



# BZJ Datathon Solutions

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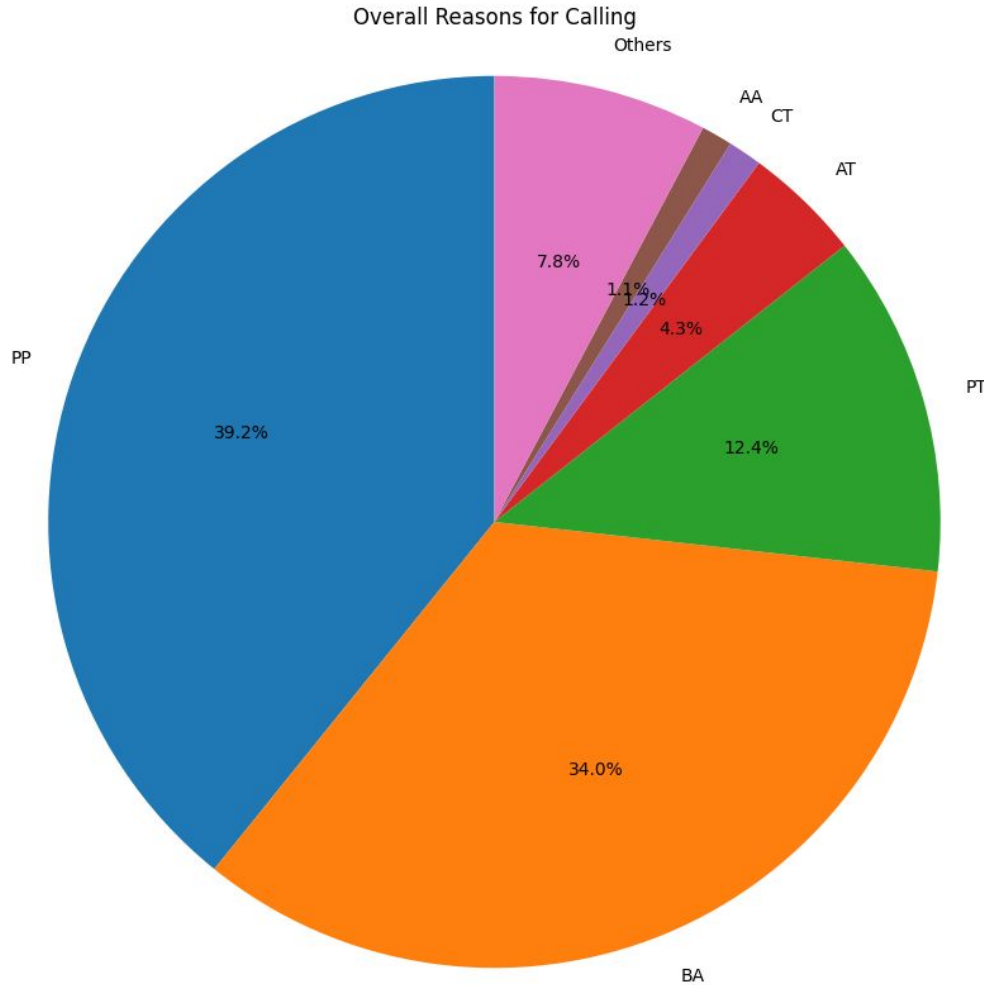
# Table of Contents



1. Overview
2. Retailer Investigation
3. Repeat Call Analysis
3. Suggestion 1
4. Suggestion 2



# Overview

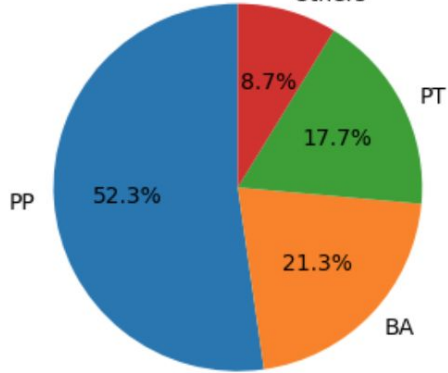


## Background info

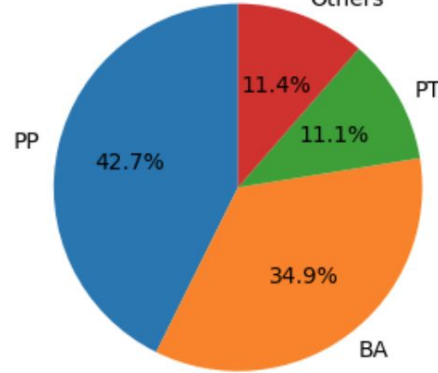
- Top reasons for calling are PP, BA, and PT



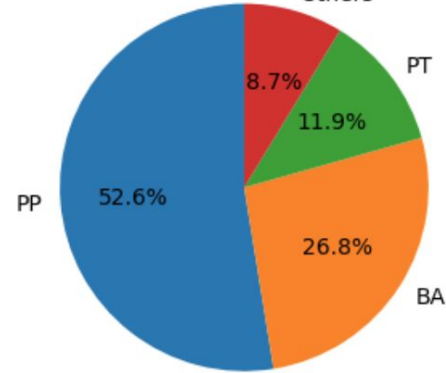
Reasons for Calling - k



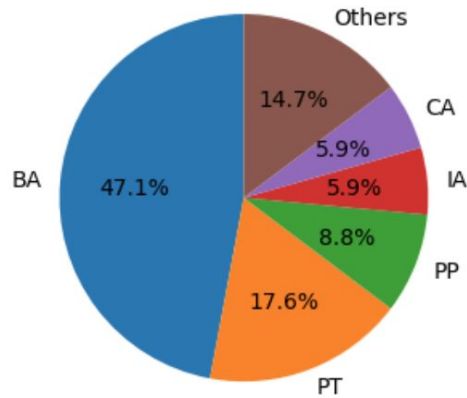
Reasons for Calling - n



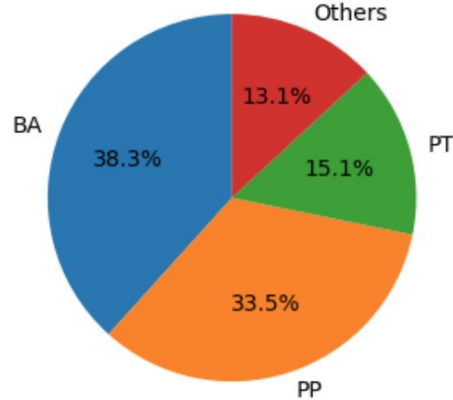
Reasons for Calling - m



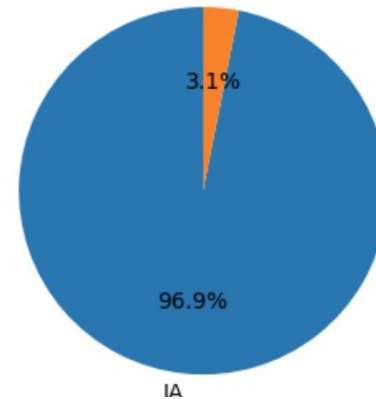
Reasons for Calling - t



Reasons for Calling - r



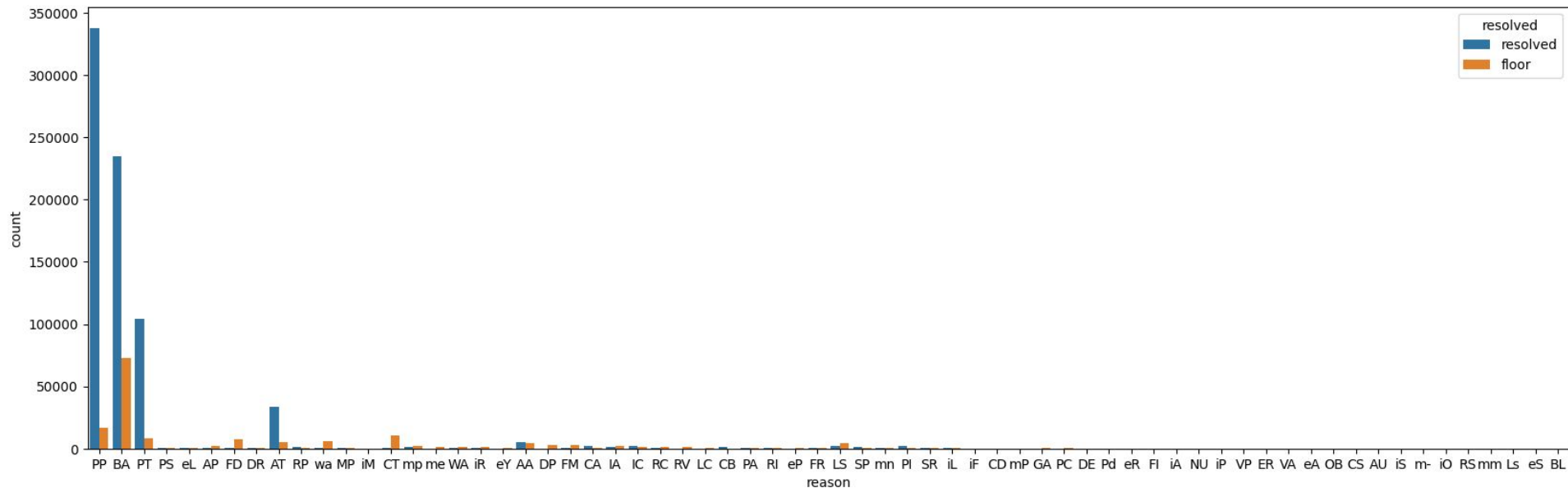
Reasons for Calling - s



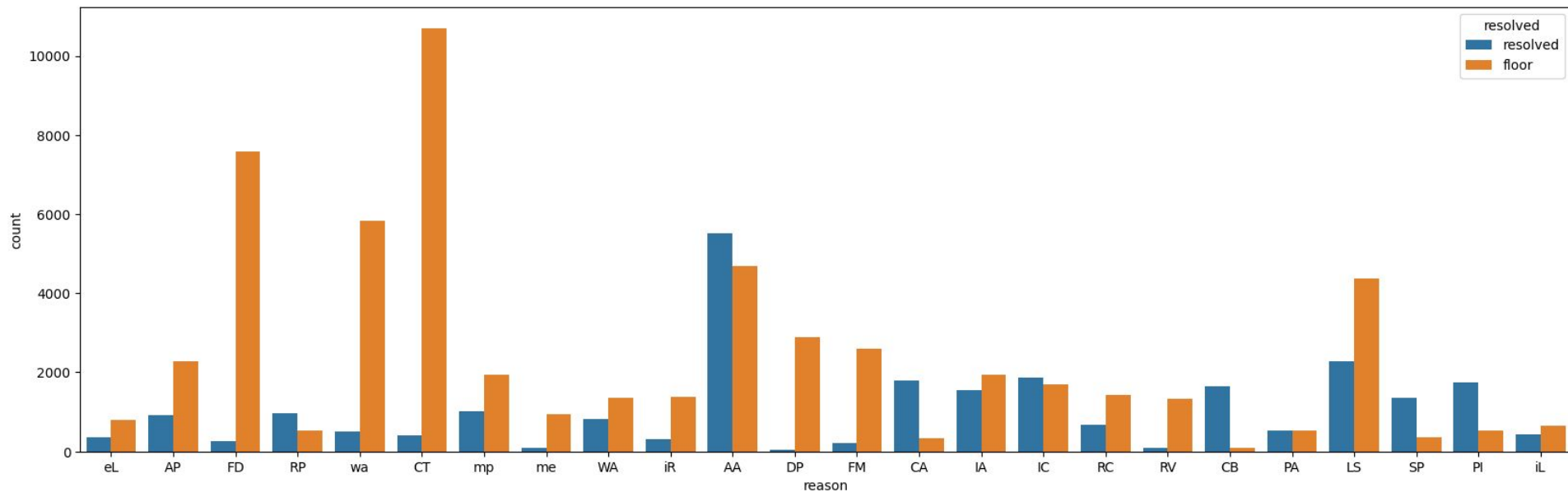
Some retailer has different patterns



'PP', 'BA', 'PT' standing out as the most common unsolved issues.



# Other significant variables





# Retailers Investigation

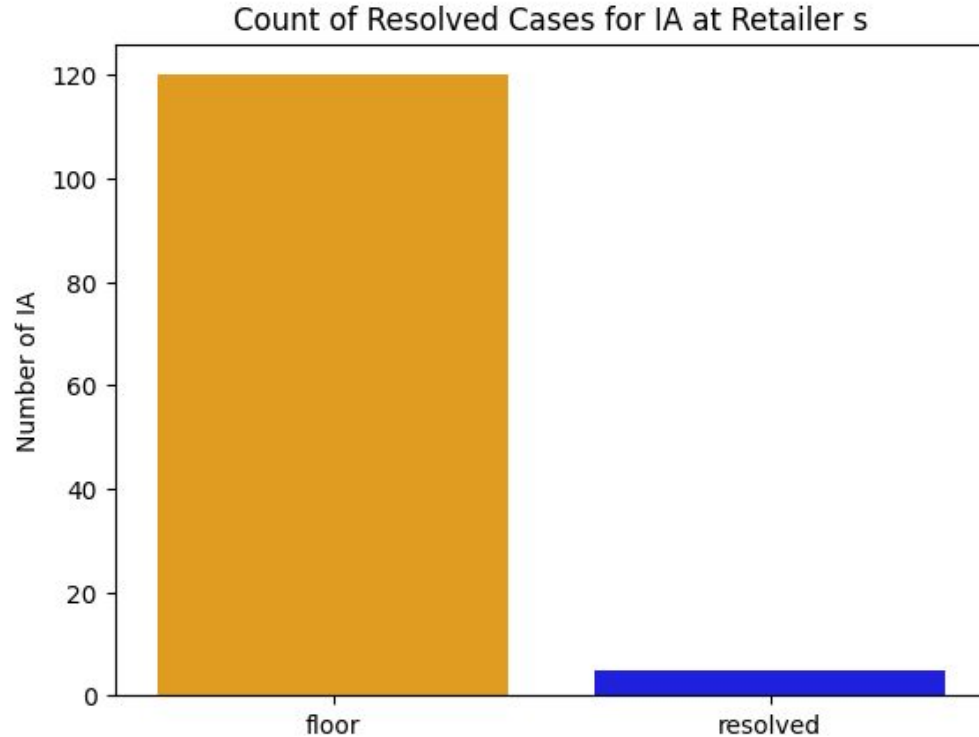




All the clients of retailer 's' enter  
the floor



## Suggestion: investigate in retailer 's'



It is evident that the number of unresolved cases (denoted by 'floor') significantly outweighs the number of resolved cases (denoted by 'resolved').

All resolved case are because clients hanged up during transfer



```
2 df_raw[(df_raw.retailer_code == 's') & (df_raw.reason == 'IA') & (df_raw.resolved == 'resolved')]
```

✓ 0.2s

	timestamp_call_key	retailer_code	serial	reason	mos	resolved	no_of_accounts_with_syf_13_
362696	240317120122 DAL43KTK	s	20042000112	IA	IA TR	resolved	
402205	240317111512 PHX3ARQW	s	20042000108	IA	IA TR	resolved	
419705	240317110222 DAL1SDMM	s	20042000106	IA	IA TR	resolved	
668002	240316124115 DAL2VVJ3	s	20042000091	IA	IA TR	resolved	
798061	240315174358 PHX7CG2V	s	20042000059	IA	IA TR	resolved	



# Most client in retailer 's' go to the floor for IA

```
1 df.groupby(['retailer_code']).agg({'resolved':'mean','card_activation_status':'count'}).sort_values('resolved',ascending=True)
2 df_raw[df_raw.retailer_code == 's']
```

✓ 0.7s

	timestamp_call_key	retailer_code	serial	reason	mos	resolved	no_of_accounts_with_syf_13_march	account_balance_13_march
22812	240316084433 PHX6FUNR	s	20042000076	IA	IA TR	floor	2.0	1397.8000
32620	240314202935 DAL31HEB	s	20042000024	IA	IA TR	floor	1.0	401.5400
34344	240315205412 PHX42LSG	s	20042000069	IA	IA TR	floor	8.0	465.9886
39371	240314135428 DAL2RA7L	s	20042000013	IA	IA TR	floor	4.0	396.3400
48670	240315131828 PHX67E4T	s	20042000038	IA	IA TR	floor	1.0	1743.0700
...	...	...	...	...	...	...	...	...
875962	240314083510 DAL4CB21	s	20042000001	IA	IA TR	floor	1.0	276.1700
877252	240315223153 PHX5BPDH	s	20042000071	IA	IA TR	floor	2.0	581.3478
886204	240316120017 PHX3JHIO	s	20042000088	IA	IA TR	floor	4.0	307.6500
890888	240315134523 DAL3LMN3	s	20042000041	IA	IA TR	floor	1.0	189.9200
891266	240315141503 DAL1FWGL	s	20042000049	IA	IA TR	floor	10.0	90.4400

129 rows x 24 columns



```
1 # for all the retailer s, clients fail the IA directly
2 df_raw[(df_raw.retailer_code == 's') & (df_raw.reason != 'IA')]
```

[84] ✓ 0.0s

	timestamp_call_key	retailer_code	serial	reason	mos	resolved
321086	240315171503 DAL2JDEU	s	20052000004	BA	IA PP BA TS nl BA nl TR	floor
345464	240314173817 DAL5YTW8	s	20052000003	mp	IA BA TS nl AT nl mp TR	floor
479693	240314132025 PHX7KNBE	s	20052000001	BA	IA BA TS nl mm mo TR	floor
863958	240314133842 DAL5N1K1	s	20052000002	PT	IA BA nl PT TR	floor

All the cases which reason is not IA still need to go to floor



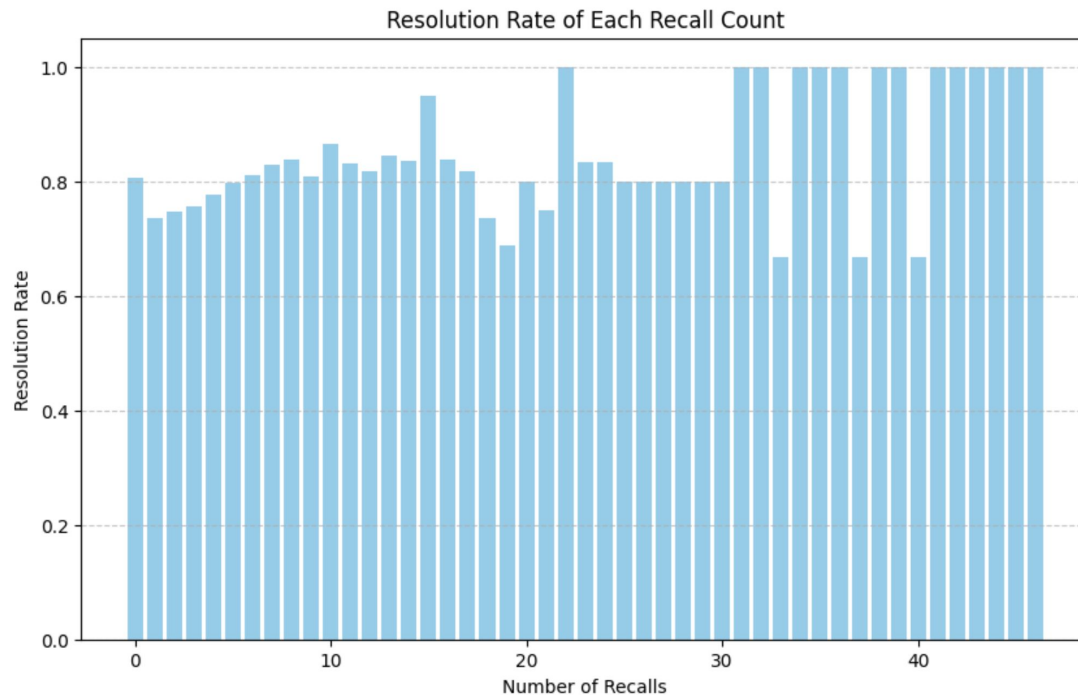
Suggest: company investigate in  
retailer 's' more





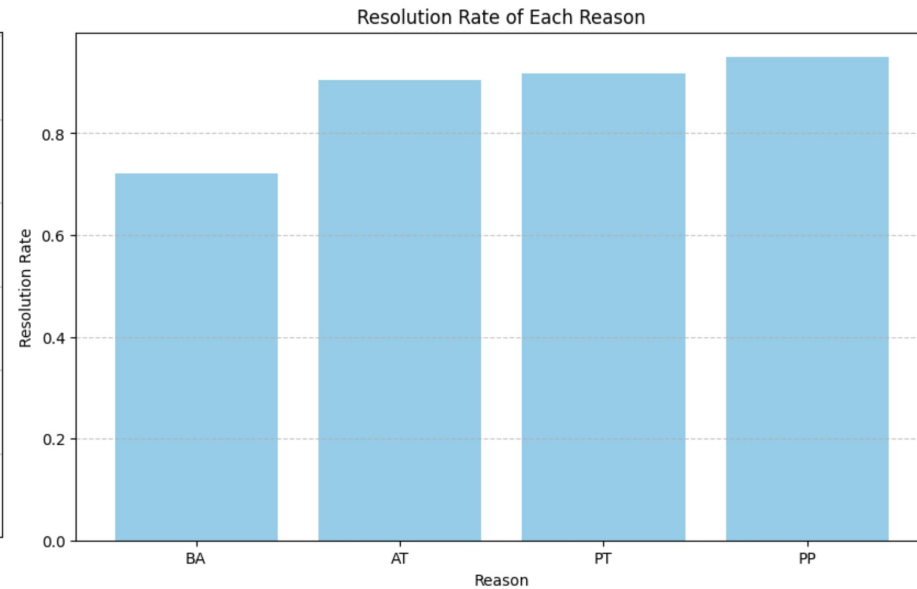
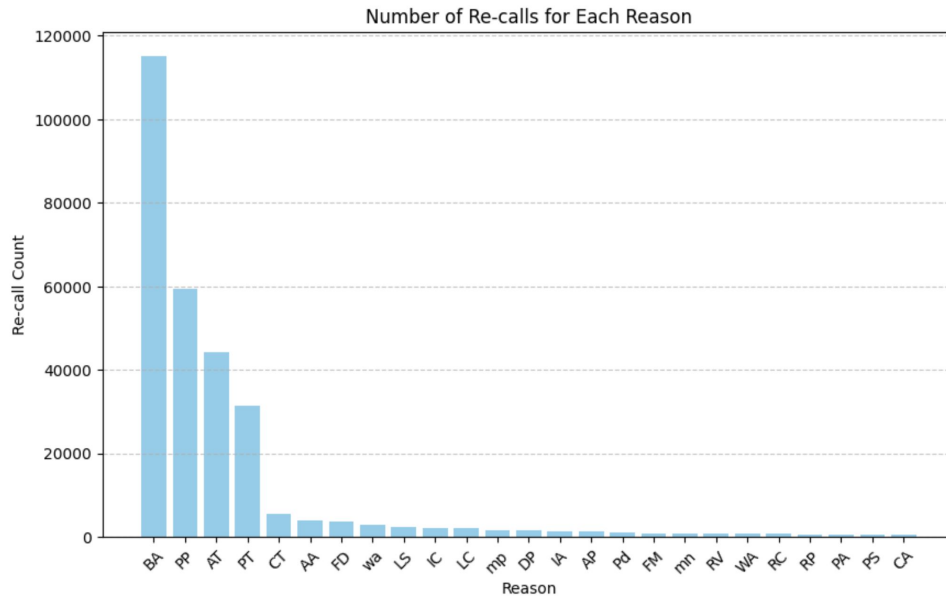
Repeat Caller Analysis

# Do repeat callers often transfer to the floor?

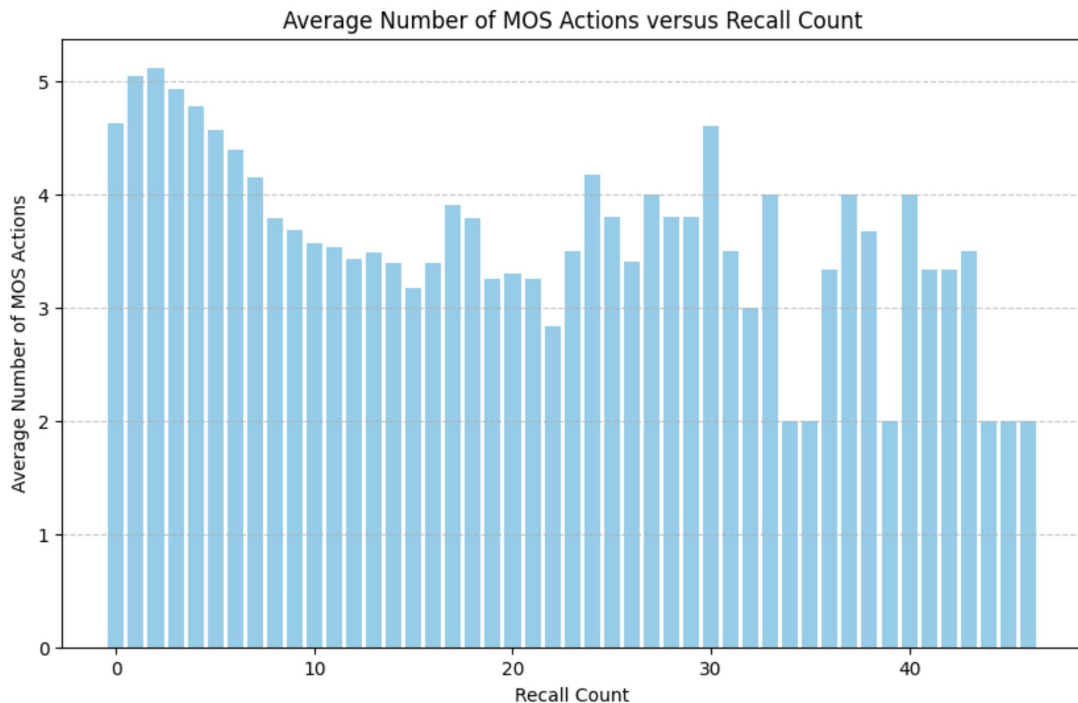




# Which call reasons see the most repeat callers?



100



serial	mos
10022000856	IA BA
10022000856	IA BA
10022000856	IA BA
10022000856	IA BA
10022000856	IA BA
10022000856	IA BA
10022000856	IA BA
10022000856	IA BA
10022000856	IA BA
10022000856	IA BA
10022000856	IA BA
10022000856	IA BA
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10022000856	IA BA TS
10022000856	IA BA
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10022000856	IA BA
10022000856	IA BA
10022000856	IA BA

This customer called 30 times over four days.

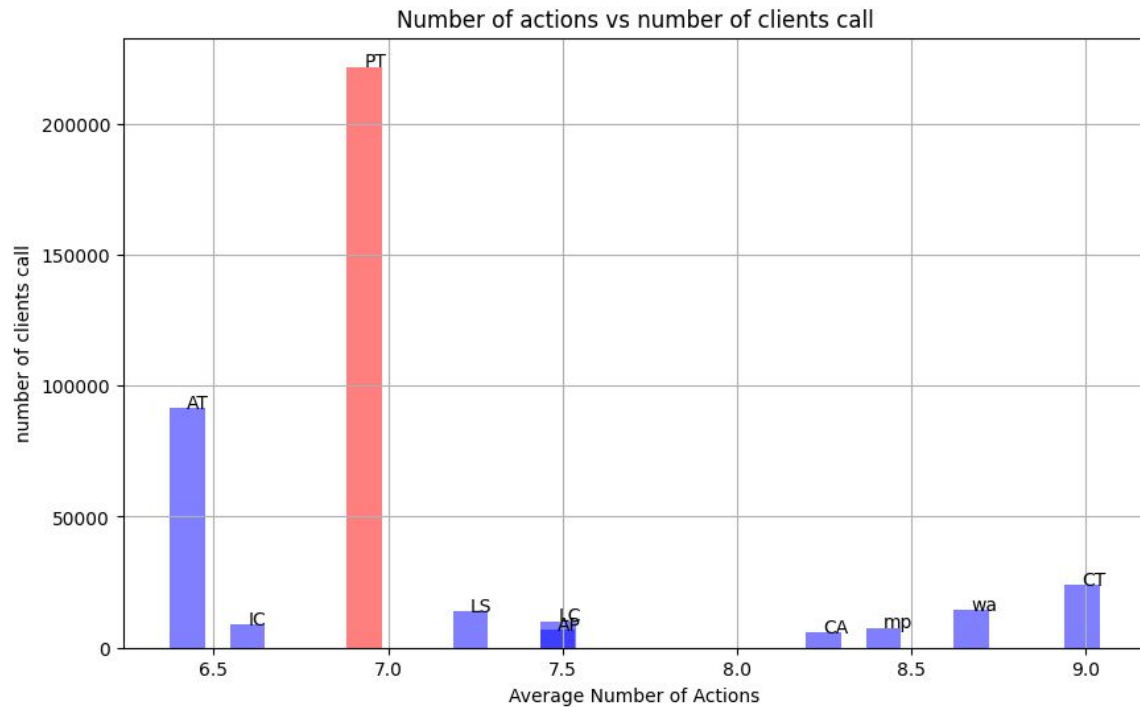




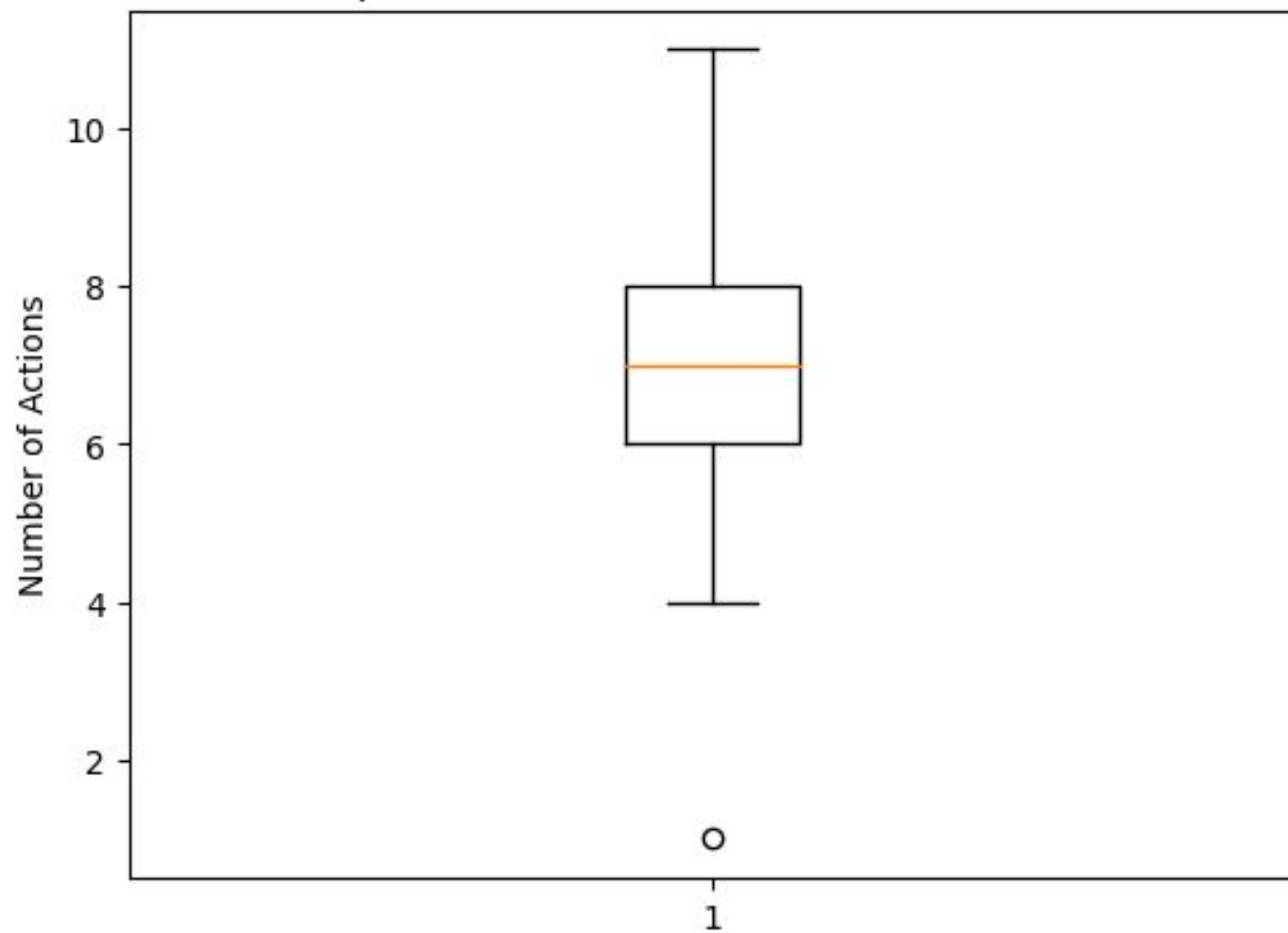
# Suggestion 1

Add Payment section of IVR

# Goal: Reduce number of actions

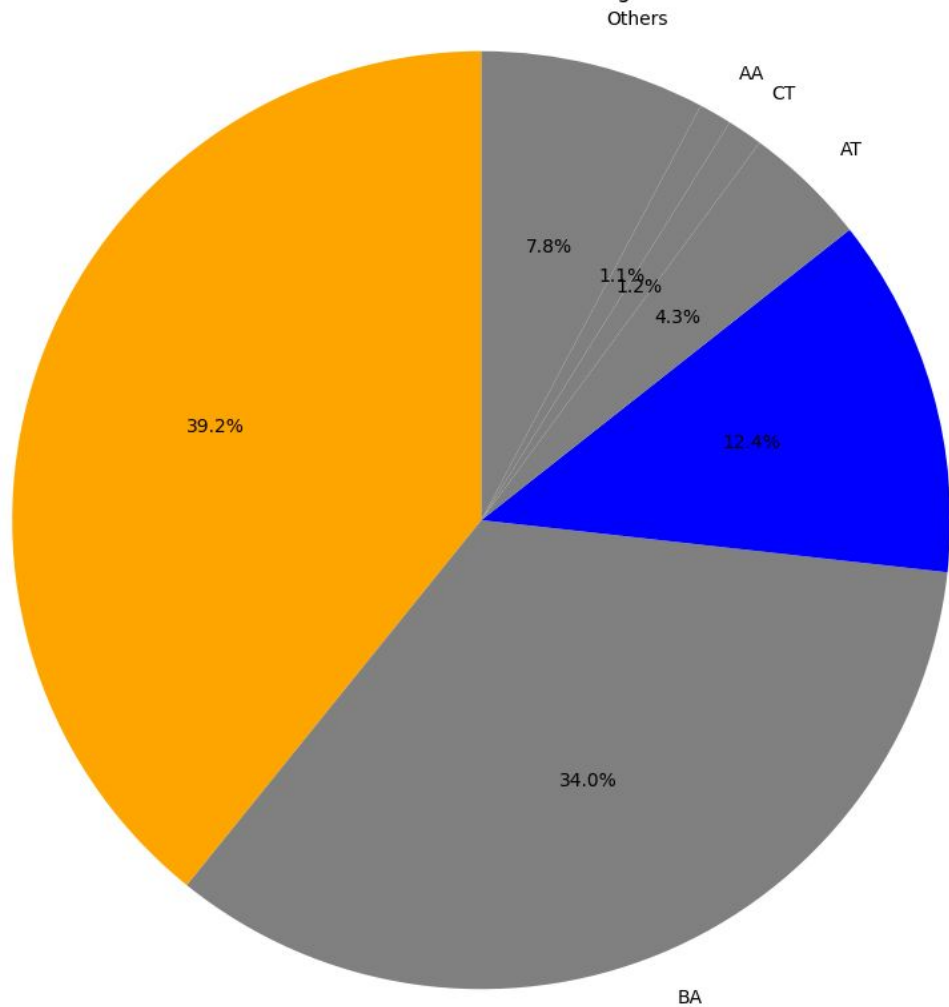


Boxplot of Number of Actions for Reason PT





# Overall Reasons for Calling



PT

High percentage of PT and PP  
Worth changing

## Not Effective Use of mp(menu of payment)



```
data = df[df['reason'] == 'PT']
```

```
1 len(data[data.contains_mp == True]) / len(data)
```

✓ 0.0s

```
0.20161745260241085
```

Most of clients did not enter menu of payment when redirecting to payment transfer.



Suggest: Adding a payment  
section when customers connect  
to IVR



# Advantage:



- **Enhanced Customer Convenience:**

A clearer structure, reduce clients' actions to resolve their needs

- **Improved Cash Flow:**

Prompt payment options can lead to faster collections and improved cash flow for the business.

- **Data Collection for Service Improvement:**

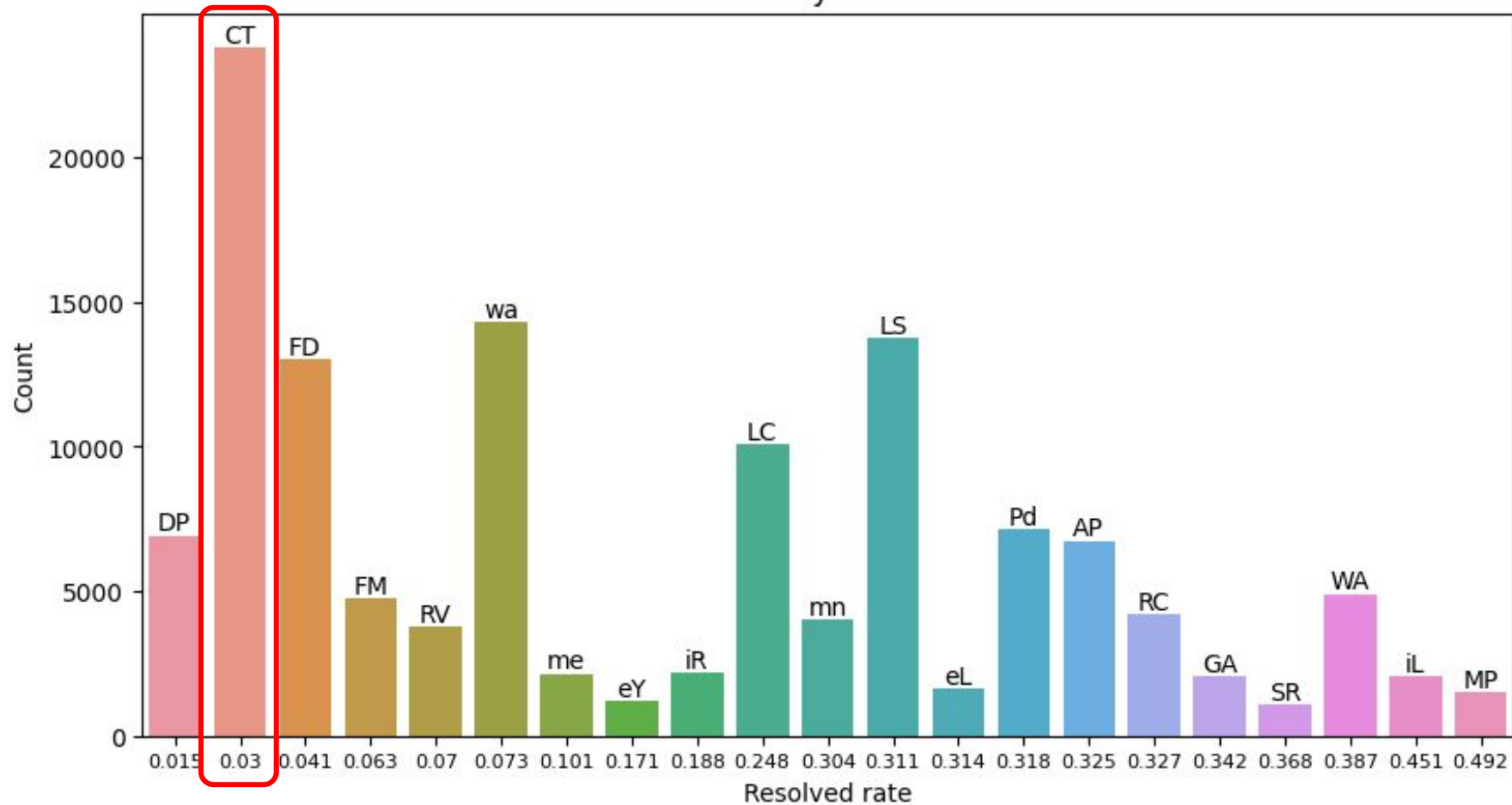
Payment interactions can provide valuable data, which can be analyzed to further improve the IVR system and customer experience.



# Suggestion 2

Additional Complaint Channels / Direction to the channels in IVR

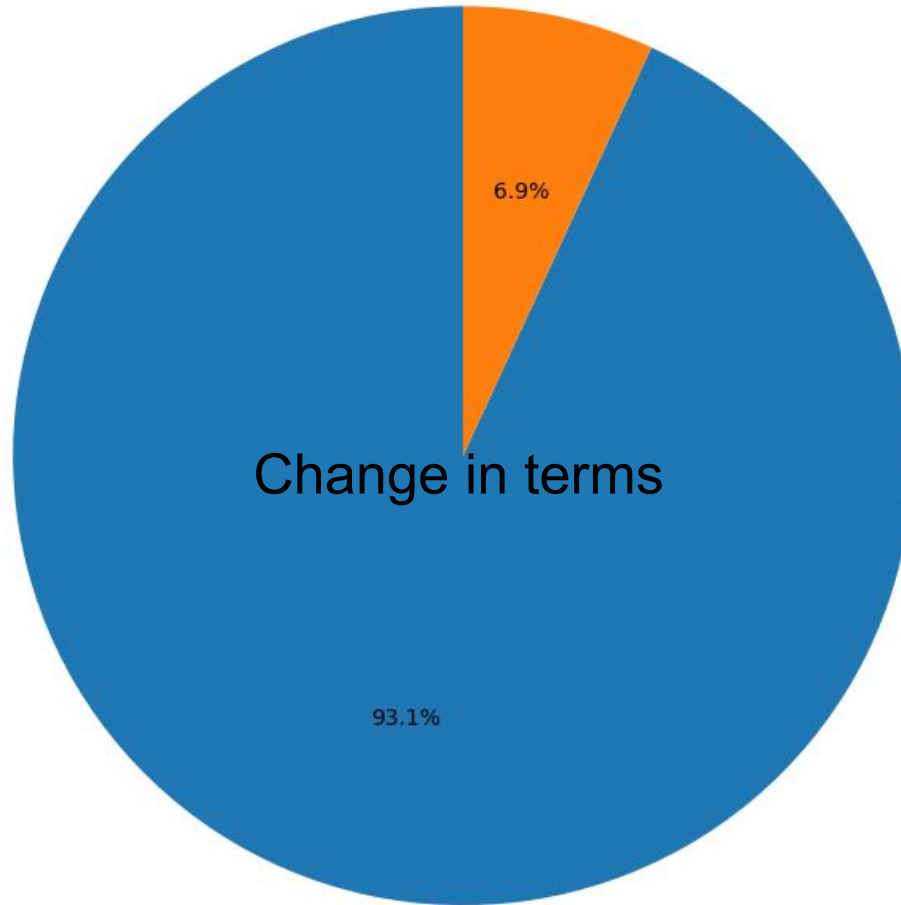
Resolved rate by Count of Clients





Change in terms always direct to  
transfer

Ratio of MOS Ending with RS/TR vs Others in CT Category  
Other Endings



Change in terms

Ends with RS/TR

# Suggestions



## Complaint Channels

E.g.  
Online Complaint Portal  
Text Complaint

## Direct to Channels in IVR

Add a function of choice:  
directing to other complain  
channels

Provide the choice when  
detecting a CT

# Reduced cost analysis



**54%**  
**OF CONSUMERS**

prefer social messaging  
channels for customer care  
over the phone or email.

Achieve a 3%  
reduction in agent  
resource allocation

```
1 len(df_raw[(df_raw.reason == 'CT') & (df_raw.resolved == 'floor')]) / len(df_raw[df_raw.resolved == 'floor']) * 0.5
```

✓ 0.2s

0.03151410229454121

# Advantage



- **Streamlined Process**

simplifies the submission process

allows consumers to easily and quickly report issues without waiting in call queues

- **24/7 Availability**

flexibility to report issues at any time

- **Better for development**

leverage insights from complaints

- **Cost Efficiency**

Handling complaints through online or text platforms can reduce operational costs associated with floors, such as staffing and telephony expenses.





**I** ILLINOIS

Thank you!