN VIEN DU LICH, KHACH SAN, NHA HANG -	1	0	0	0
953. KIEM SAT VIEN -	1	0	0	0
971. CAN BO HUU TRI -	1	0	0	0
972. NOI TRO -	3	1	0	0
973. HOC SINH, SINH VIEN -	1	0	0	0
999. NGHE KHAC -	3	9	4	1



Q4/2024:

	CN03	CN04	CN05	CN06
901. THANH VIEN LAP PHAP -	0	1	0	0
905. GIAO VIEN, GIANG VIEN, CAN BO NGANH GIAO -	1	1	0	0
906. BAC SY, CAN BO HOAT DONG Y TE -	2	0	0	0
908. CONG CHUC, VIEN CHUC -	7	2	0	0
912. CAN BO QUAN LY -	7	3	1	1
913. NHAN VIEN NGAN HANG-TC-BAO HIEM-CHUNG KH -	7	1	0	0
914. CAN BO KE TOAN, KIEM TRA, KIEM TOAN -	2	3	0	0
916. KINH DOANH -	33	26	11	2
919. NHAN VIEN VAN PHONG -	9	5	5	2
921. KY SU, CAN BO KY THUAT -	2	0	0	0
922. CONG NHAN -	4	2	3	0
927. THO THU CONG -	1	0	0	0
946. NHAN VIEN DU LICH, KHACH SAN, NHA HANG -	1	0	1	0
953. KIEM SAT VIEN -	1	0	0	0
971. CAN BO HUU TRI -	1	0	0	0
972. NOI TRO -	3	1	0	0
973. HOC SINH, SINH VIEN -	2	0	0	0
999. NGHE KHAC -	3	10	1	1



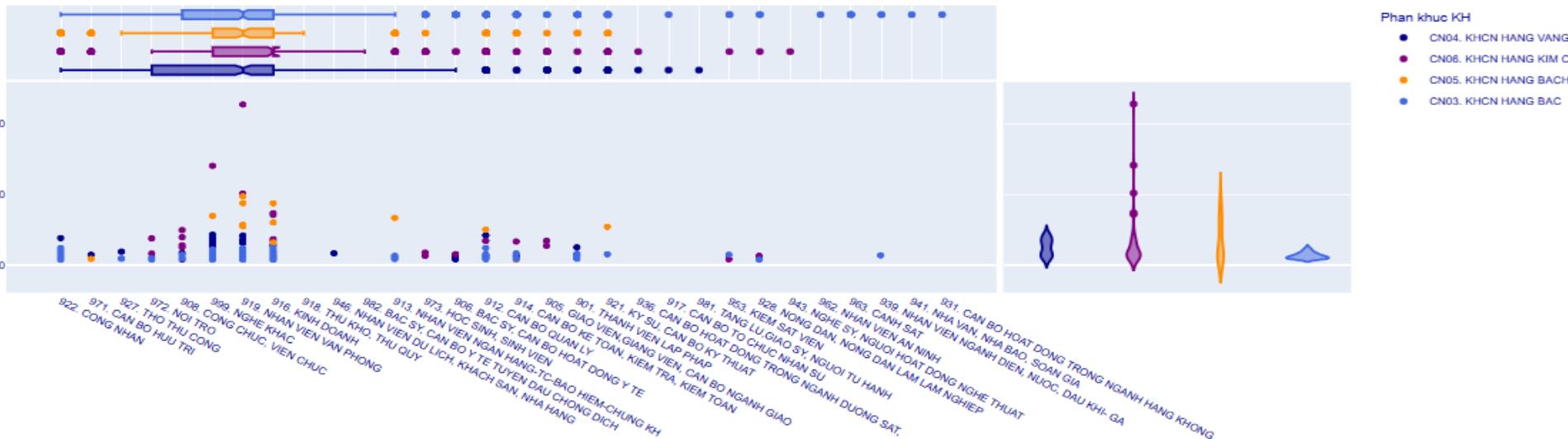
### Customer Segmentation Chart by Credit Card Transaction Industry

```
import plotly.express as px
plt.figure(figsize=(20, 19))

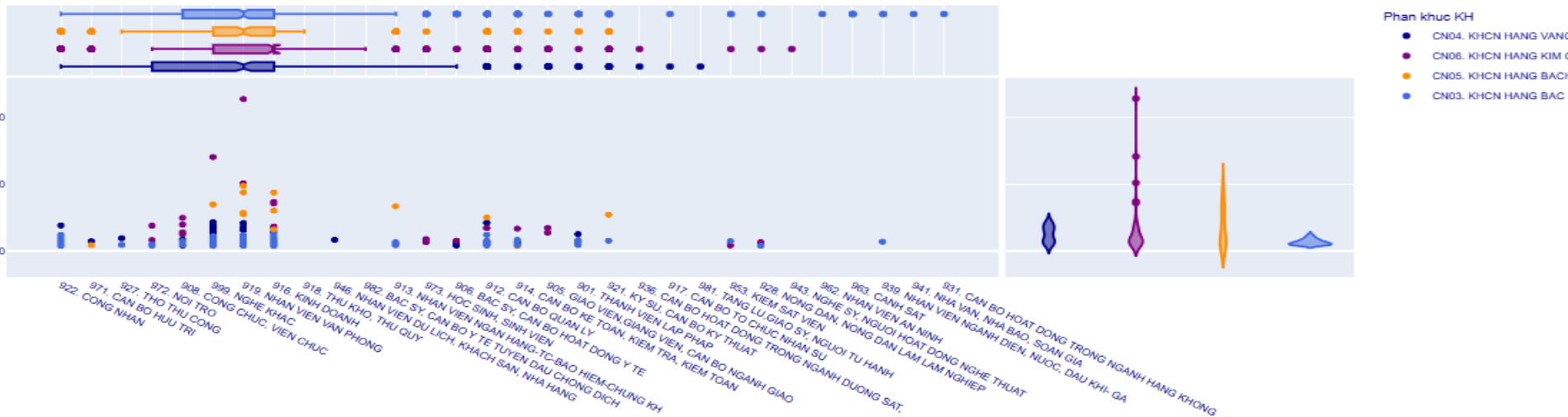
    fig = px.scatter(df, x="Nghe nghiep", y='Doanh so giao dich the tin dung', color='Phan khuc KH',color_discrete_sequence=['darkblue','purple','royalblue','darkorange']# Change color position as needed
                    marginal_x="box", marginal_y="violin",
                    title="Click on the legend items!")

fig.update_layout(
    title={
        'text': "Biểu đồ của khách hàng giao dịch thẻ tín dụng",
        'y':0.9,
        'x':0.9,
        'xanchor': 'center',
        'yanchor': 'top'},
    xaxis_title="Nghe nghiep",
    yaxis_title='Doanh so giao dich the tin dung',
    legend_title='Phan khuc KH',
    font=dict(
        family="Arial",
        size=9,
        color="DarkBlue"
    )
)
fig.update_layout(xaxis=dict(showgrid=False),
                  yaxis=dict(showgrid=False))
)
fig.show()
```

Q1/2023



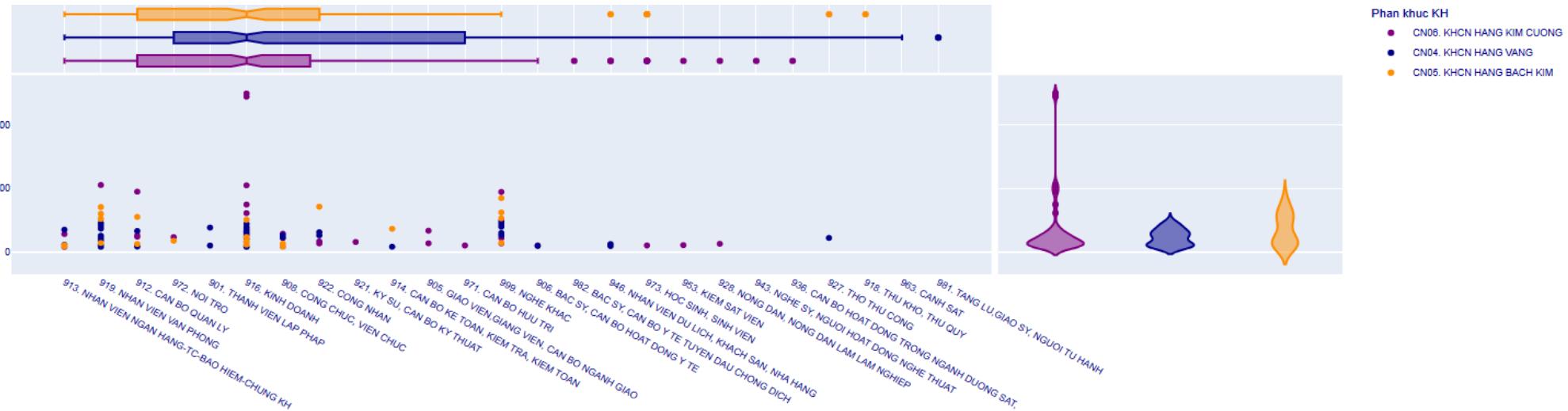
Q2/2023



Q3/2023: The groups expanded to include a number of industries, with diamond group customers in the high credit card transaction business industry.



Q4/2023:



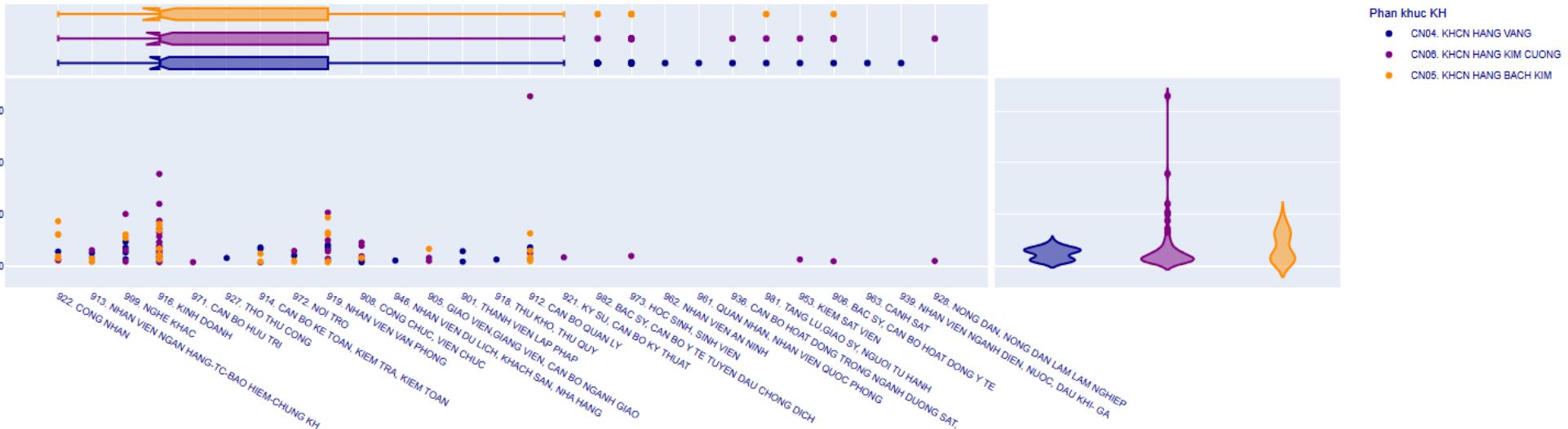
Q1/2024: There are diamond group customers in other industries outside the credit card transaction category higher in 2023



Q2/2024: There are more priority customers for the experience, including military personnel and defense personnel.



Q3/2024: has diamond group customers in the high credit card transaction management profession



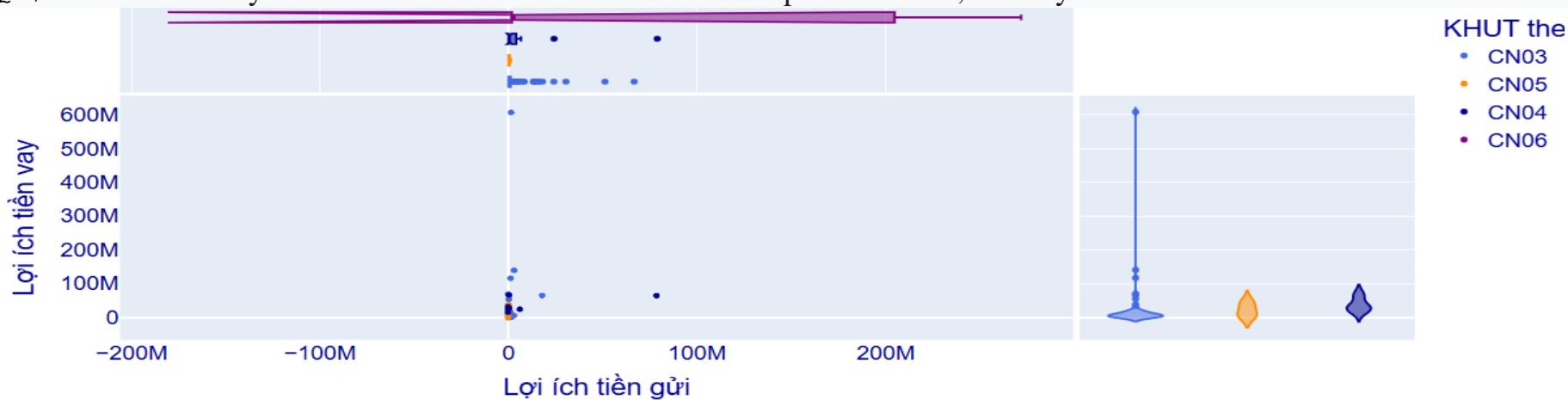
Q4/2024



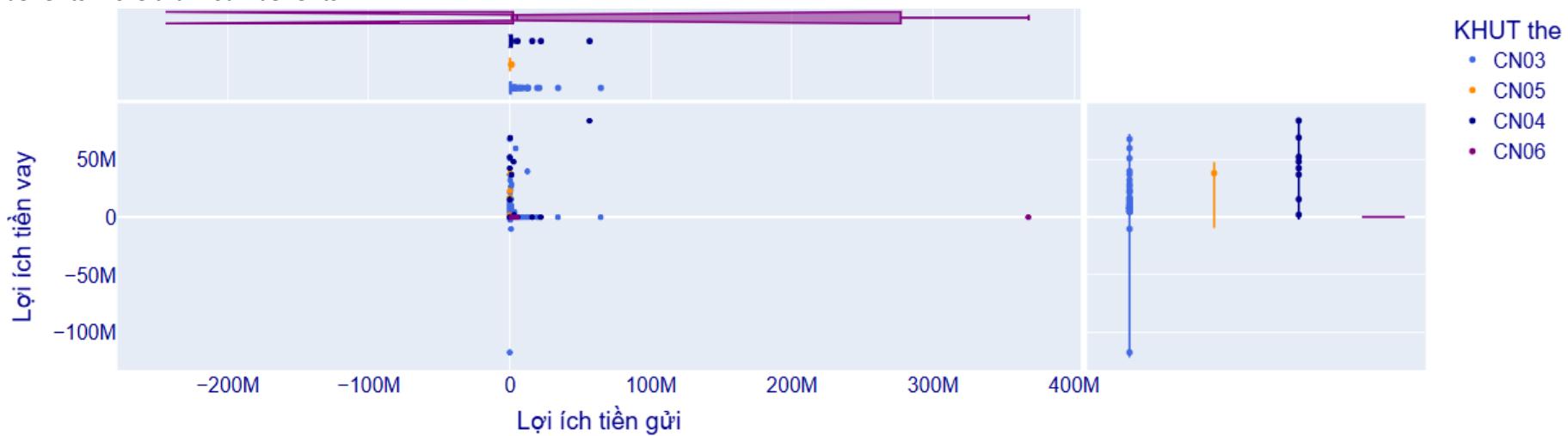
## Customer segmentation prioritizing cards and benefits

```
fig = px.scatter(df, x="Lợi ích tiền gửi", y="Lợi ích tiền vay", color="KHUT  
the",color_discrete_sequence=['darkorange','darkblue','royalblue','purple'], # Change color position as needed  
                                marginal_x="box", marginal_y="violin",  
                                title="Click on the legend items!")  
fig.update_layout(  
    title={  
        'text': "Biểu đồ của khách hàng ưu tiên thẻ",  
        'y':0.95,  
        'x':0.5,  
        'xanchor': 'center',  
        'yanchor': 'top'},  
    xaxis_title="Lợi ích tiền gửi",  
    yaxis_title="Lợi ích tiền vay",  
    legend_title="KHUT the",  
    font=dict(  
        family="Arial",  
        size=20,  
        color="DarkBlue"  
    )  
)  
fig.update_layout(xaxis=dict(showgrid=False),  
                  yaxis=dict(showgrid=False))  
fig.show()
```

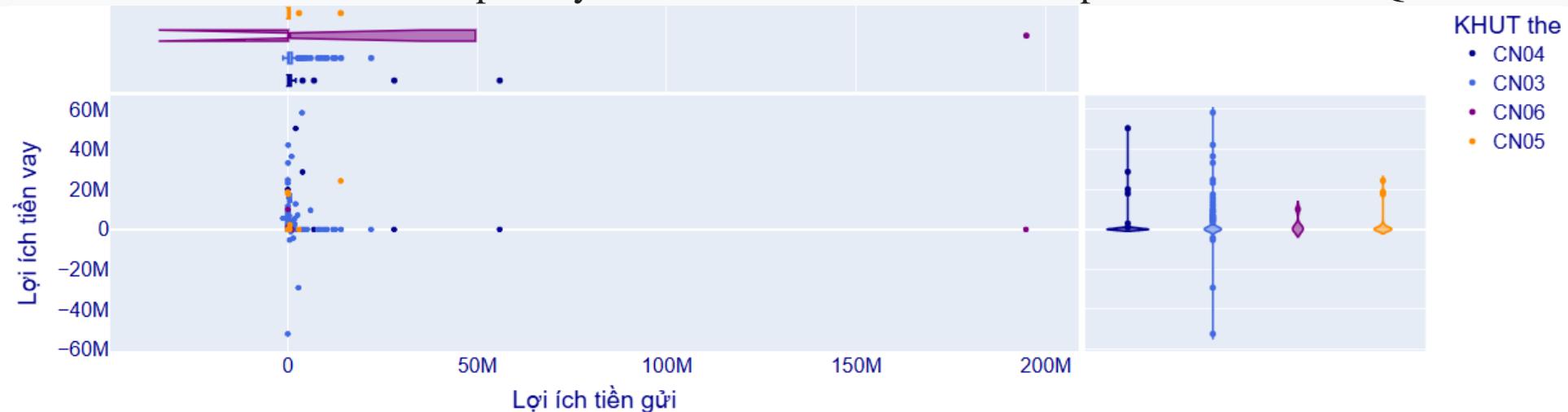
Q1/2023 : Priority card level CN06 customers use more deposit benefits, Priority card level CN03 customers use more loan benefits



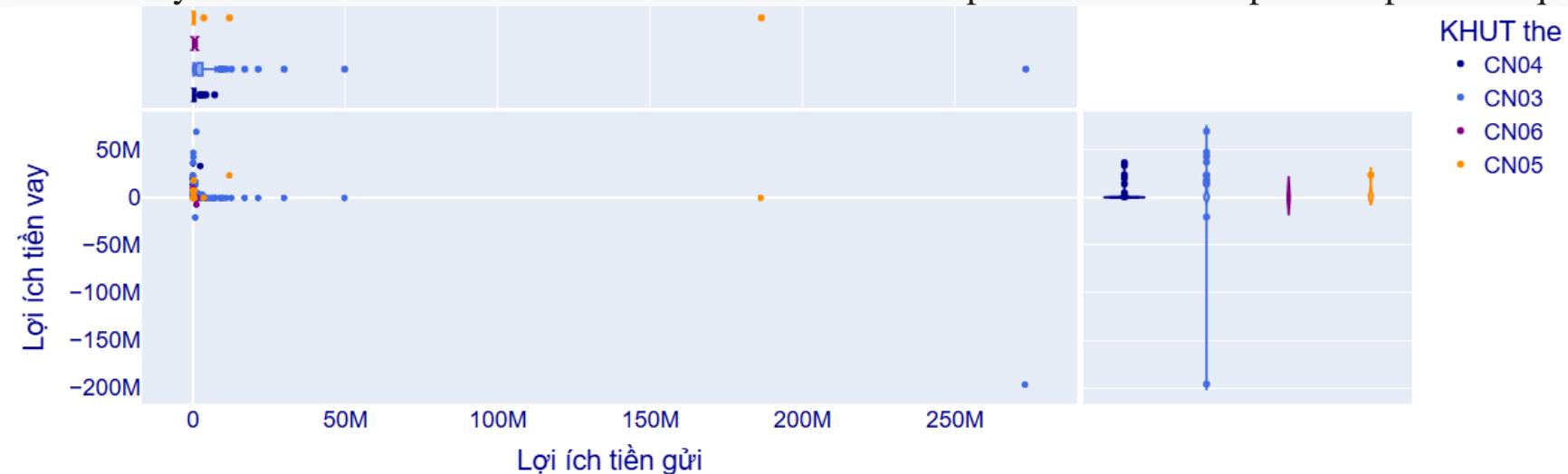
Q2/2023: Priority customers group CN03 card level, there are people borrowing for the first time so it is negative, Priority customers group CN06 card level use deposit benefits more than loan benefits



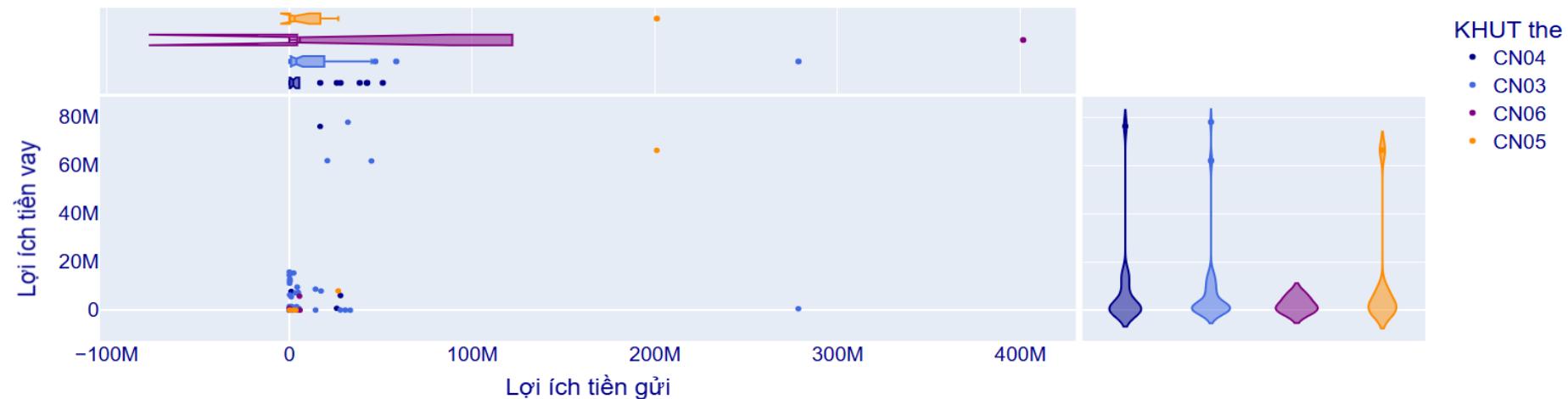
Q3/2023: CN04 level card priority customers use less loan and deposit benefits than Q2



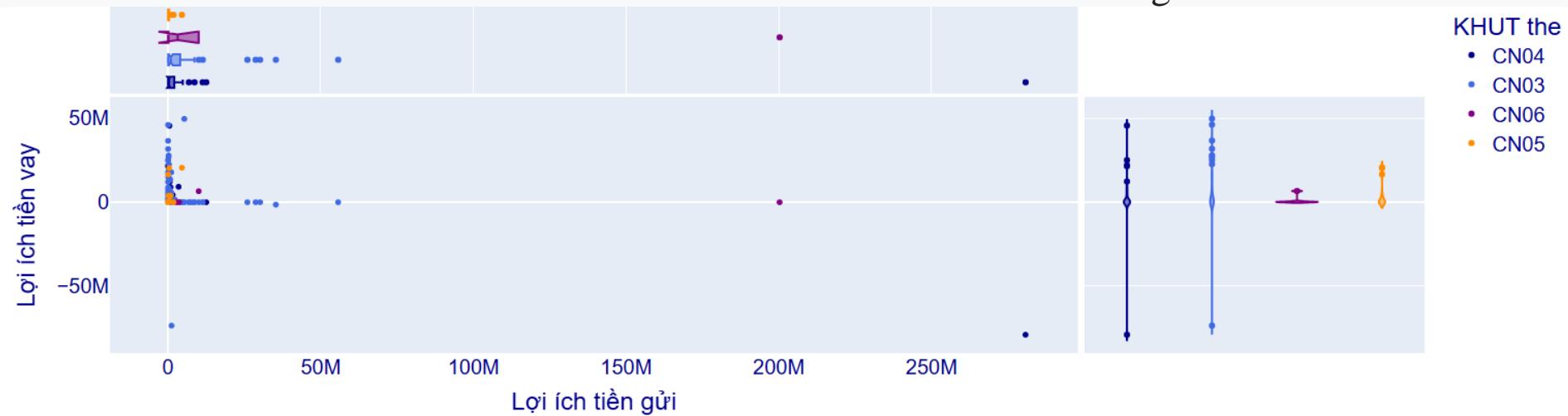
Q4/2023: Priority cardholders at CN06 level reduced their use of deposit benefits compared to previous quarters



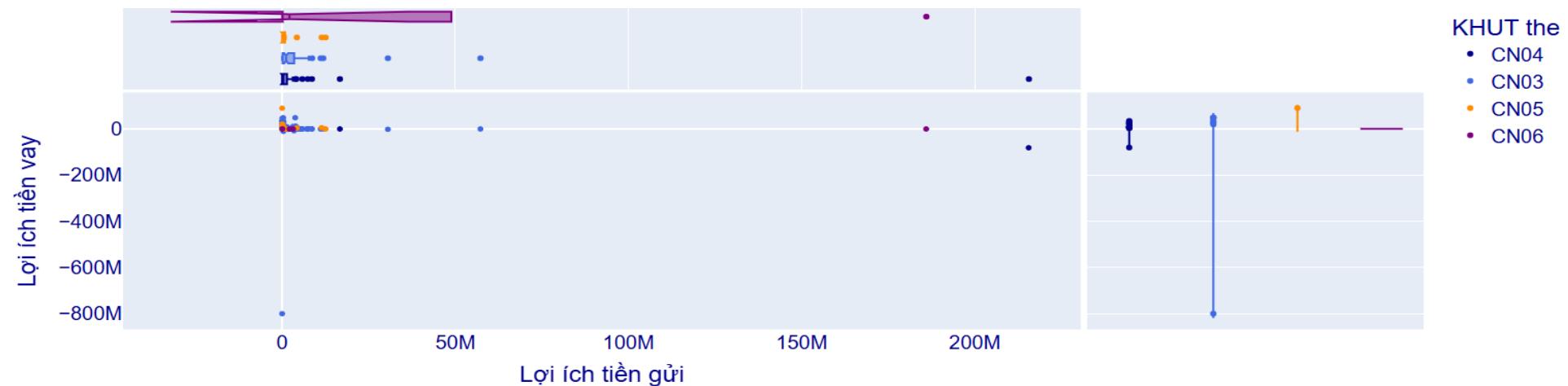
Q1/2024: Priority customers of CN06 level card are office workers and some other occupations that use deposit benefits more



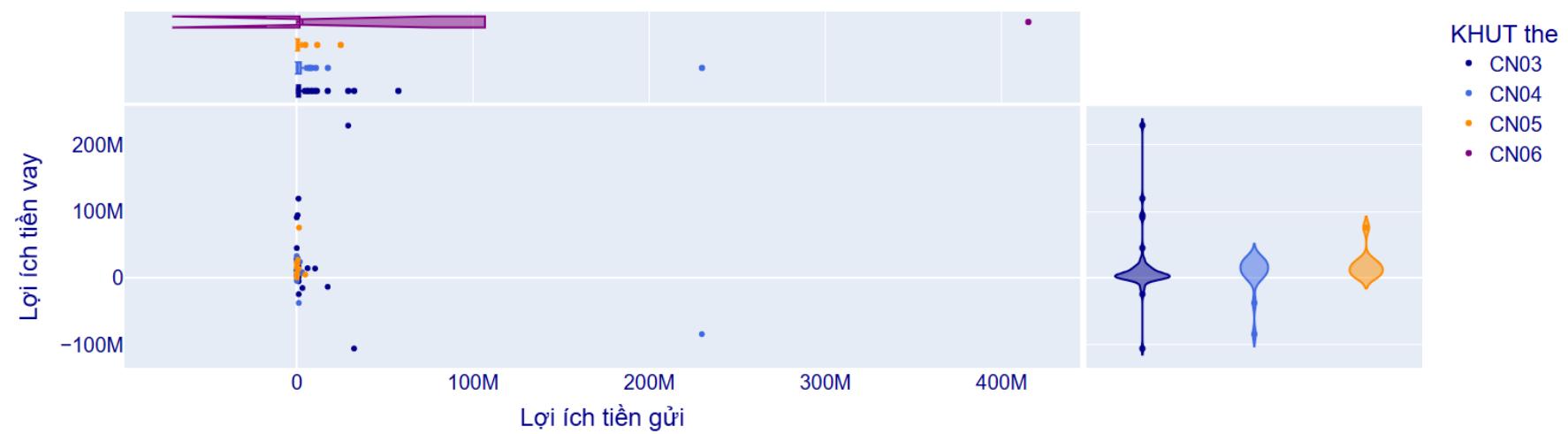
Q2/2024: Priority customers at CN06 level have reduced use of deposit benefits, while customers at CN03 and CN04 levels have first-time borrowers so loan benefits are negative.



Q3/2024: Priority customers with CN03 level card have first-time borrowers of 800 million, CN06 level has no loan benefits



QUÝ 4/2024: CN03 card priority level has less first-time borrowers than in Q3/2024, CN06 card priority customers of the diamond group use more deposit benefits than the previous quarter



## Graph of career association with Deposit Benefit Customer Segment

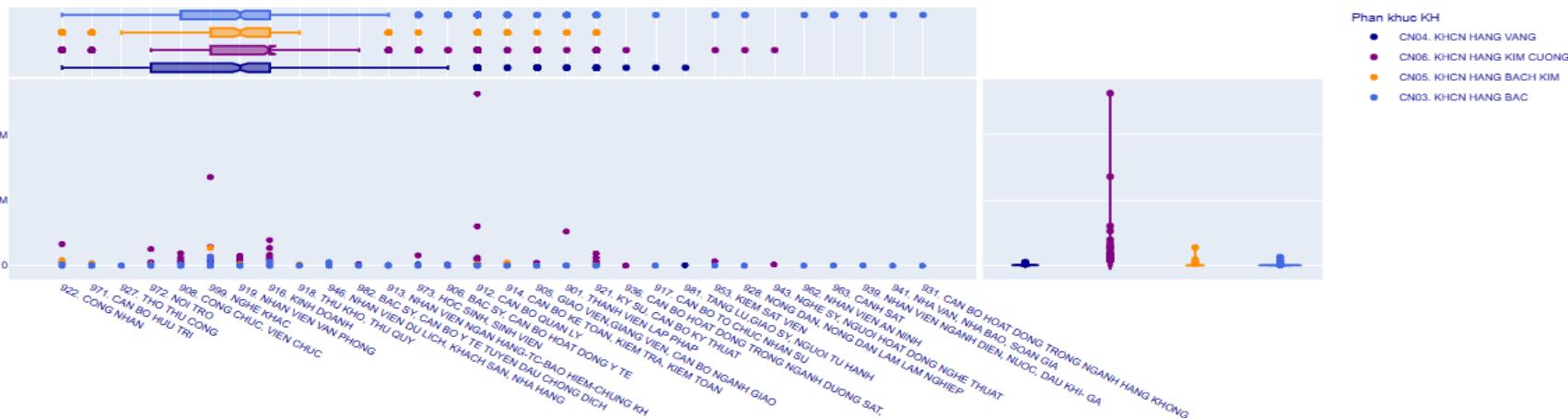
```
plt.figure(figsize=(20, 19))

fig = px.scatter(df, x="Nghe nghiep", y='Lợi ích tiền gửi', color='Phan khuc
KH',color_discrete_sequence=[ 'darkblue', 'purple','royalblue','darkorange'], # Next quarter there will
be no silver group, delete royalblue

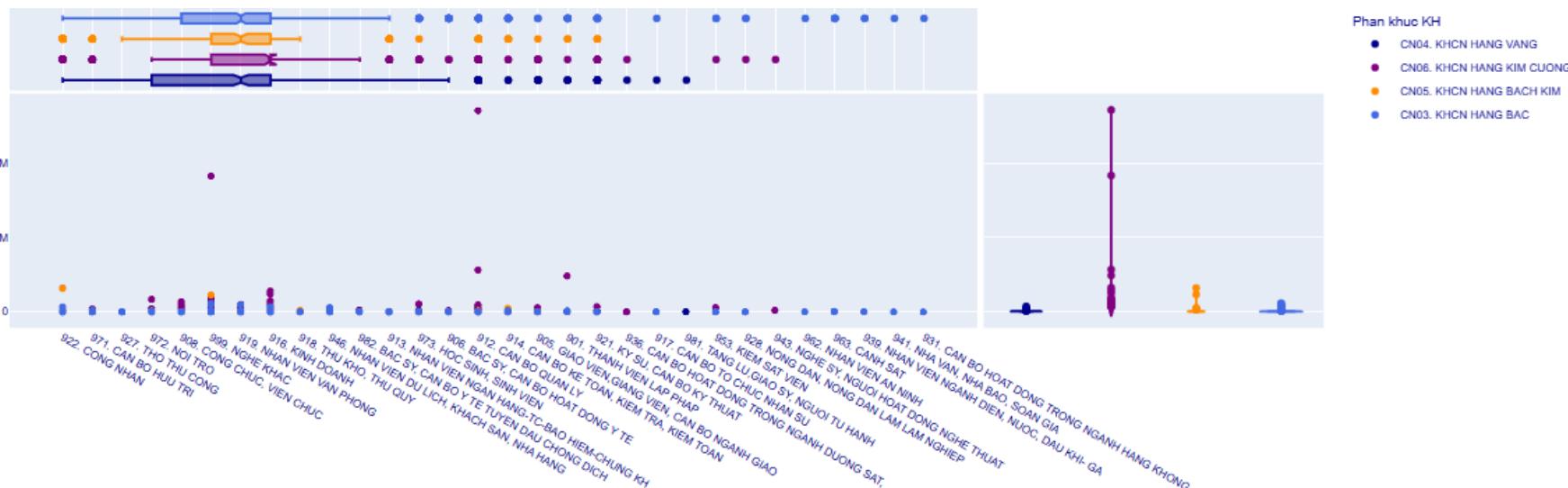
marginal_x="box", marginal_y="violin",
title="Click on the legend items!")

fig.update_layout(
    title={
        'text': "Biểu đồ của khách hàng Lợi ích tiền gửi",
        'y':0.9,
        'x':0.9,
        'xanchor': 'center',
        'yanchor': 'top'},
    xaxis_title="Nghe nghiep",
    yaxis_title='Lợi ích tiền gửi',
    legend_title='Phan khuc KH',
    font=dict(
        family="Arial",
        size=9,
        color="DarkBlue"
    )
)
fig.update_layout(xaxis=dict(showgrid=False),
                  yaxis=dict(showgrid=False))
)
fig.show()
```

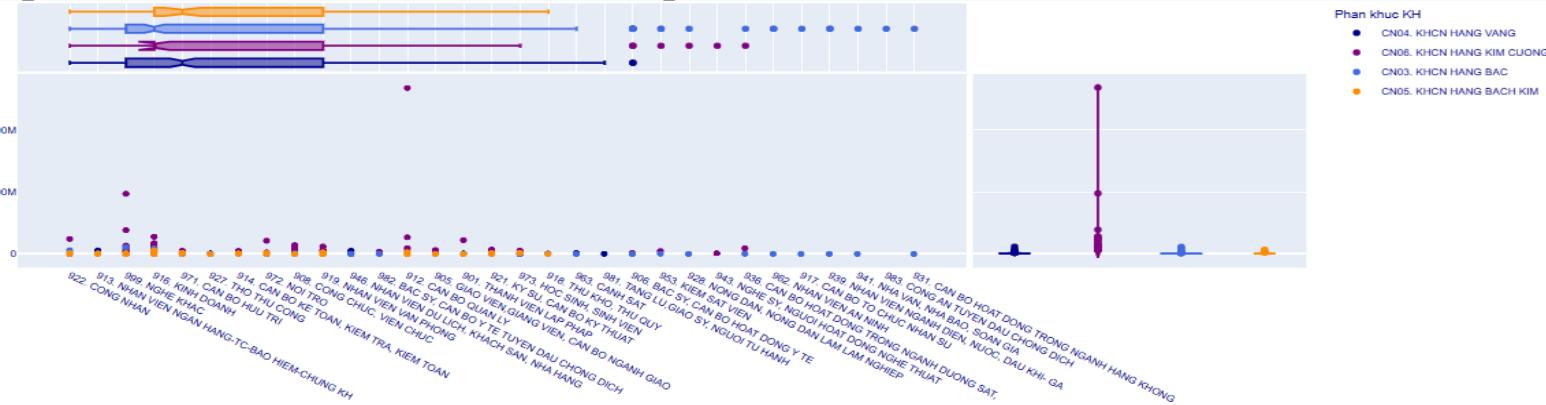
Q1/2023



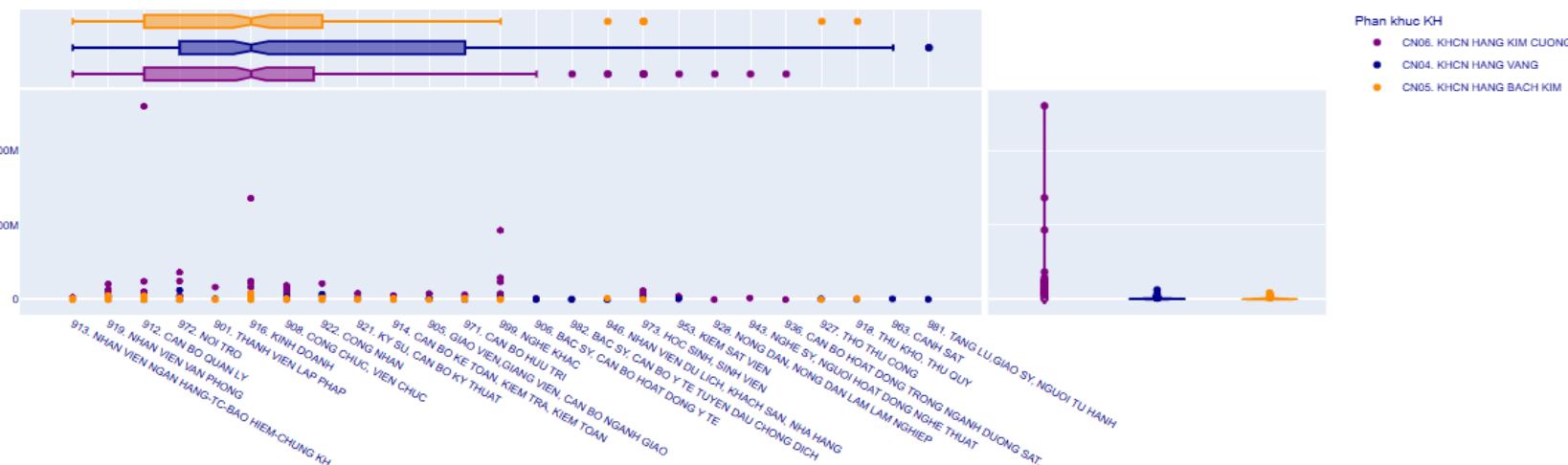
Q2/2023: Compared to the first quarter, there were more platinum group employees using deposit benefits.



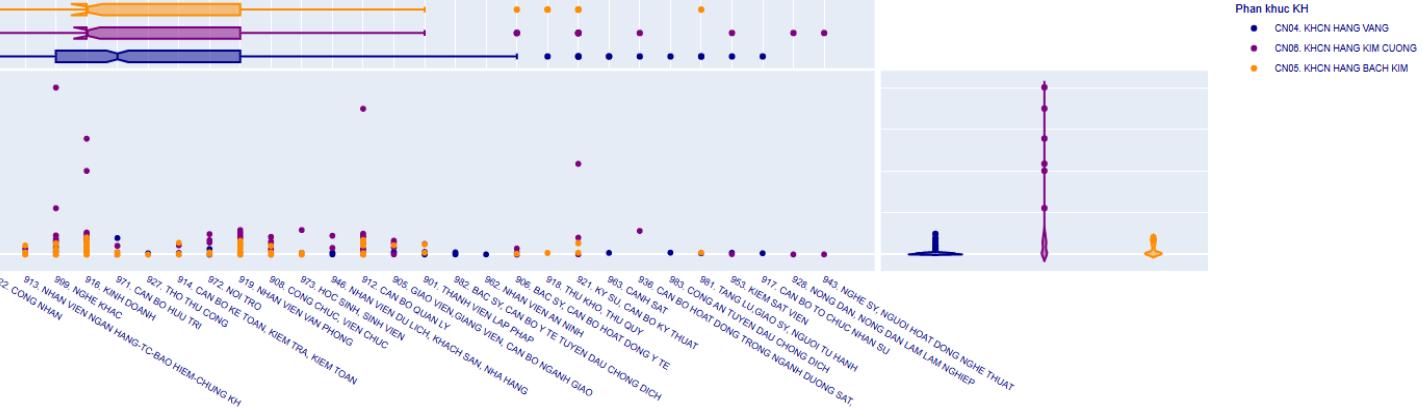
Q3/2023: Customer groups expanded to include some industries, platinum customer groups used less deposit benefits than in the second quarter.



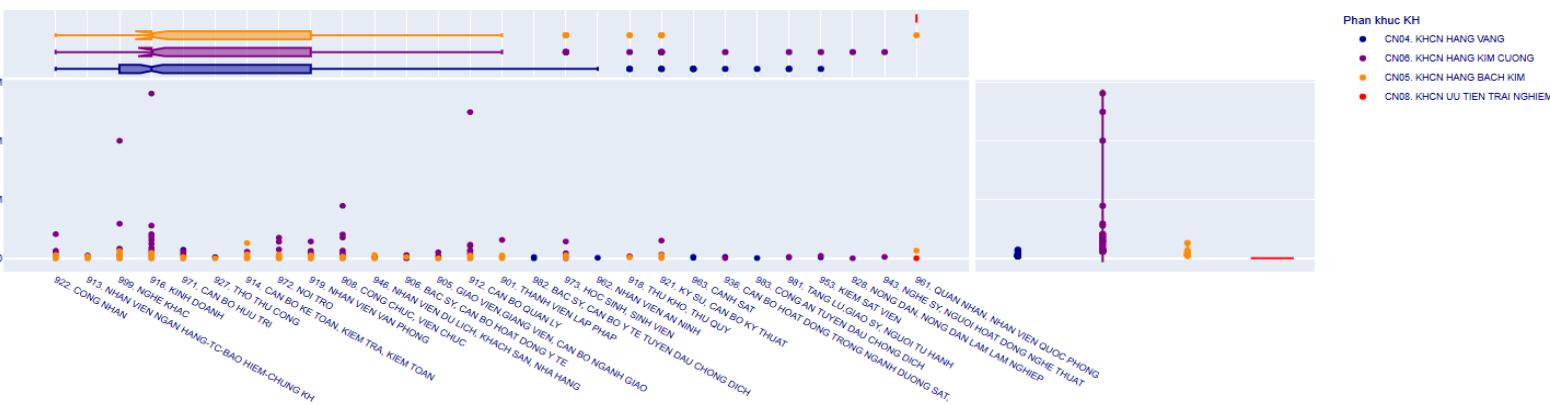
Q4/2023: Gold customer group increased slightly



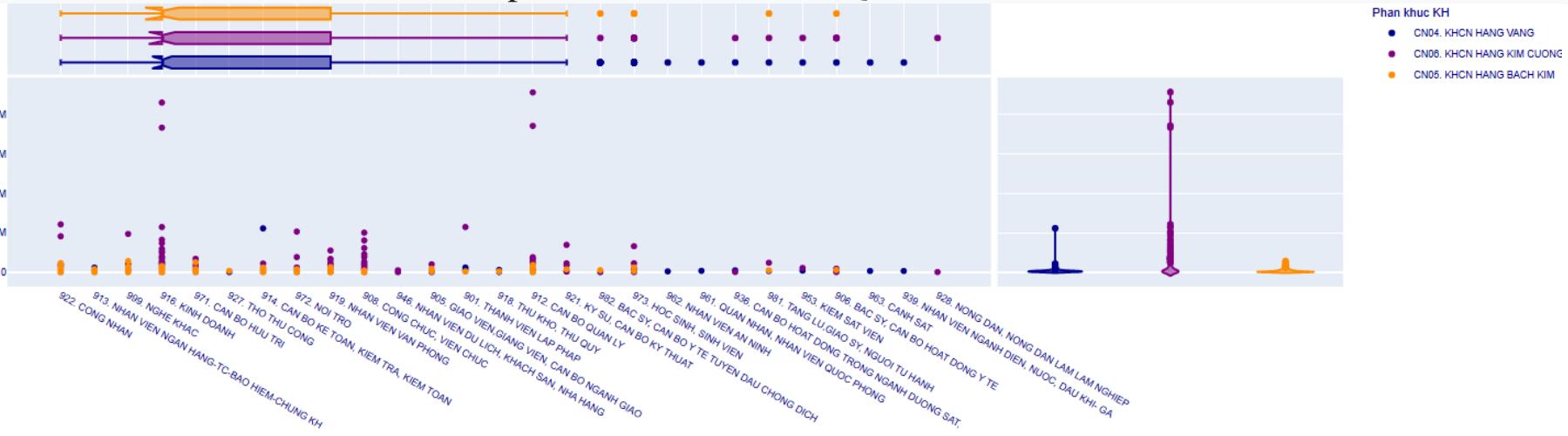
Q1/2024: Diamond group customers in the management and engineering and technical staff professions reduce deposit benefits compared to 2023



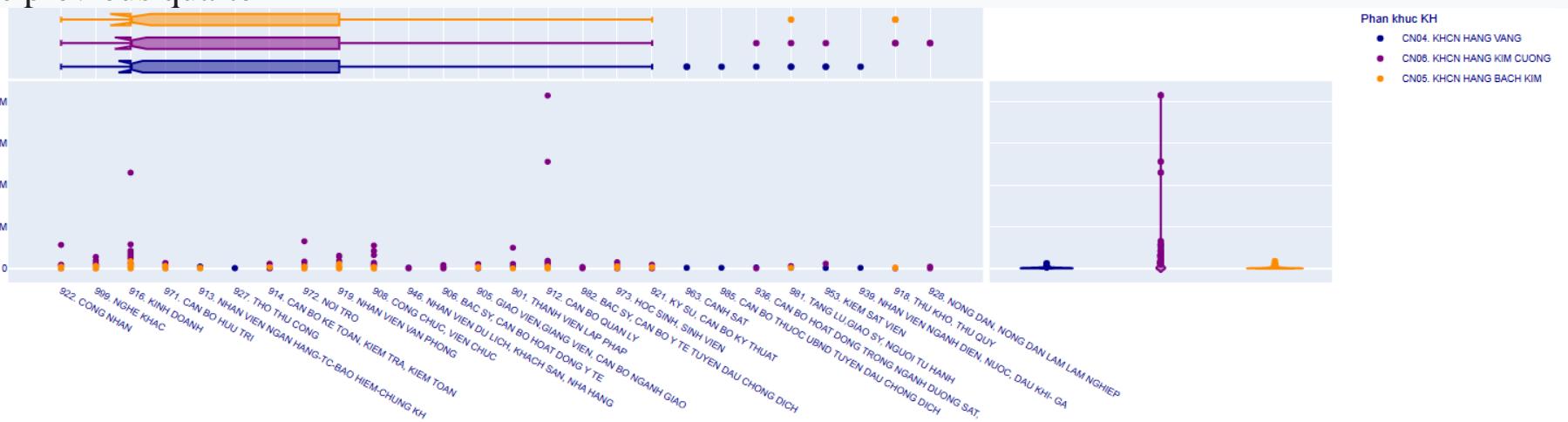
Q2/2024: Compared to the first quarter, there were more military personnel and defense personnel in the priority customer group who registered to use deposit benefits.



## Q3/2024 : Gold customers use deposit benefits more in Q2/2024



Q4/2024 : Diamond customers used deposit benefits more than in Q3, Gold customers used deposit benefits less than in the previous quarter



## Graph of occupational association with Loan Interest Customer Segment

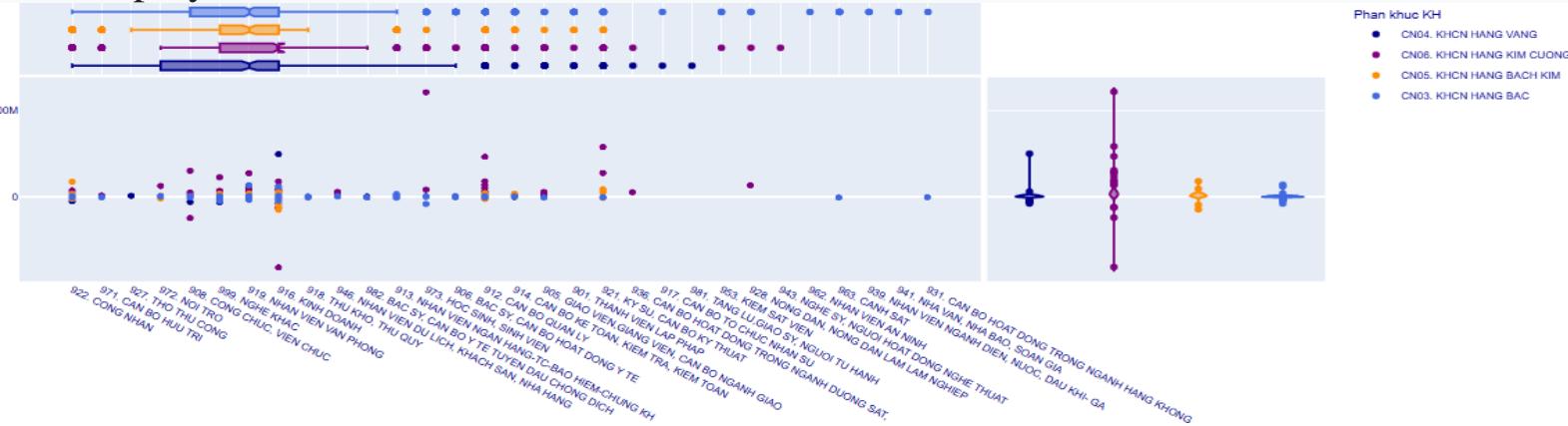
```
plt.figure(figsize=(20, 19))

fig = px.scatter(df, x="Nghe nghiep", y='Lợi ích tiền vay', color='Phan khuc
KH',color_discrete_sequence=[ 'darkblue', 'purple','royalblue','darkorange'], # Next quarter there will
be no silver group, delete royalblue

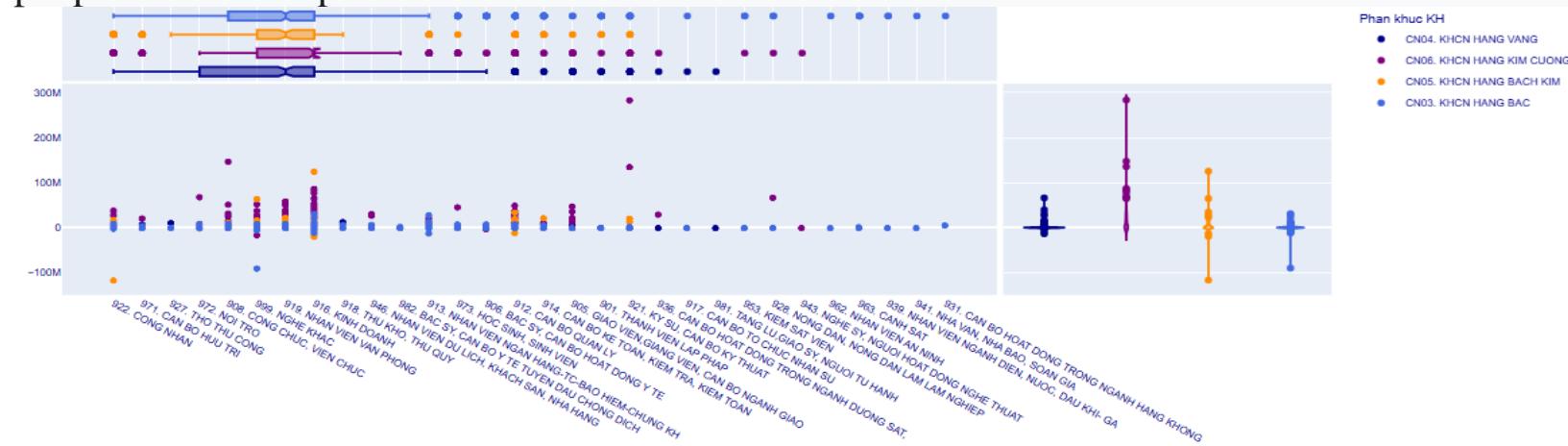
marginal_x="box", marginal_y="violin",
title="Click on the legend items!")

fig.update_layout(
    title={
        'text': "Biểu đồ của khách hàng Lợi ích tiền vay",
        'y':0.9,
        'x':0.9,
        'xanchor': 'center',
        'yanchor': 'top'},
    xaxis_title="Nghe nghiep",
    yaxis_title='Lợi ích tiền vay',
    legend_title='Phan khuc KH',
    font=dict(
        family="Arial",
        size=9,
        color="DarkBlue"
    )
)
fig.update_layout(xaxis=dict(showgrid=False),
                  yaxis=dict(showgrid=False))
)
fig.show()
```

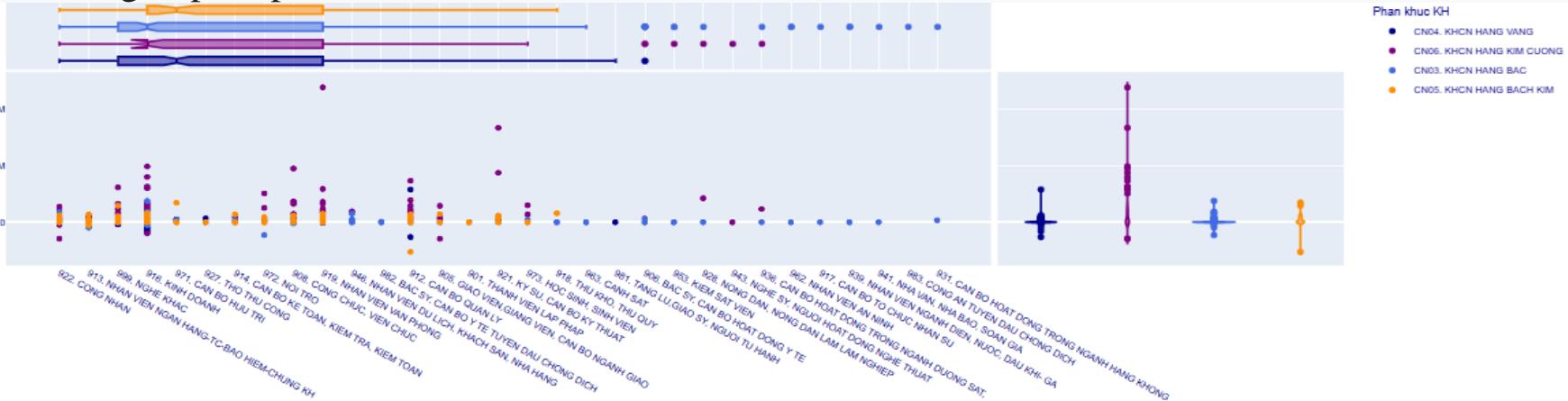
Q1/2023: Diamond group customer loan benefits include first-time business people borrowing more than 40 million, while employees borrow less.



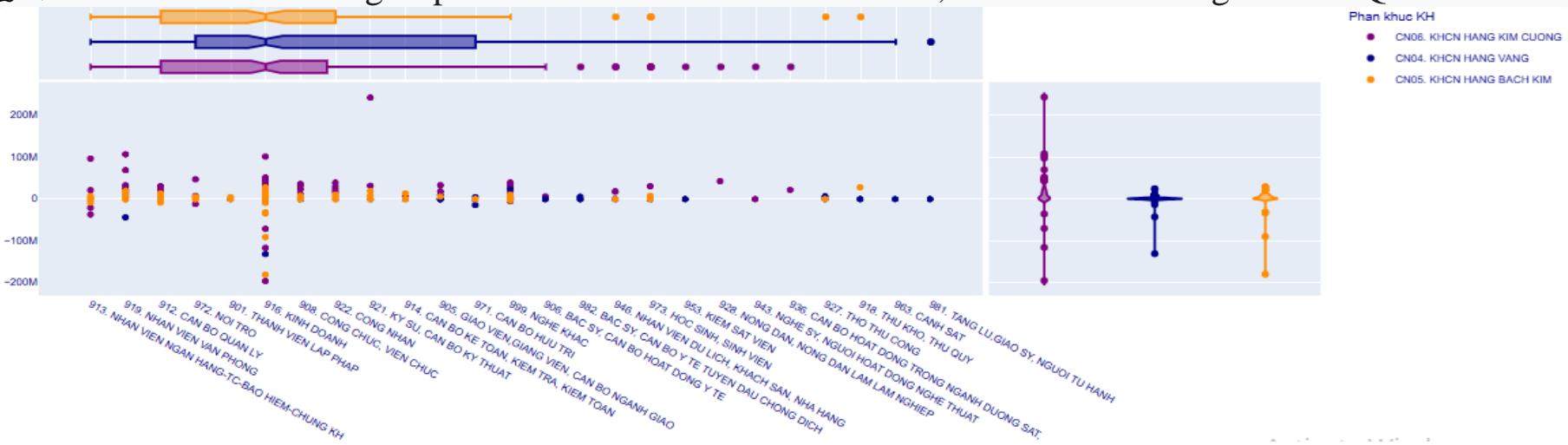
Q2/2023: Platinum group customers have workers who borrow for the first time over 100 million, and silver group has people from other professions who borrow for the first time



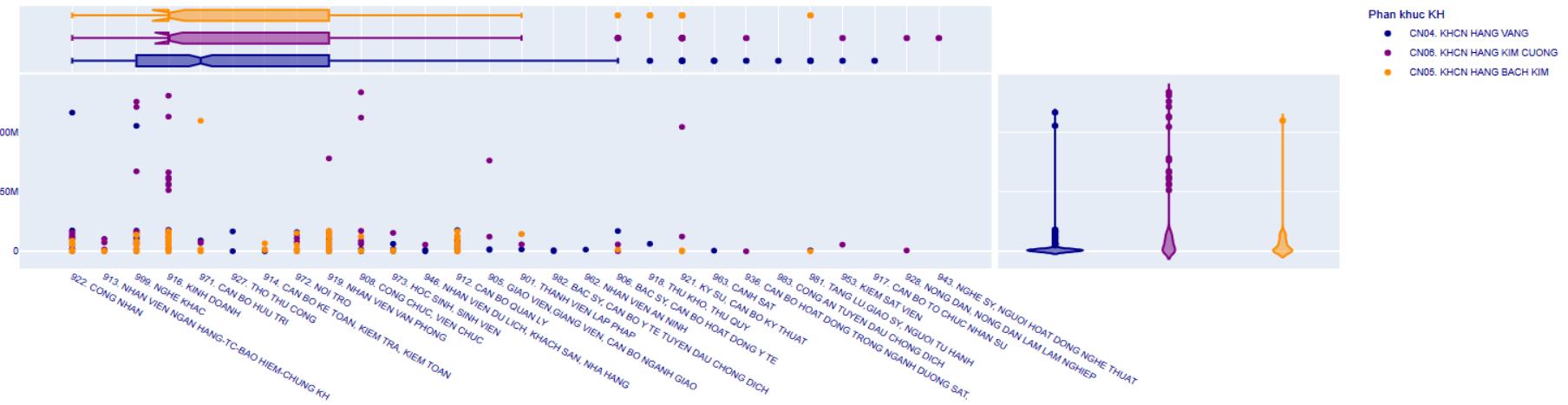
Q3/2023: Diamond and gold groups have more first-time borrowers, silver and platinum group loans are less than in Q2/2023, groups expand some industries



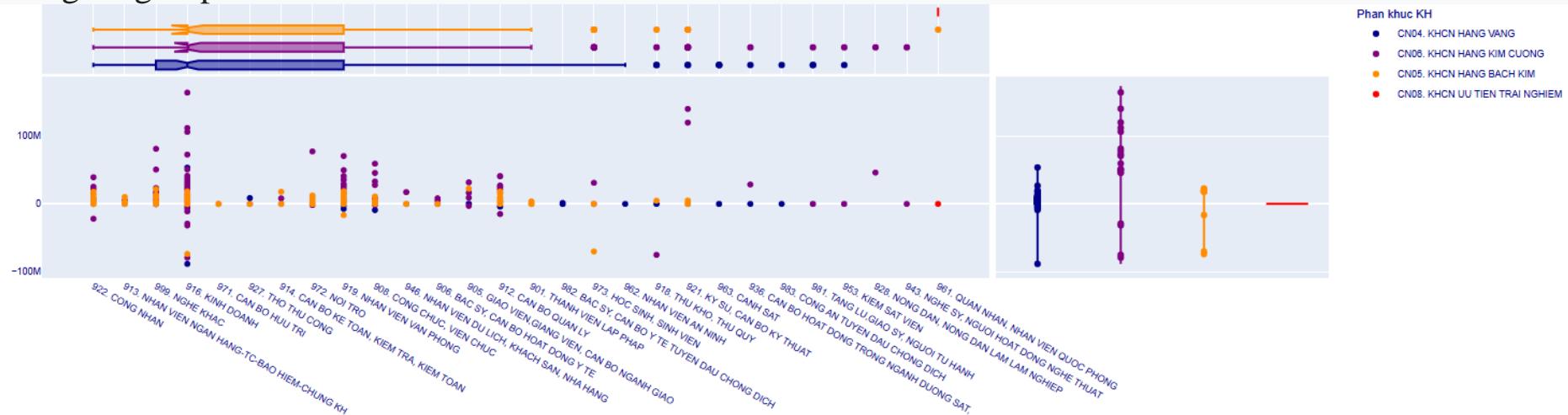
Q4/2023: 3 customer groups have more first-time borrowers, loan amount is higher than Q3/2023



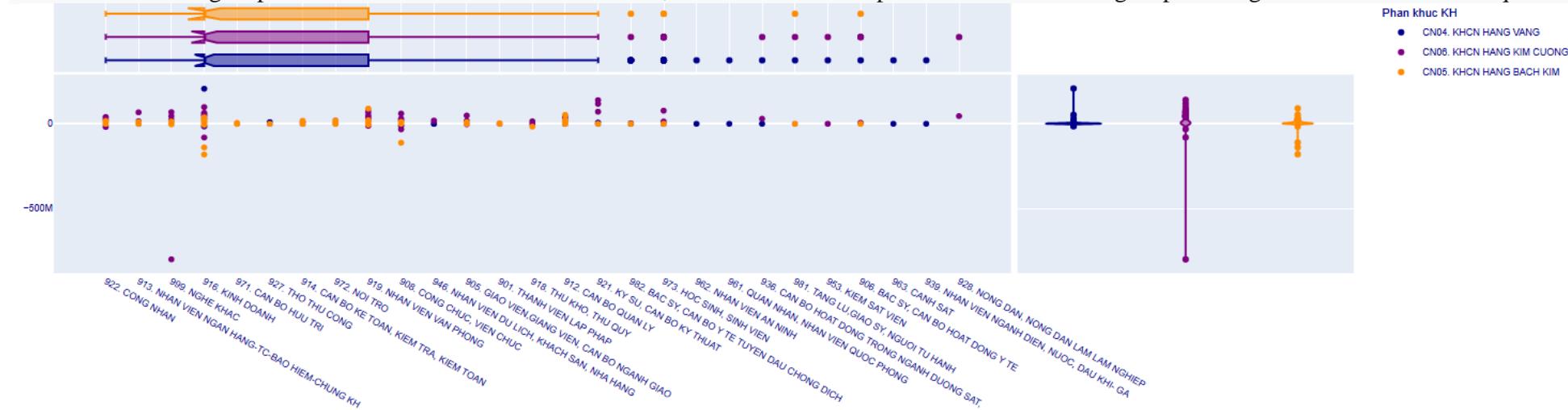
## Q1/2024: Customer loan benefits for lower groups in 2023



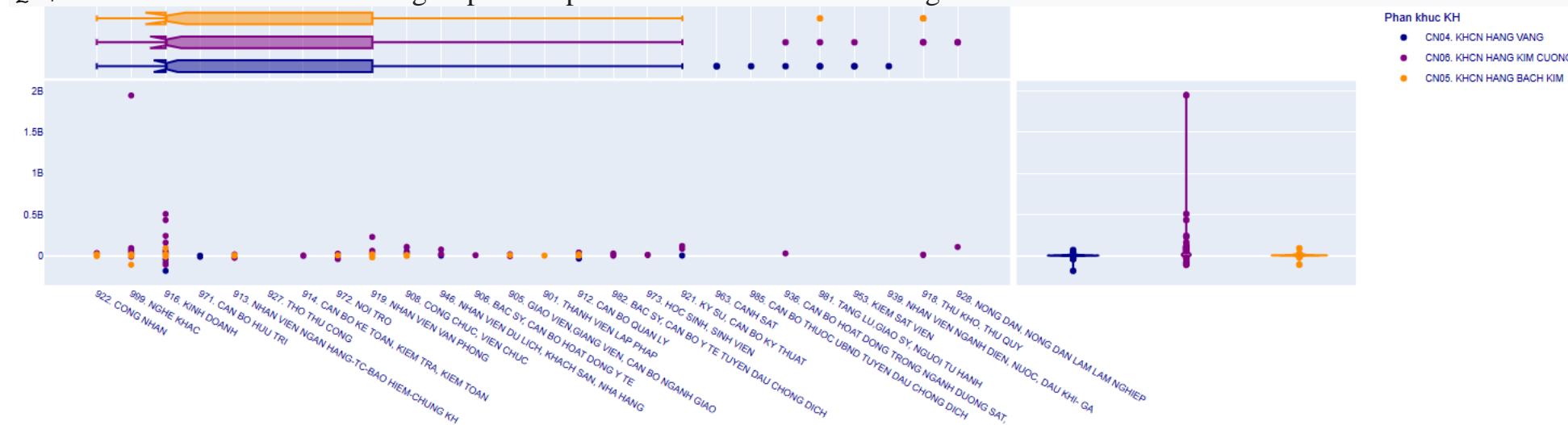
Q2/2024 : Diamond group customer loan benefits have first-time business borrowers of more than 80 million, platinum and gold groups have more first-time borrowers



Q3 / 2024 : Gold group customers have reduced loan benefits, first-time loans for platinum and diamond groups are higher than in the second quarter



Q4 / 2024 : Diamond customer group has deposit benefits increased too high



## Chart of customer segmentation with priority deposits and Benefits

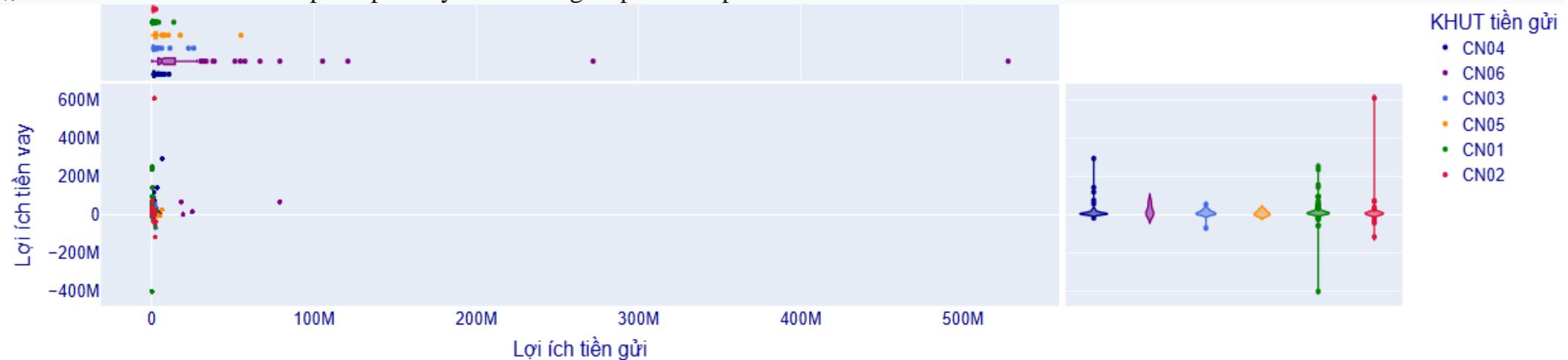
```
import plotly.express as px

fig = px.scatter(df, x="Lợi ích tiền gửi", y="Lợi ích tiền vay", color="KHUT tien
gui",color_discrete_sequence=['darkblue','royalblue','crimson','green','purple','darkorange'],
                  # Change color position as needed

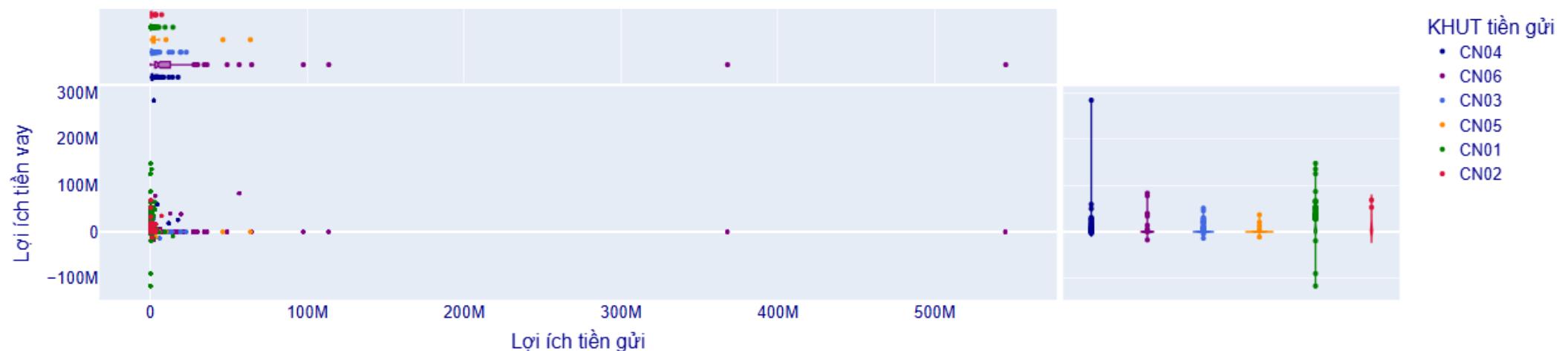
                  marginal_x="box", marginal_y="violin",
                  title="Click on the legend items!")

fig.update_layout(
    title={
        'text': "Biểu đồ của khách hàng ưu tiên tiền gửi",
        'y':0.95,
        'x':0.5,
        'xanchor': 'center',
        'yanchor': 'top'},
    xaxis_title="Lợi ích tiền gửi",
    yaxis_title="Lợi ích tiền vay",
    legend_title="KHUT tiền gửi",
    font=dict(
        family="Arial",
        size=20,
        color="DarkBlue"
    )
)
fig.update_layout(xaxis=dict(showgrid=False),
                  yaxis=dict(showgrid=False))
)
fig.show()
```

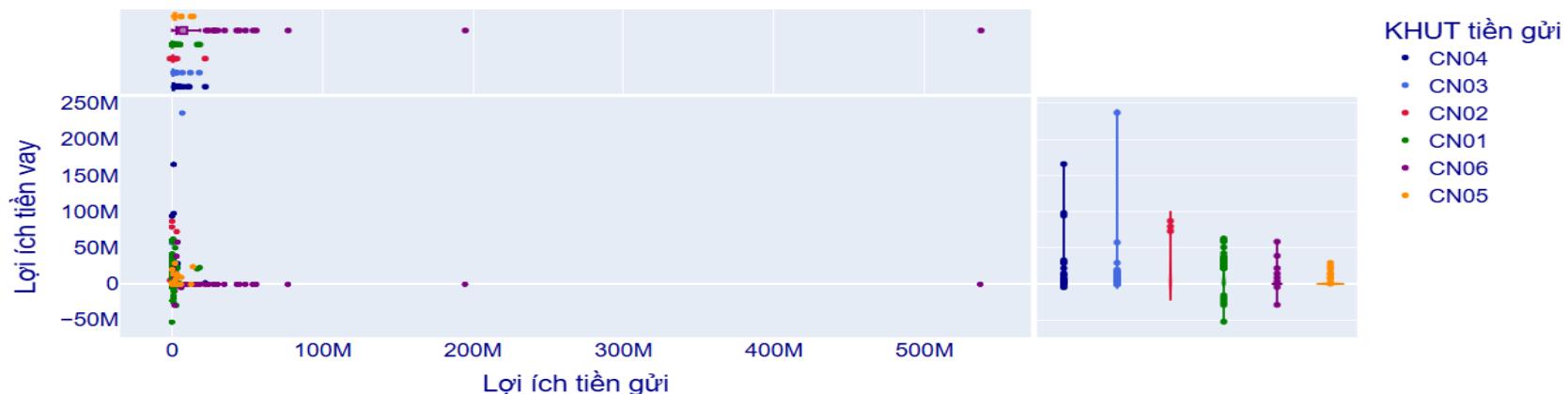
Q1/2023: CN06 level deposit priority customer group uses deposit benefits more than loan benefits



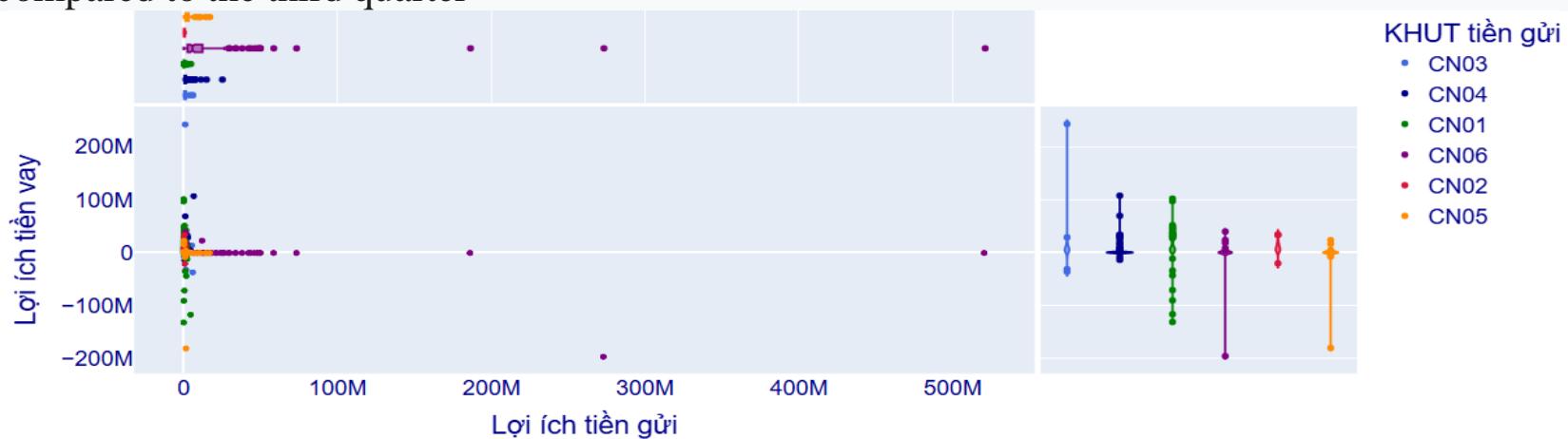
Q2/2023: Loan benefits for customers with priority deposits at level CN02 decreased significantly compared to the first quarter, while customers with priority deposits at level CN01 used less loan benefits than in the first quarter.



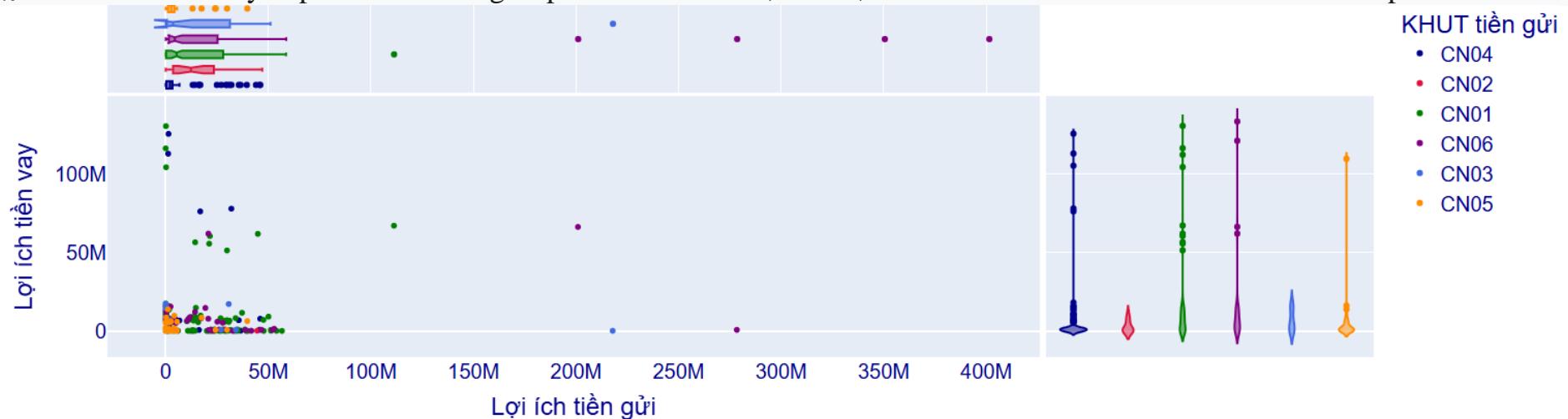
Q3/2023: Compared to Q2: more silver group customers prioritize CN01 level deposits. Loan benefits for customer group that prioritize CN03 level deposits increased significantly.



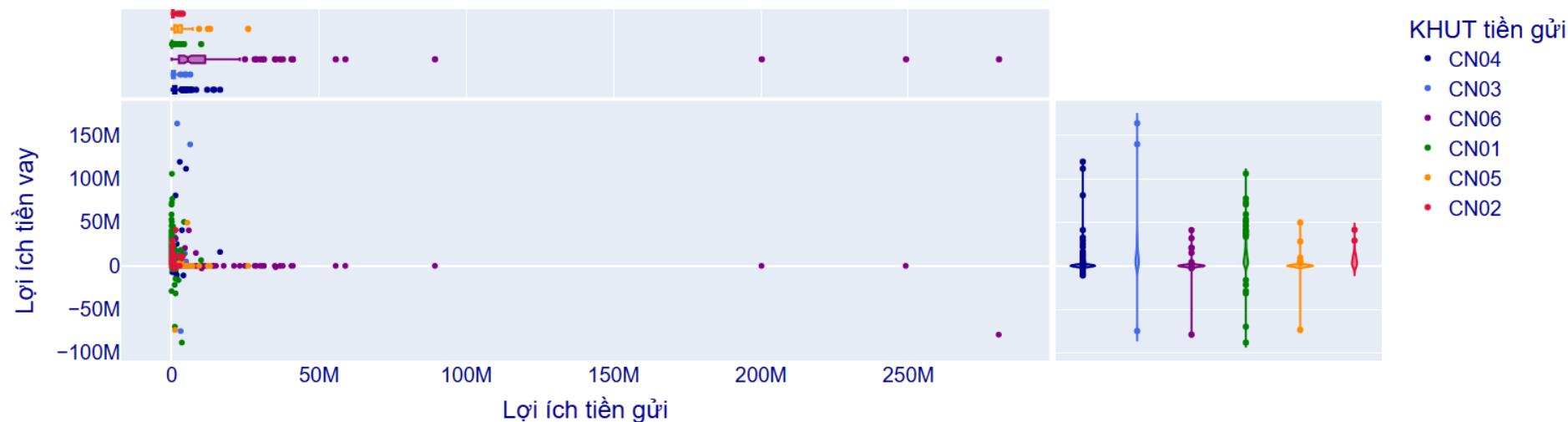
Q4/2023: Loan benefits for priority customer groups with deposits at levels CN03, CN01, CN06, CN05 increased compared to the third quarter



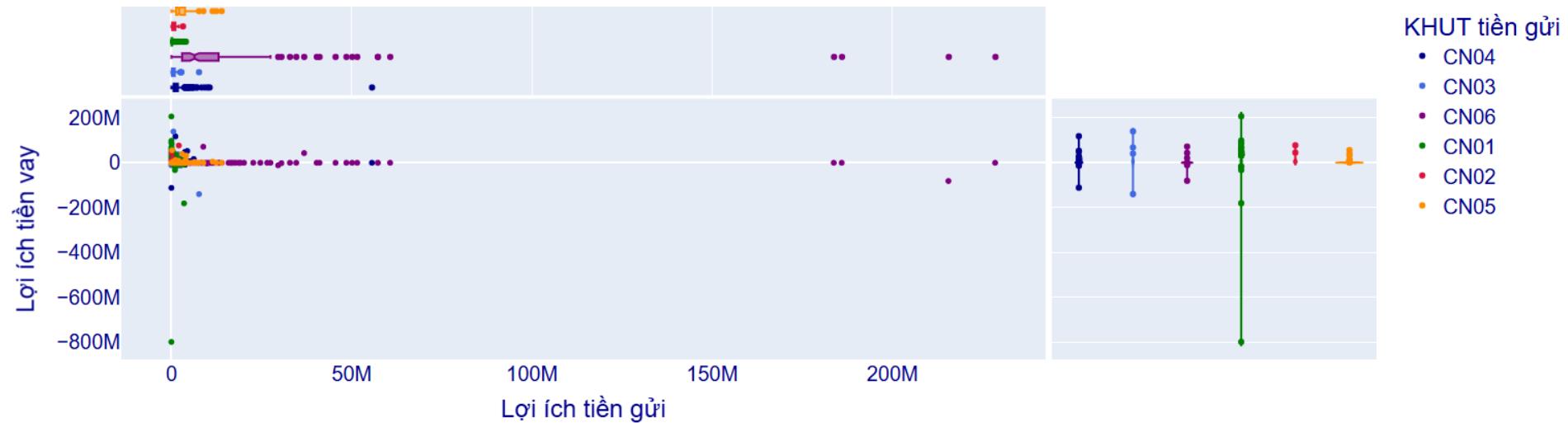
Q1/2024 : Priority deposit customer groups at levels CN04, CN01, and CN05 use loan benefits more than deposit benefits.



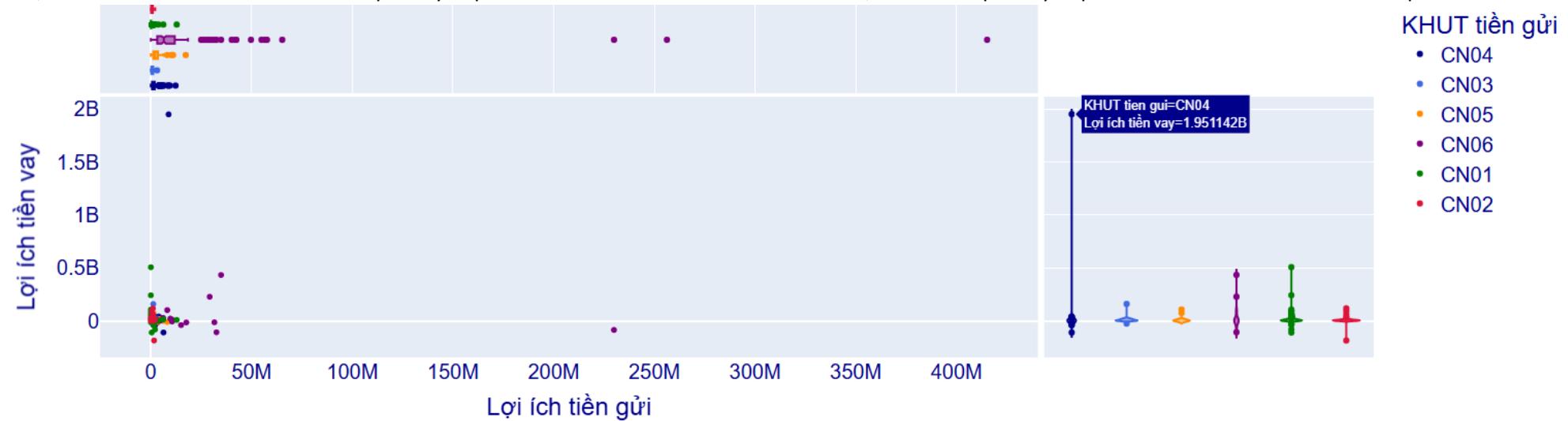
Q2/2024: Loan benefits for priority deposit customers at level CN01 have increased significantly compared to the first quarter, and priority deposit customers at level CN06 have used deposit benefits less than in the first quarter.



**Q3/2024:** Many customers in the platinum group prioritize CN05 level deposits, and the CN01 level deposit priority group has a first-time borrower of 800 million.



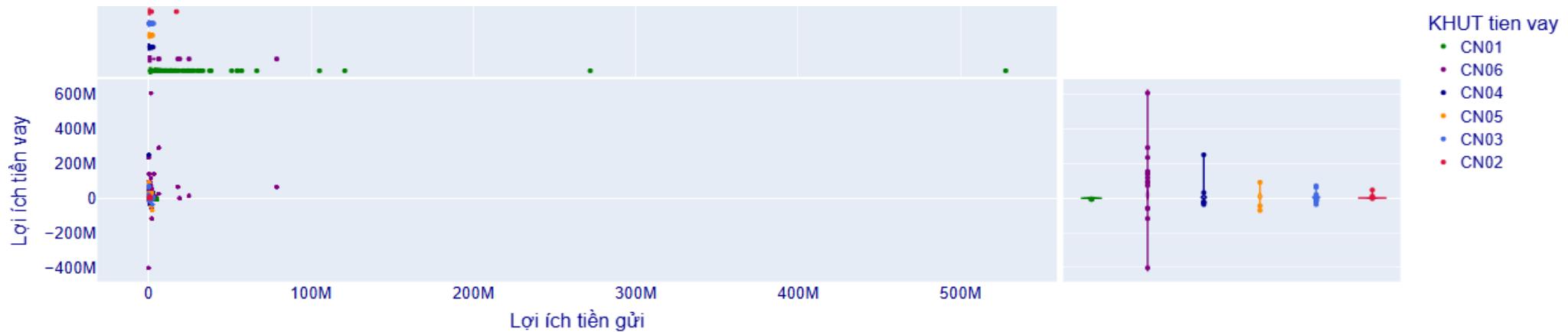
**Q4/2024:** Loan benefits for CN04 level priority deposit customers have increased too much, CN06 level priority deposit customers have increased deposit benefits



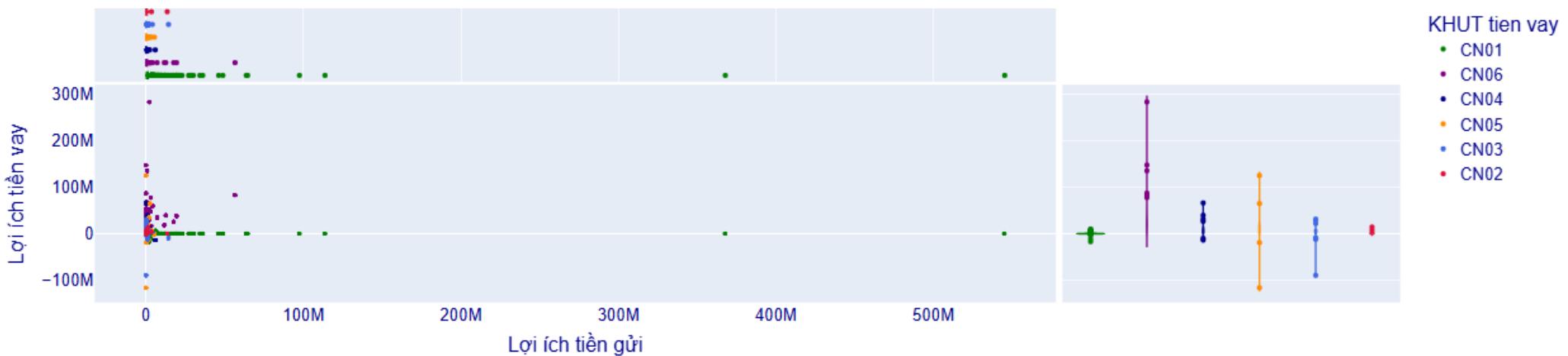
## Chart of customer segmentation with priority for loans and Benefits

```
fig = px.scatter(df, x="Lợi ích tiền gửi", y="Lợi ích tiền vay", color="KHUT tiền  
vay",color_discrete_sequence=['green','purple','darkblue','darkorange','royalblue','crimson'],  
                                #Change color position as needed  
  
                                marginal_x="box", marginal_y="violin",  
                                title="Click on the legend items!")  
fig.update_layout(  
    title={  
        'text': "Biểu đồ của khách hàng ưu tiên tiền vay",  
        'y':0.95,  
        'x':0.5,  
        'xanchor': 'center',  
        'yanchor': 'top'},  
    xaxis_title="Lợi ích tiền gửi",  
    yaxis_title="Lợi ích tiền vay",  
    legend_title="KHUT tiền vay",  
    font=dict(  
        family="Arial",  
        size=20,  
        color="DarkBlue"  
    )  
)  
fig.update_layout(xaxis=dict(showgrid=False),  
                  yaxis=dict(showgrid=False))  
fig.show()
```

Q1/2023: CN01 level priority loan customers have more deposit benefits than loan benefits, CN06 level priority loan customers in the diamond group use loan benefits more than deposit benefits, there are customers who borrow for the first time more than 400 million



**Q2/2023:** The customer group with priority loan level CN06 has a much lower loan benefit compared to the first quarter, the customer group with priority loan level CN03 and CN05 has a slightly higher loan benefit compared to the first quarter, the customer group with priority loan level CN05 and CN03 has a first-time loan customer of more than 80 million



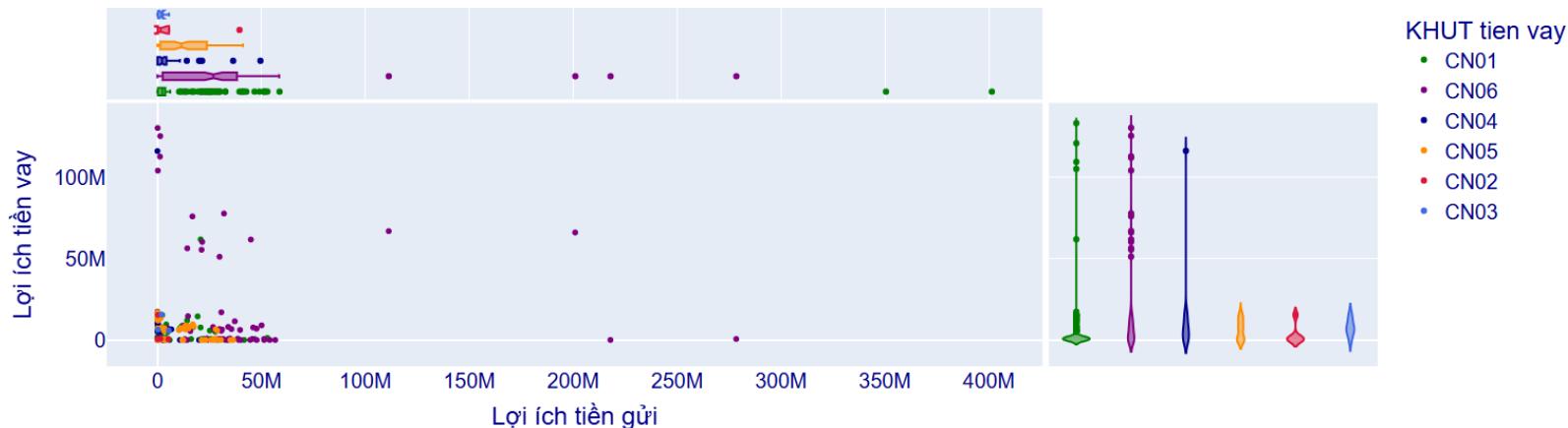
Q3/2023: Compared to Q2/2023: the group of customers who prioritize loans at CN05 level has a slight decrease in loan benefits, the groups with first-time borrowers are not many.



Q4/2023: The CN03 level loan priority customer group has a lower loan benefit compared to the third quarter, there are customers who prioritize loans at CN02, CN06, CN04 levels, borrowing for the first time more than 100 million



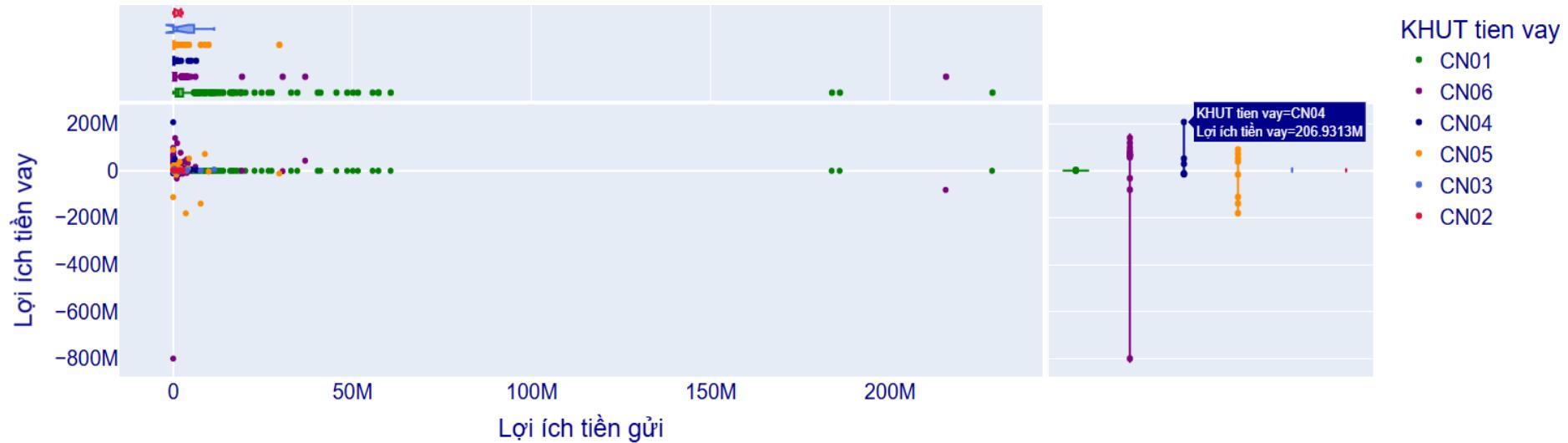
Q1/2024: customers who prioritize loans at level CN01 use less deposit benefits than in 2023, level CN06 use higher deposit benefits than loan benefits



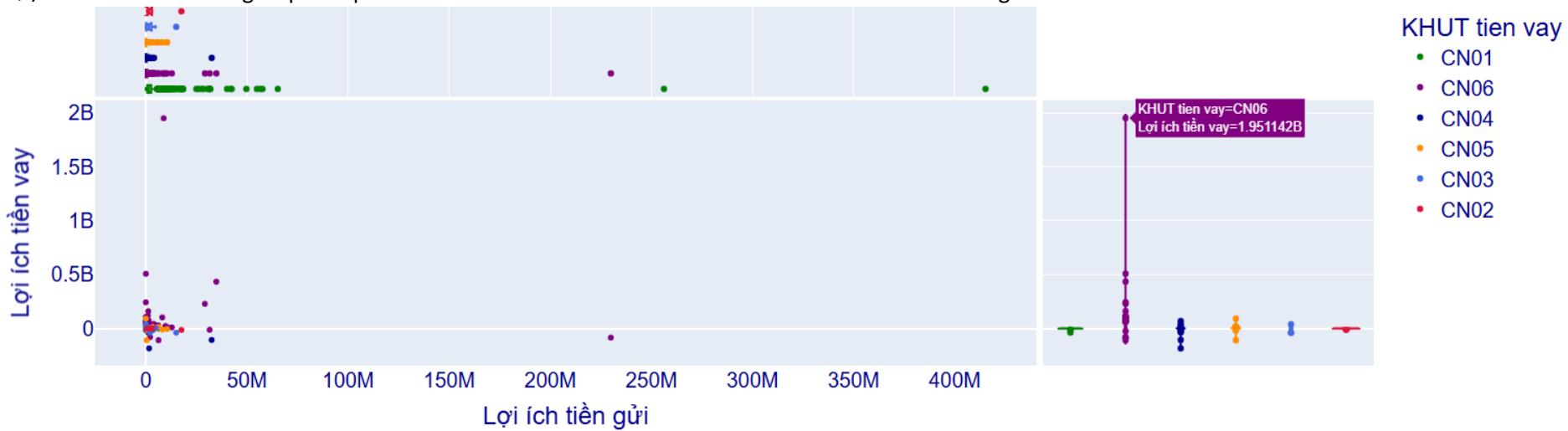
Q2/2024 : The customer group with priority loan level CN06 has a slight increase in loan benefits compared to the first quarter, the customer group with priority loan level CN04 has a decrease in loan benefits compared to the first quarter, the customer group with priority loan level CN01, CN06, CN04, CN05 has first-time borrowers



**Q3/2024:** Priority loan customer group CN04 has high loan benefits & CN06 level has first-time loan customers of 800 million



**Q4/2024:** the customer group that prioritizes CN06 level loans has loan benefits that increase too high

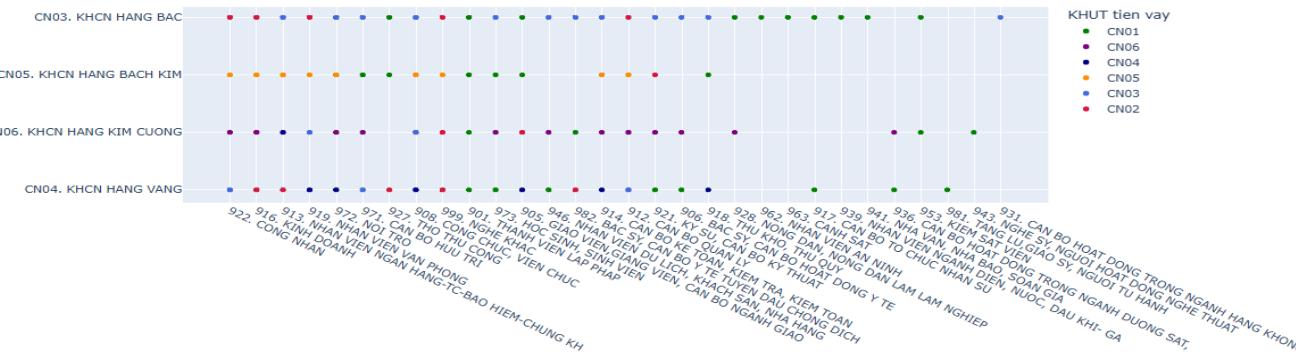


## Chart by occupation of customer segment with priority for loans

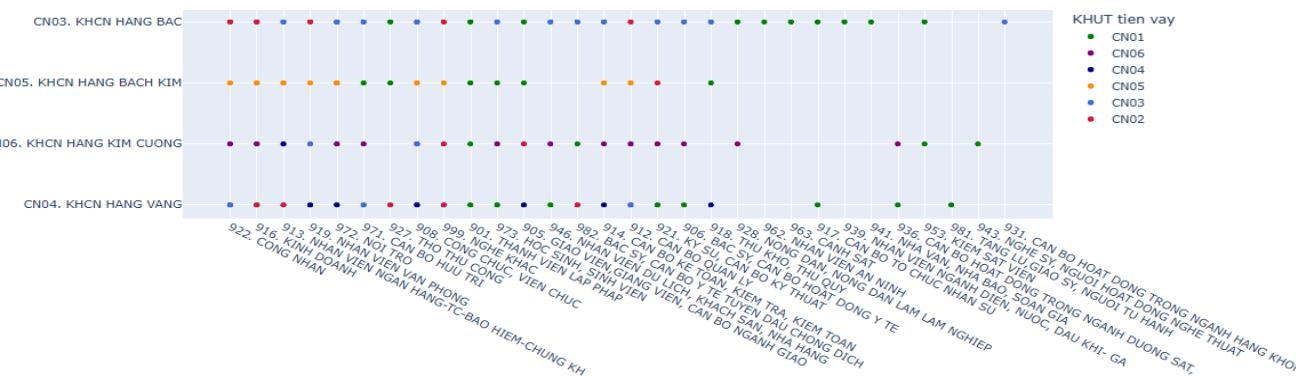
```
import plotly.express as px
plt.figure(figsize=(20, 19))

fig = px.scatter(df, x='Nghe nghiep' , y='Phan khuc KH', color="KHUT tien vay",color_discrete_sequence=['green','purple','darkblue','darkorange','royalblue','crimson']) # Change color position as needed

fig.show()
```

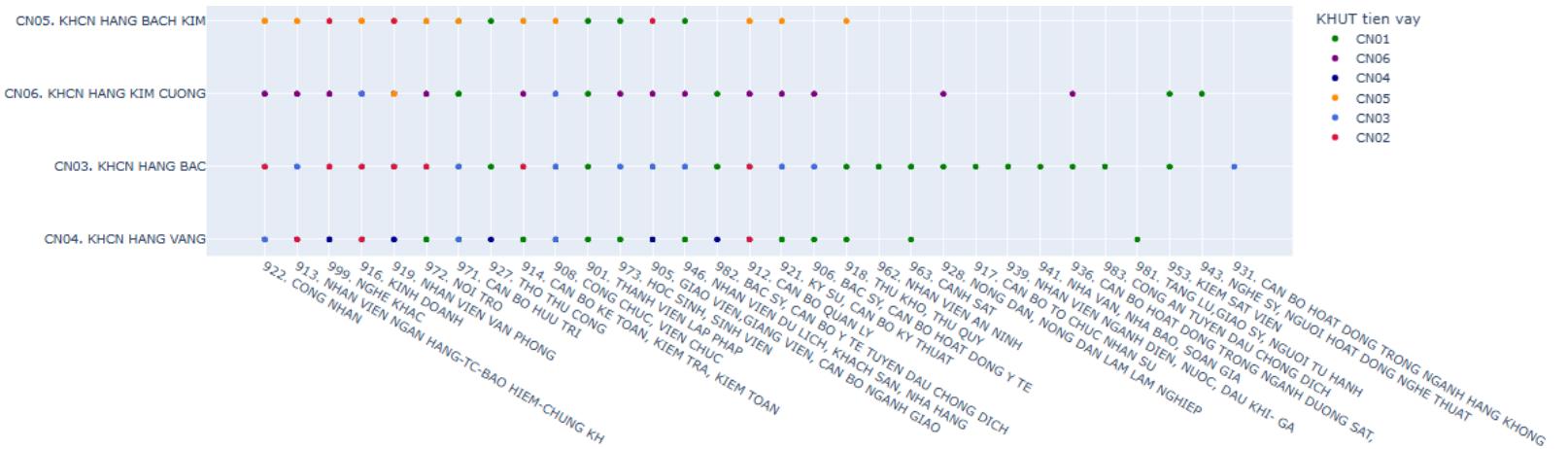


Q1/2023



Q2/2023

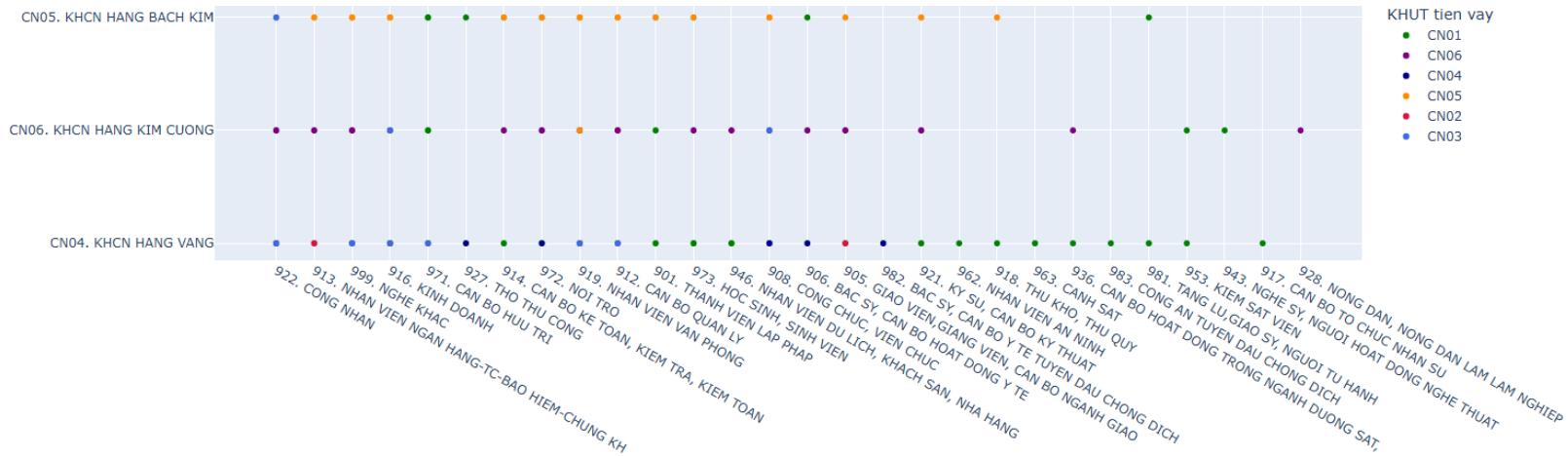
Q3/2023



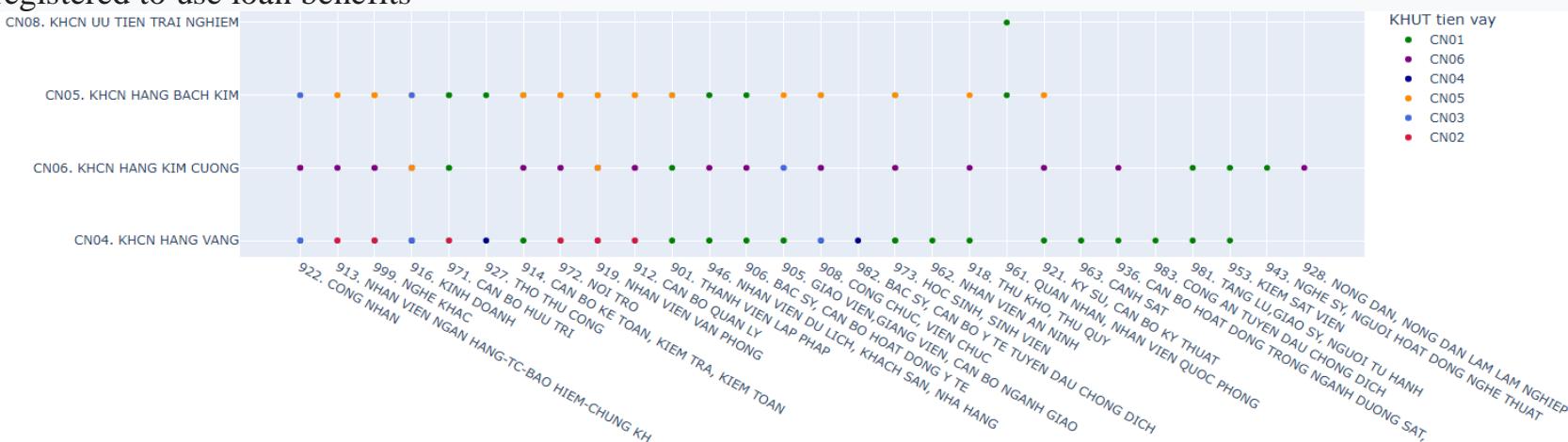
Q4/2023: Eliminated silver clientele, industry list reduced compared to previous quarters



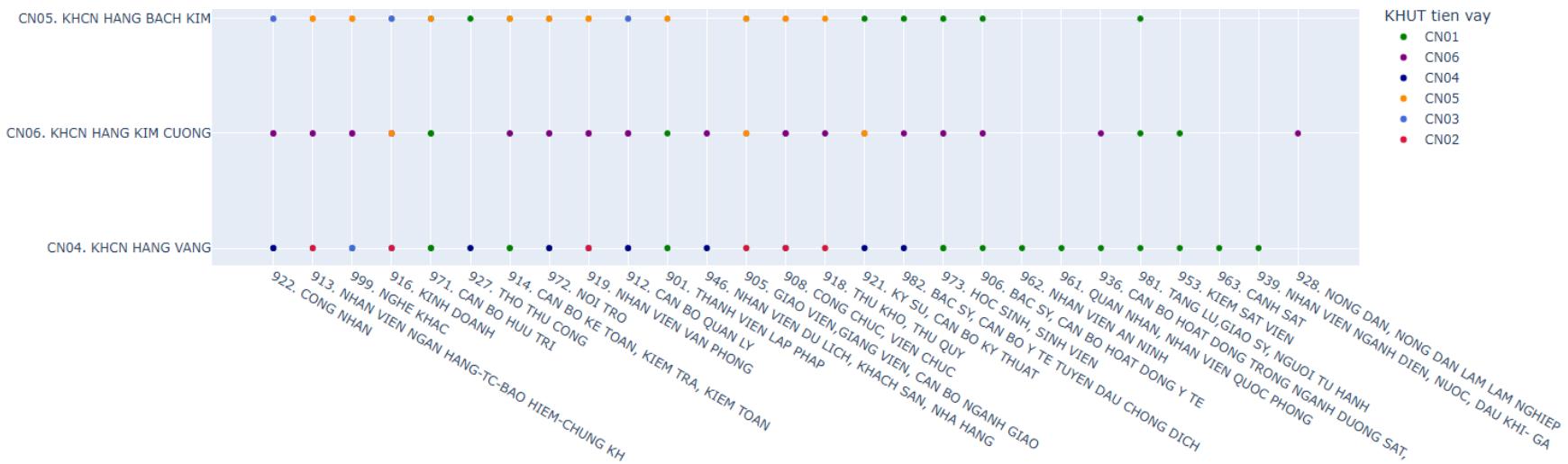
Q1/2024: Customers who prioritize gold group loans in the business sector, retired cadres, office workers, managers from level CN02 to CN03



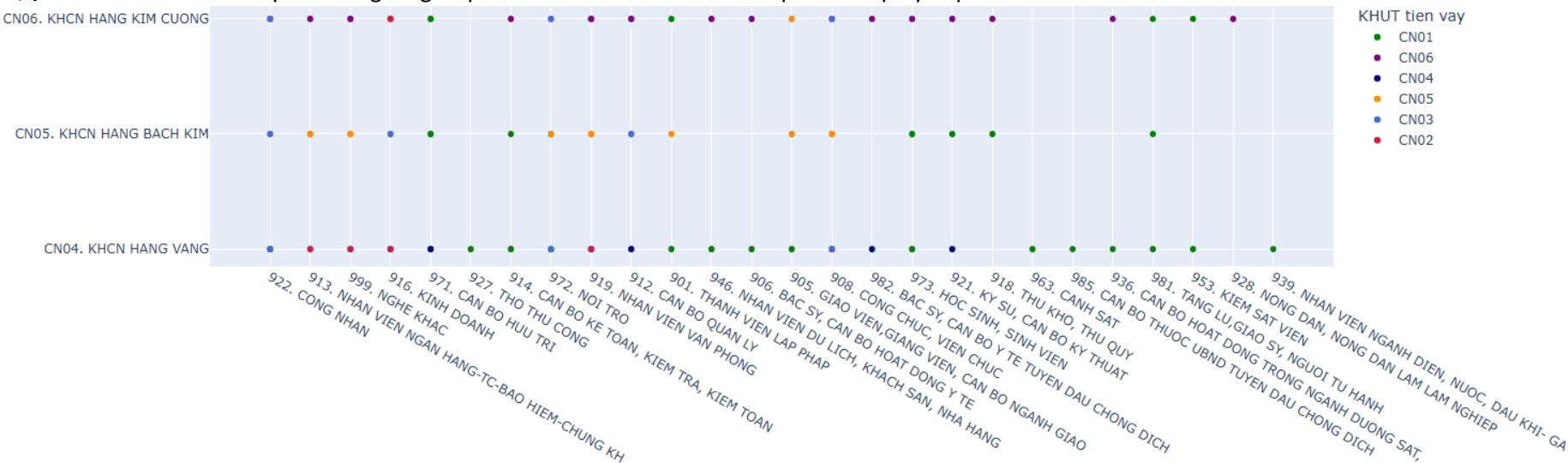
Q2 / 2024 : Compared to the first quarter, there were more military personnel and defense personnel in the priority customer group who registered to use loan benefits



Q3/2024



**Q4/2024:** Customers who prioritize gold group loans in the civil servant and public employee profession from level CN02 to CN03

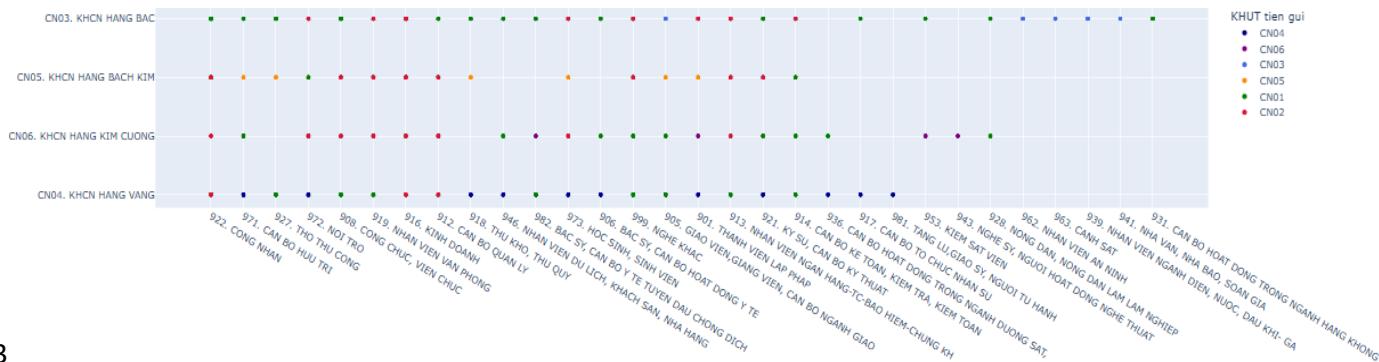


# Chart by occupation of customer segment with priority for deposits

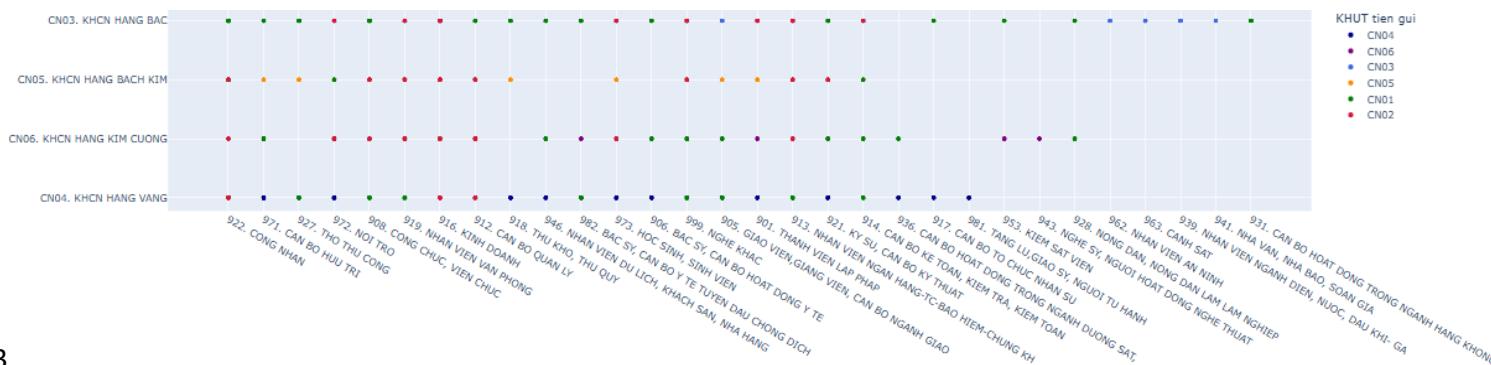
```
import plotly.express as px
plt.figure(figsize=(20, 19))

fig = px.scatter(df, x='Nghe nghiep' , y='Phan khuc KH', color="KHUT tien
gui",color_discrete_sequence=['darkblue','royalblue','crimson','green','purple','darkorange']) # Change color position as needed

fig.show()
```

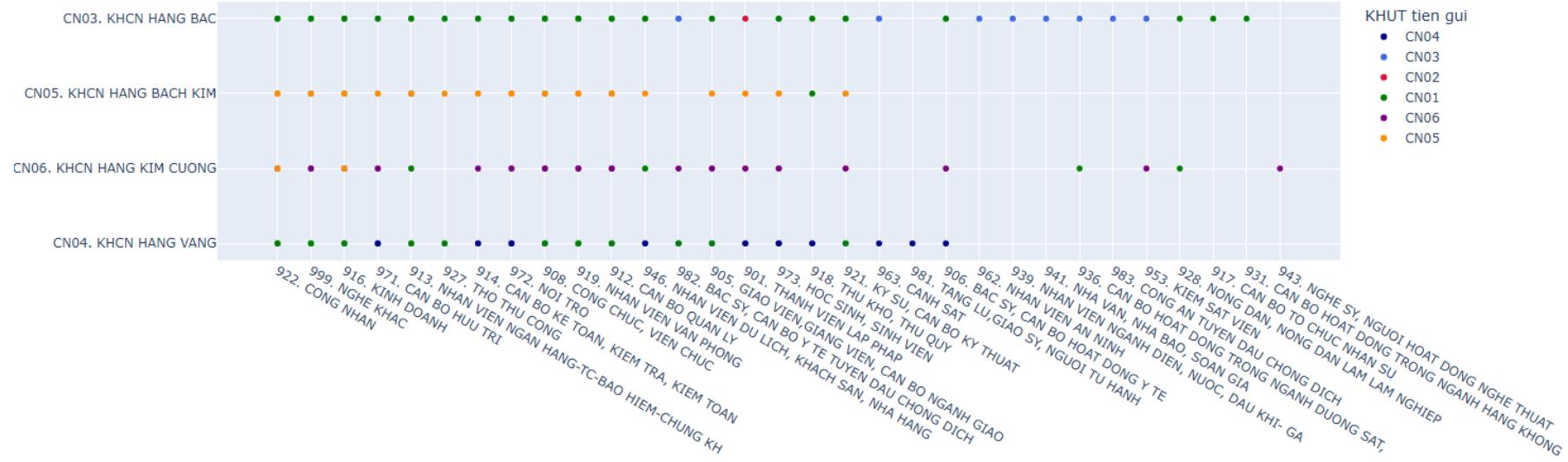


Q1/2023

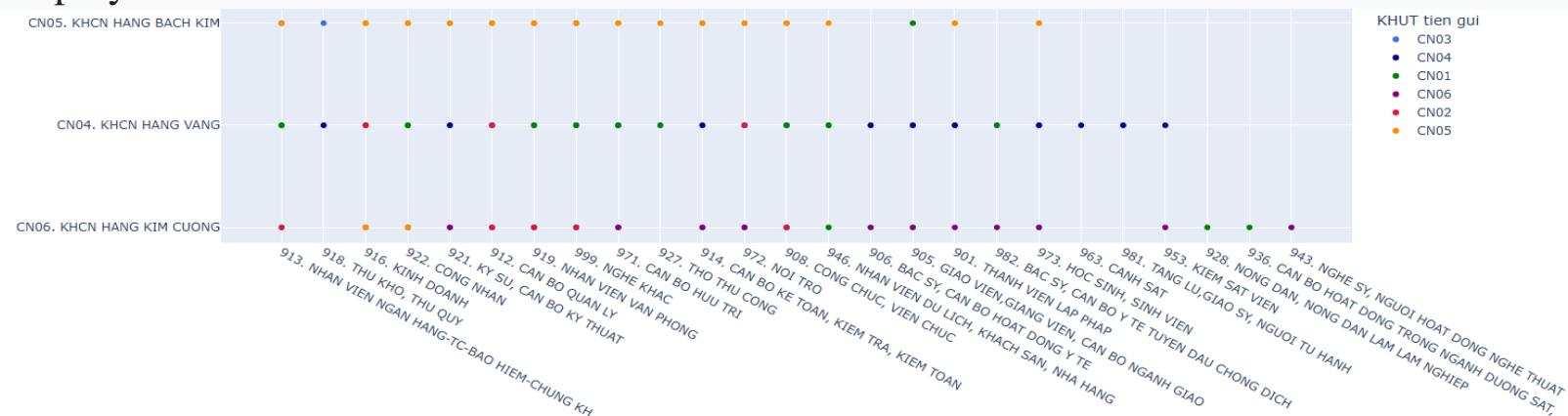


Q2/2023

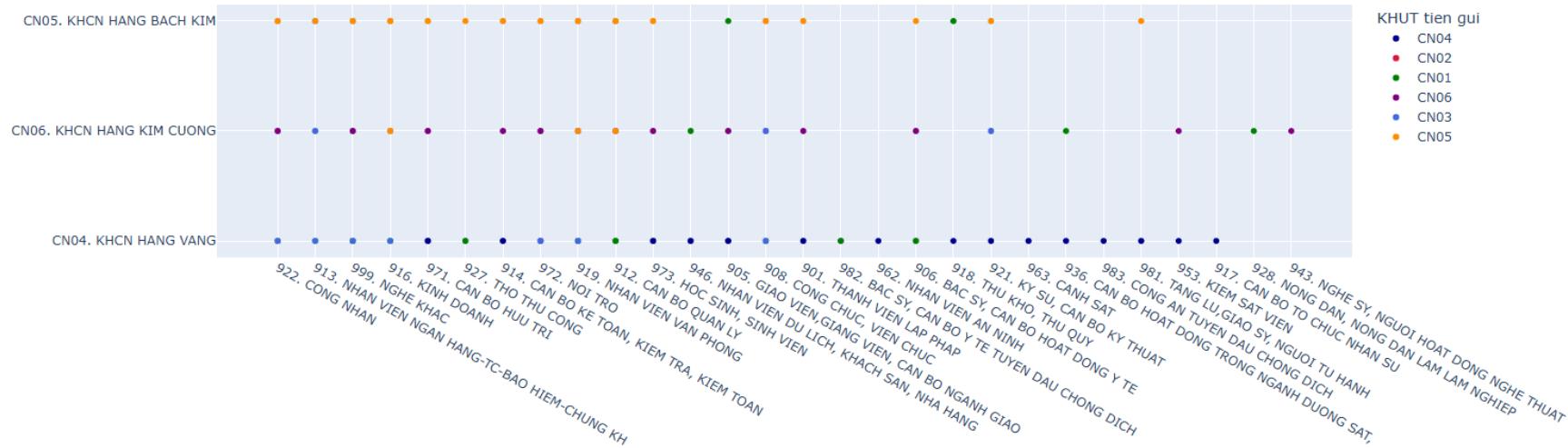
**Q3/2023:** Compared to Q2: more silver group customers prioritize CN01 level deposits, more platinum group customers prioritize CN05 level deposits



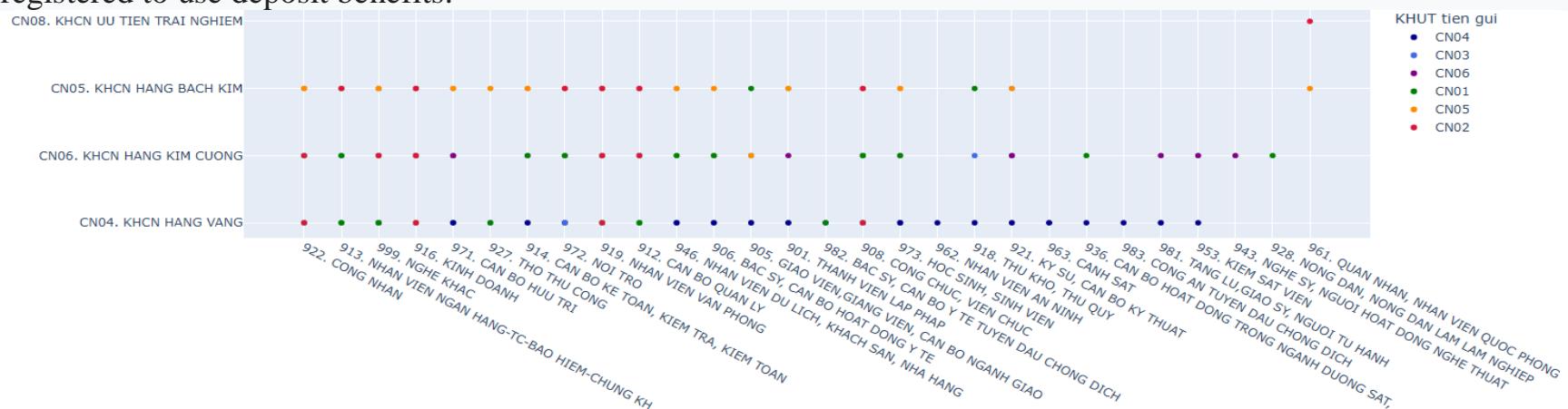
**Q4 / 2023 :** Customers with priority for diamond group deposits include managers, office staff, civil servants, and public employees from level CN06 to CN02.



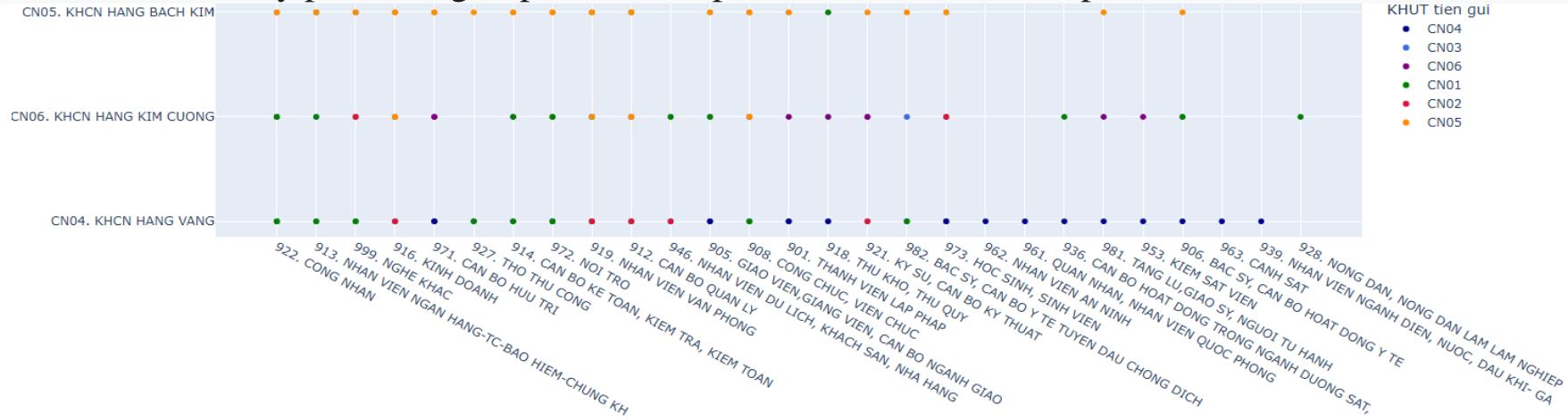
Q1/2024



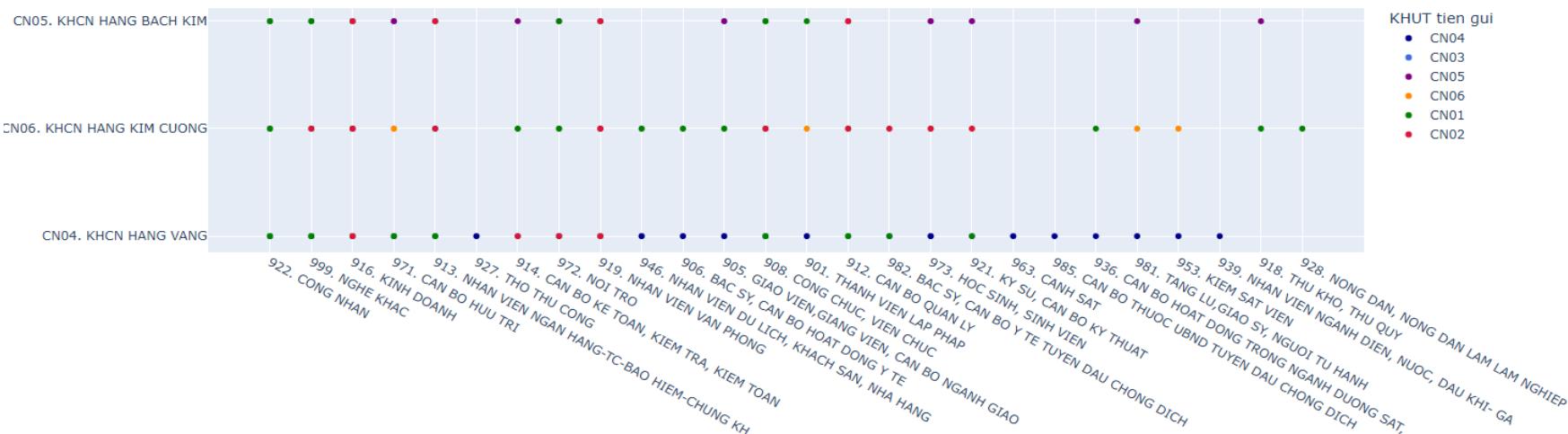
Q2 / 2024 : Compared to the first quarter, there were more military personnel and defense personnel in the priority customer group who registered to use deposit benefits.



## Q3/2024 : Many platinum group customers prioritize CN05 level deposits



## Q4/2024 : Customers who prioritize diamond group deposits have changed levels significantly compared to Q3/2024



```
Customer segmentation prioritizing cards and benefits
fig = px.scatter(df, x='Nghe nghiep' , y='Phan khuc KH', color="KHUT
the",color_discrete_sequence=['darkorange','darkblue','royalblue','purple']) # Change color position as needed

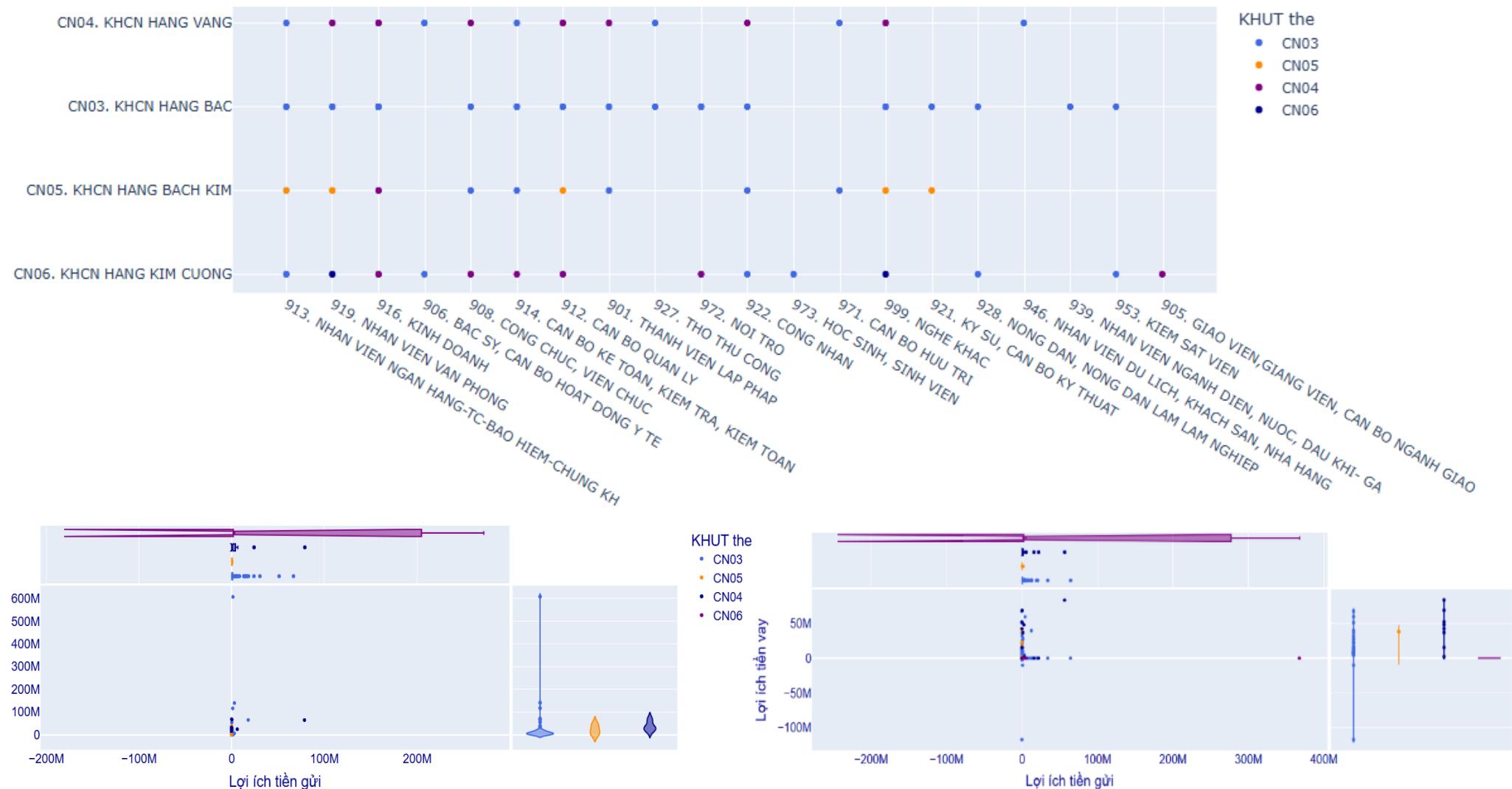
fig.show()

fig = px.scatter(df, x="Lợi ích tiền gửi", y="Lợi ích tiền vay", color="KHUT
the",color_discrete_sequence=['darkorange','darkblue','royalblue','purple'], # Change color position as needed

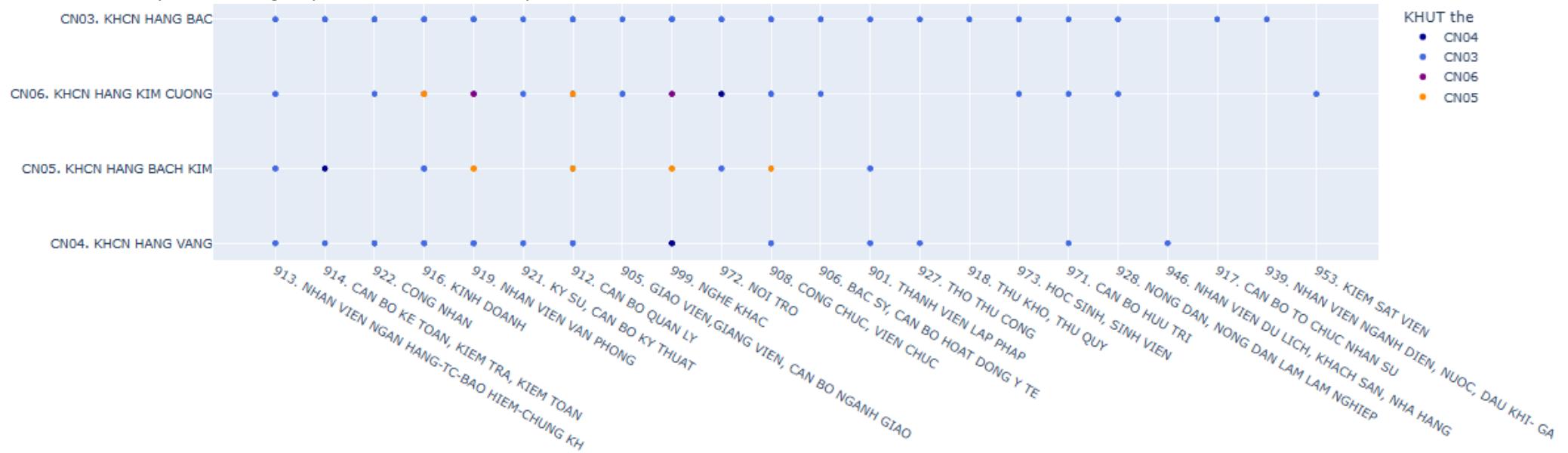
marginal_x="box", marginal_y="violin",
title="Click on the legend items!")

fig.update_layout(
    title={
        'text': "Biểu đồ của khách hàng ưu tiên thẻ",
        'y':0.95,
        'x':0.5,
        'xanchor': 'center',
        'yanchor': 'top'},
    xaxis_title="Lợi ích tiền gửi",
    yaxis_title="Lợi ích tiền vay",
    legend_title="KHUT the",
    font=dict(
        family="Arial",
        size=20,
        color="DarkBlue"
    )
)
fig.update_layout(xaxis=dict(showgrid=False),
                  yaxis=dict(showgrid=False))
)
fig.show()
```

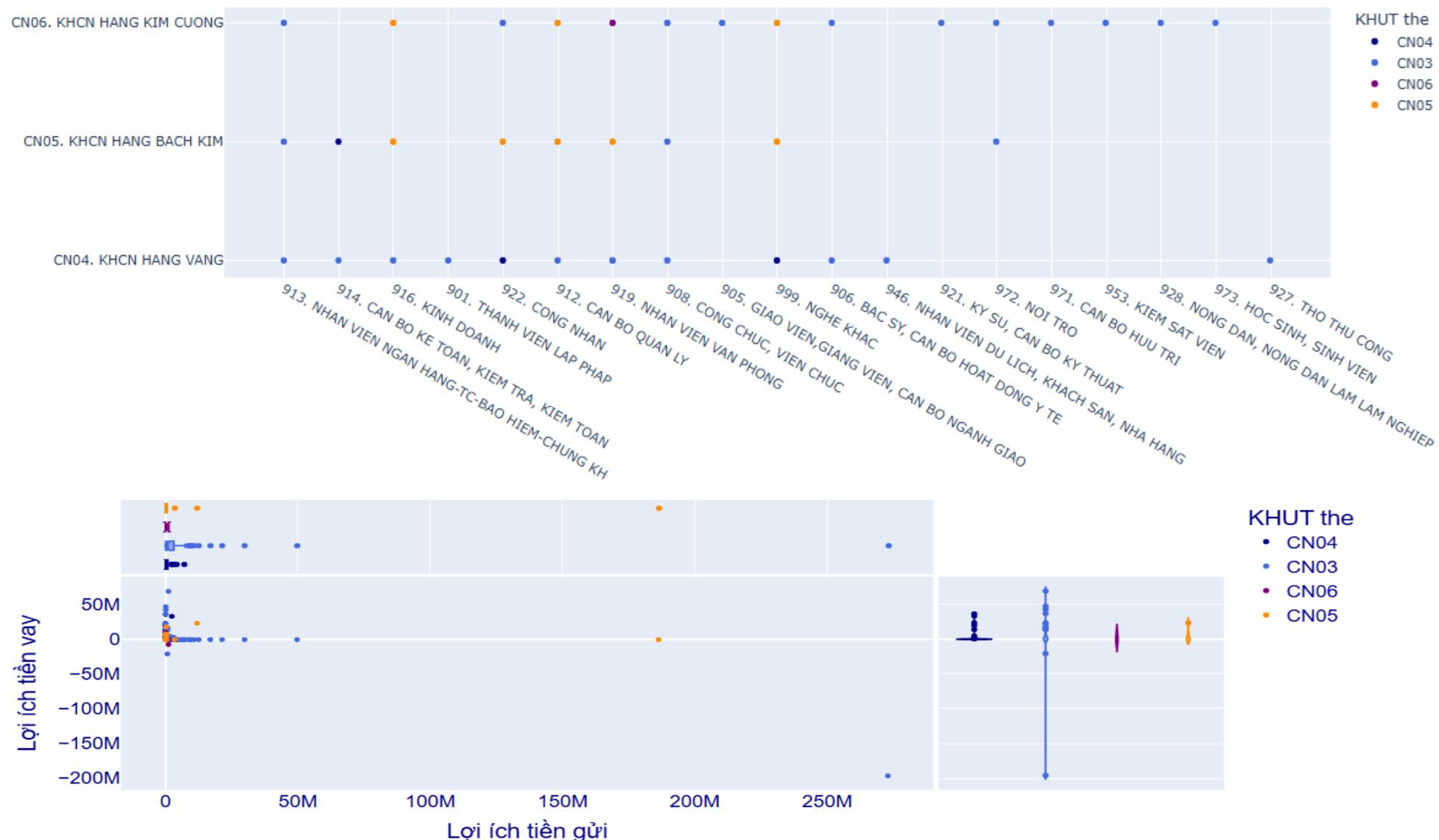
Q1 & Q2/2023: Priority customers group CN03 card level mostly silver customers use loan benefits, in the second quarter there are people borrowing for the first time so it is negative, Priority customers group CN06 card level use deposit benefits more than loan benefits



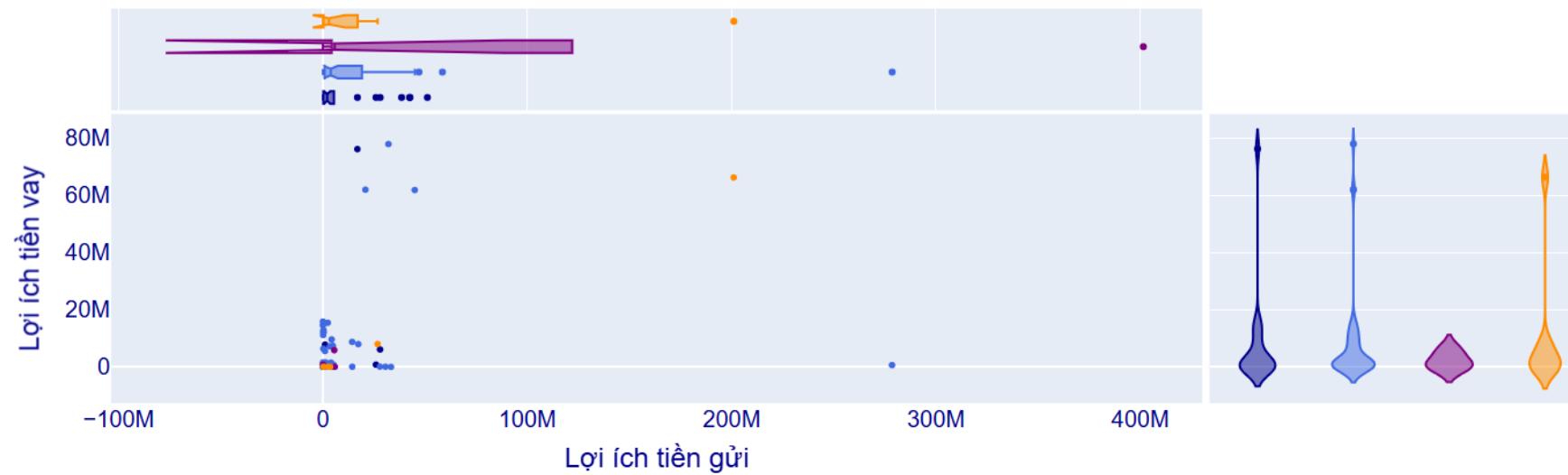
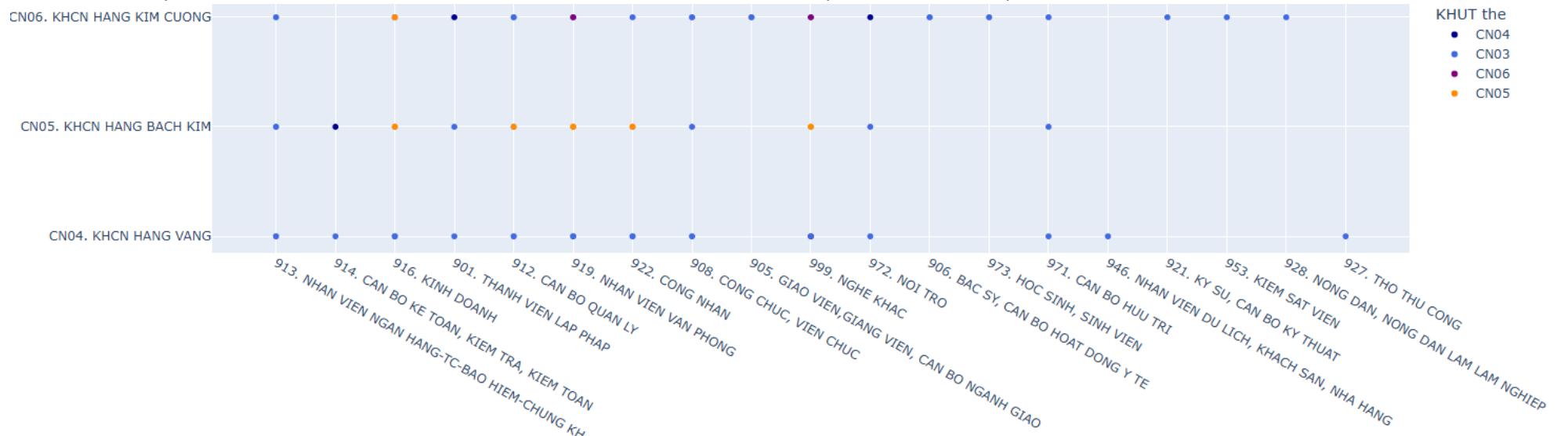
Q3/2023: Priority customers group CN03 card level mostly silver customers use loan benefits



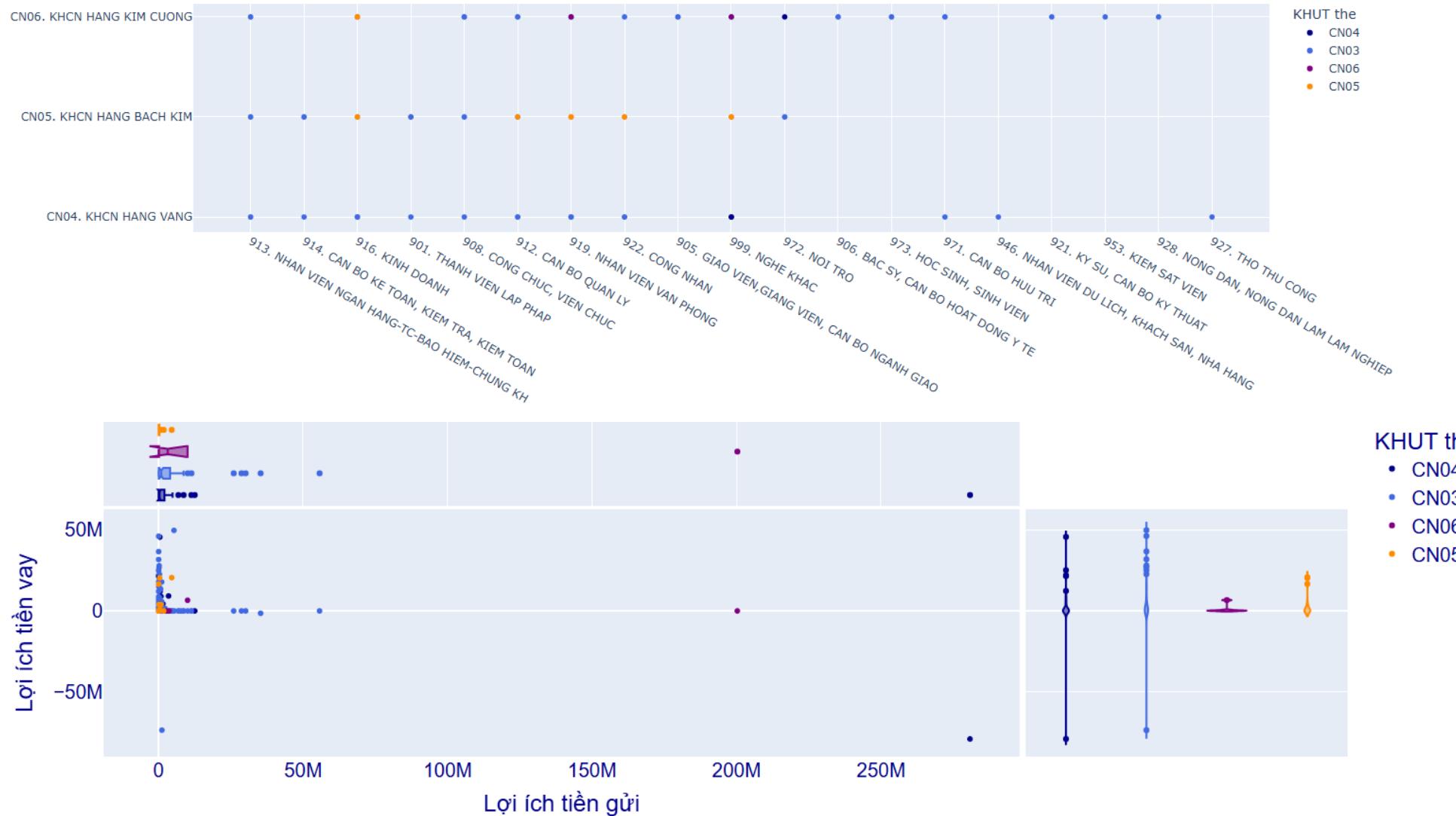
Q4/2023



Q1/2024: Priority customers of CN06 level card are office workers and some other occupations that use deposit benefits more



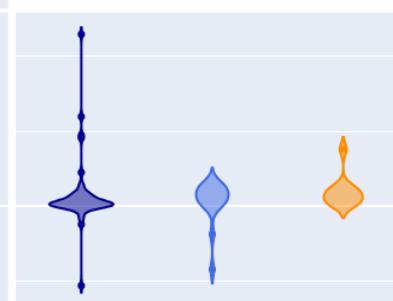
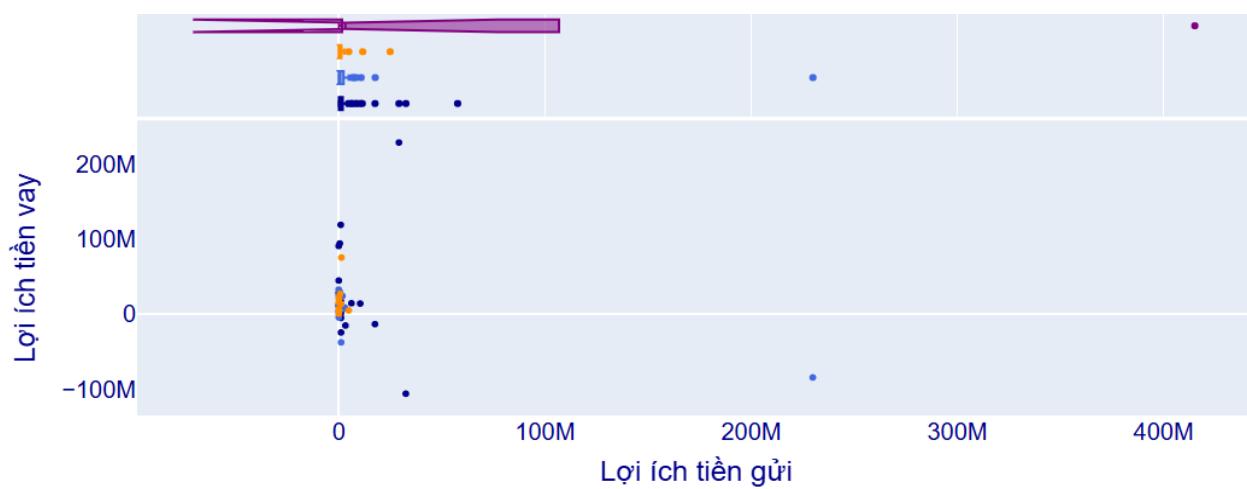
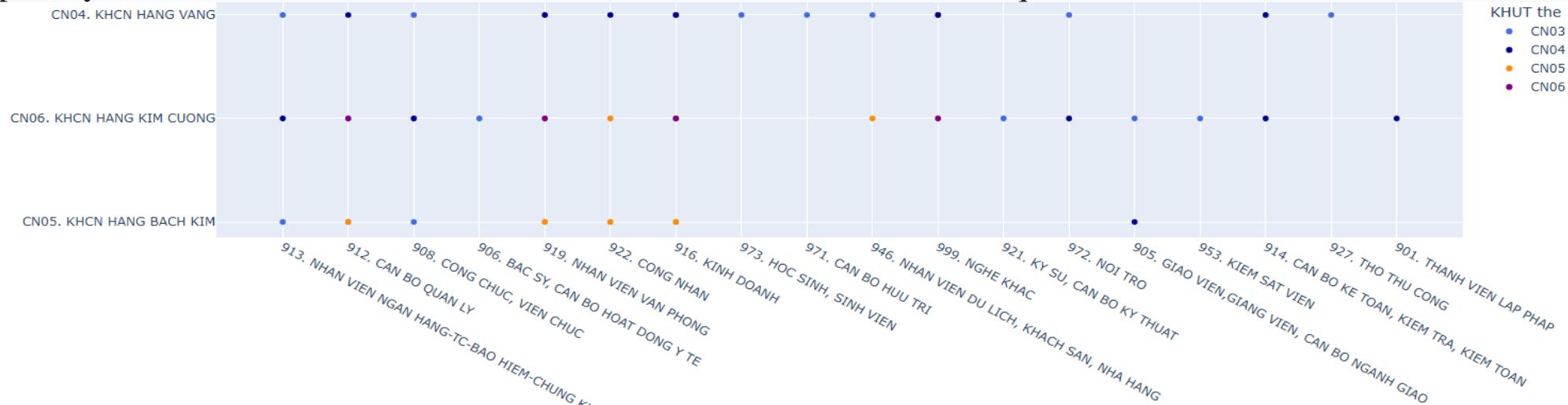
Q2/2024: Compared to the first quarter: other industries, the gold customer group increased the priority level of CN03 card to CN04, accounting, inspection and auditing staff, the platinum customer group reduced the priority level of CN04 card to CN03



**Q3/2024:** Diamond customer group in business sector, management staff increased card priority level to CN06, CN03 group has first-time borrowers of about 800 million



Q4/2024 : The gold customer group has some industries that increase the priority level of CN03 card to CN04, the priority level of CN03 card has fewer first-time borrowers than in the third quarter of 2024.



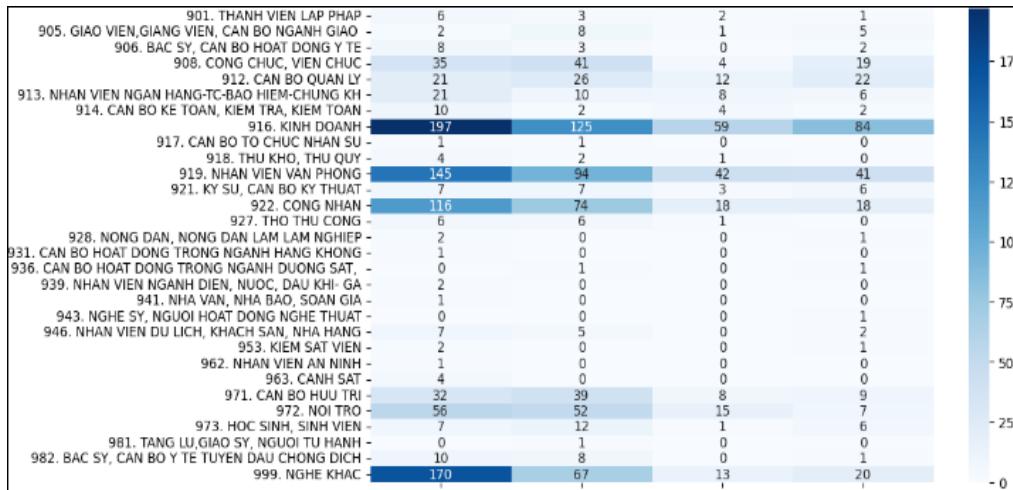
KHUT the

- CN03
- CN04
- CN05
- CN06

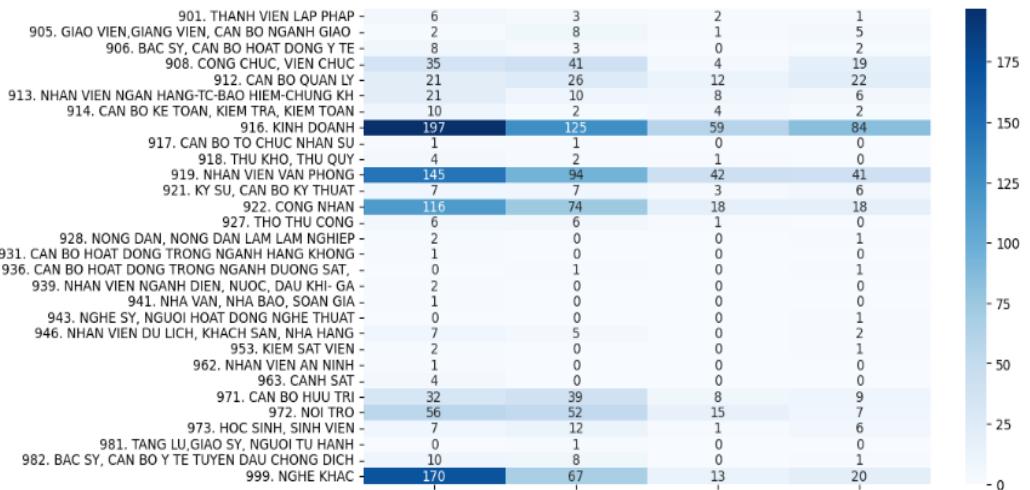
## Customer segmentation by occupation

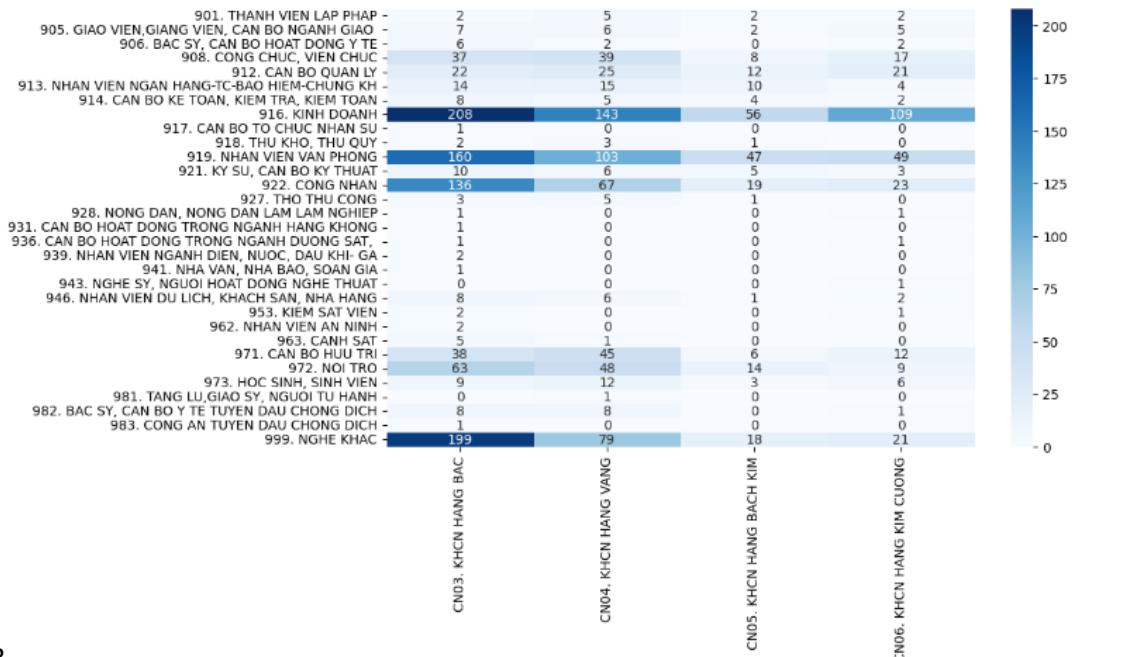
```
# Visualize the relationships between categorical variables using heatmaps
categorical_cols = ['Nghe nghiep', 'Phan khuc KH']
for i in range(len(categorical_cols)):
    for j in range(i + 1, len(categorical_cols)):
        plt.figure(figsize=(10, 6))
        # Create a cross-tabulation of the two categorical columns
        ct = pd.crosstab(df[categorical_cols[i]], df[categorical_cols[j]])
        sns.heatmap(ct, annot=True, fmt='d', cmap='Blues')
        plt.title(f'Relationship between {categorical_cols[i]} and {categorical_cols[j]}')
        plt.show()
```

Q1/2023

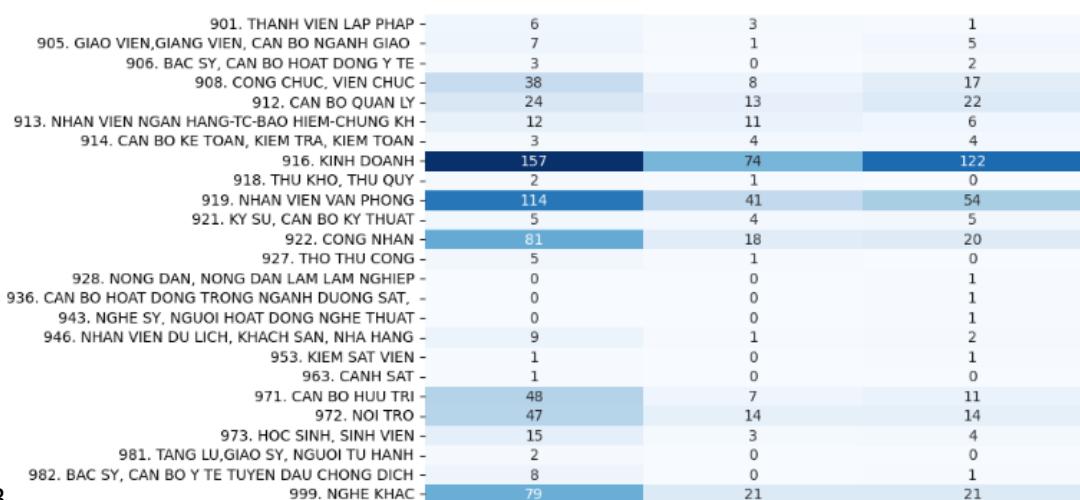


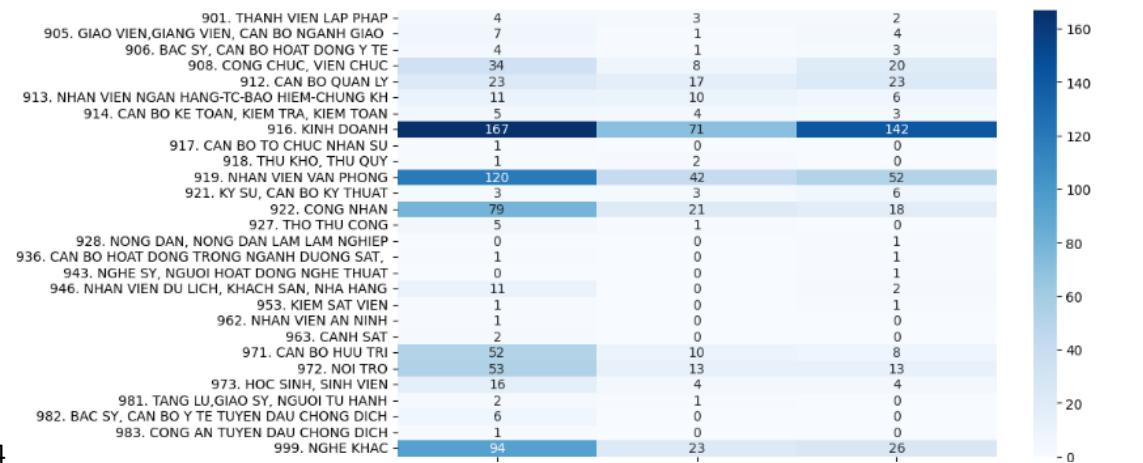
Q2/2023



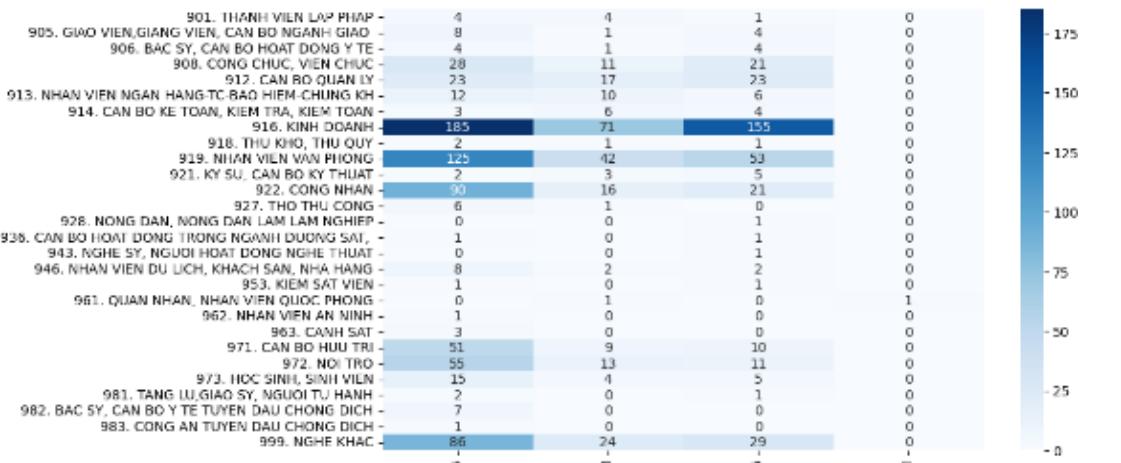


Q4/2023





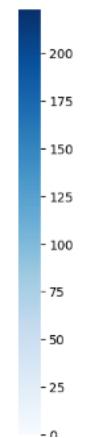
Q1/2024



Q2/2024:

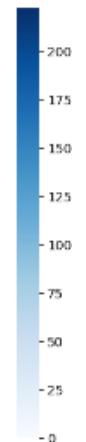


901. THANH VIEN LAP PHAP -	6	2	1	
905. GIAO VIEN, GIANG VIEN, CAN BO NGANH GIAO -	8	4	4	
906. BAC SY, CAN BO HOAT DONG Y TE -	1	1	3	
908. CONG CHUC, VIEN CHUC -	30	10	25	
912. CAN BO QUAN LY -	24	17	23	
913. NHAN VIEN NGAN HANG-TC-BAO HIEM-CHUNG KH -	12	14	6	
914. CAN BO KE TOAN, KIEM TRA, KIEM TOAN -	7	4	5	
916. KINH DOANH -	223	83	178	
918. THU KHO, THU QUY -	3	1	2	
919. NHAN VIEN VAN PHONG -	177	37	61	
921. KY SU, CAN BO KY THUAT -	4	1	6	
922. CONG NHAN -	96	20	25	
927. THO THU CONG -	5	1	0	
928. NONG DAN, NONG DAN LAM LAM NGHIEP -	0	0	1	
936. CAN BO HOAT DONG TRONG NGANH DUONG SAT, -	1	0	1	
939. NHAN VIEN NGANH DIEN, NUOC, DAU KHI- GA -	1	0	0	
946. NHAN VIEN DU LICH, KHACH SAN, NHA HANG -	9	0	3	
953. KIEM SAT VIEN -	1	0	1	
961. QUAN NHAN, NHAN VIEN QUOC PHONG -	1	0	0	
962. NHAN VIEN AN NINH -	1	0	0	
963. CANH SAT -	1	0	0	
971. CAN BO HUU TRI -	50	12	15	
972. NOI TRO -	50	16	14	
973. HOC SINH, SINH VIEN -	18	2	8	
981. TANG LU, GIAO SY, NGUOI TU HANH -	1	1	1	
982. BAC SY, CAN BO Y TE TUYEN DAU CHONG DICH -	8	1	1	
999. NGHE KHAC -	48	20	24	



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901. THANH VIEN LAP PHAP -	4	1	2	
905. GIAO VIEN, GIANG VIEN, CAN BO NGANH GIAO -	4	4	3	
906. BAC SY, CAN BO HOAT DONG Y TE -	4	0	5	
908. CONG CHUC, VIEN CHUC -	32	10	27	
912. CAN BO QUAN LY -	20	19	25	
913. NHAN VIEN NGAN HANG-TC-BAO HIEM-CHUNG KH -	14	14	8	
914. CAN BO KE TOAN, KIEM TRA, KIEM TOAN -	10	1	6	
916. KINH DOANH -	222	99	188	
918. THU KHO, THU QUY -	0	2	2	
919. NHAN VIEN VAN PHONG -	119	48	62	
921. KY SU, CAN BO KY THUAT -	5	2	5	
922. CONG NHAN -	96	21	26	
927. THO THU CONG -	3	0	0	
928. NONG DAN, NONG DAN LAM LAM NGHIEP -	0	0	2	
936. CAN BO HOAT DONG TRONG NGANH DUONG SAT, -	1	0	1	
939. NHAN VIEN NGANH DIEN, NUOC, DAU KHI- GA -	1	0	0	
946. NHAN VIEN DU LICH, KHACH SAN, NHA HANG -	7	0	4	
953. KIEM SAT VIEN -	2	0	1	
963. CANH SAT -	2	0	0	
971. CAN BO HUU TRI -	53	11	12	
972. NOI TRO -	55	11	14	
973. HOC SINH, SINH VIEN -	16	4	8	
981. TANG LU, GIAO SY, NGUOI TU HANH -	2	1	1	
982. BAC SY, CAN BO Y TE TUYEN DAU CHONG DICH -	7	0	3	
985. CAN BO THUOC UBND TUYEN DAU CHONG DICH -	1	0	0	
999. NGHE KHAC -	53	13	28	



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CMD4. KIEM SAT VIEN -				
CN04. KIEM SAT VIEN -				
CN05. KIEM SAT CHUNG KH -				
CN06. KIEM SAT CHUNG KH -				
CN07. KIEM SAT CHUNG KH -				

