

signal-sp-notebok

June 23, 2025

0.0.1 Setup

Install

```
[57]: %pip install twilio python-dotenv matplotlib numpy diagrams graphviz mermaid-pyU
      ↪--quiet
```

98655.25s - pydevd: Sending message related to process being replaced timed-out after 5 seconds

Note: you may need to restart the kernel to use updated packages.

Init Client

Functions

```
[58]: import os
      from twilio.rest import Client
      from matplotlib.patches import FancyBboxPatch, ConnectionPatch
      import numpy as np

      import matplotlib.pyplot as plt
      import matplotlib.patches as patches

      import IPython

      from mermaid import Mermaid
      from IPython.display import display

      # Find your Account SID and Auth Token at twilio.com/console
      # and set the environment variables. See http://twil.io/secure
      account_sid = os.environ["TWILIO_ACCOUNT_SID"]
      auth_token = os.environ["TWILIO_AUTH_TOKEN"]
      client = Client(account_sid, auth_token)
```

```
[59]: from IPython.display import display, HTML
      import xml.dom.minidom

      def pretty_print_twiml(twiml_response):
          """
```

Takes a *Twiml VoiceResponse* object and renders it in a Twilio-branded,
↳pretty HTML box.

Args:

twiml_response: A twilio.twiml.voice_response.VoiceResponse object

Returns:

str: Pretty formatted XML string (also displayed in a styled box)

```
"""
# Convert Twiml response to pretty XML
xml_string = str(twiml_response)
pretty_xml = xml.dom.minidom.parseString(xml_string).toprettyxml(indent="  ")
↳)
pretty_xml = '\n'.join(pretty_xml.split('\n')[1:]) # Remove XML declaration

# Escape HTML special characters
escaped_xml = pretty_xml.replace("&", "&amp;").replace("<", "&lt;").
↳replace(">", "&gt;")

# Twilio-style display box
style = """
<style>
.twilio-xml-box {
    background: #0B0D17;
    border: 1px solid #661847;
    padding: 20px;
    border-radius: 12px;
    font-family: 'Courier New', monospace;
    font-size: 0.95em;
    color: #FFFFFF;
    white-space: pre-wrap;
    line-height: 1.5;
    box-shadow: 0 0 12px rgba(242, 47, 70, 0.4);
    margin: 20px auto;
    width: 90%;
}
.twilio-xml-box span.tag {
    color: #F22F46;
}
.twilio-xml-box span.attr {
    color: #0DC5FB;
}
</style>
"""

html_output = f"""
{style}
```

```
<div class="twilio-xml-box">{escaped_xml}</div>
"""
```

```
display(HTML(html_output))
return pretty_xml.strip()
```

```
[60]: import time
from IPython.display import display, clear_output, HTML

def animate_call_flow_html(sid=None, delay=1.5):
    steps = [
        "Connecting Call",
        "AI Agent connected",
        "Text to Speech initiated",
        "Call Ended"
    ]

    style = """
<style>
@keyframes gradientFlow {
    0% { background-position: 0% 50%; }
    50% { background-position: 100% 50%; }
    100% { background-position: 0% 50%; }
}
.twilio-flow {
    font-family: 'Segoe UI', sans-serif;
    font-size: 1.6em;
    color: white;
    font-weight: 600;
    padding: 18px 24px;
    border-radius: 12px;
    text-align: center;
    background: linear-gradient(-45deg, #0DC5FB, #661847, #4B0082, #F22F46);
    background-size: 400% 400%;
    animation: gradientFlow 6s ease infinite;
    box-shadow: 0 0 20px rgba(0,0,0,0.3);
    margin: 20px auto;
    width: 70%;
}
.twilio-sid {
    font-size: 0.95em;
    margin-top: 10px;
    color: #888;
}
</style>
"""
```

```

flow = ""
for step in steps:
    flow += f"{step}  "
    clear_output(wait=True)
    html = f"""
    {style}
    <div class="twilio-flow">{flow.strip('  ')}</div>
    """
    display(HTML(html))
    time.sleep(delay)

if sid:
    final = f"""
    {style}
    <div class="twilio-flow">Call Successful!</div>
    <div class="twilio-sid">Call SID: <code>{sid}</code></div>
    """
    clear_output(wait=True)
    display(HTML(final))

```

```

[61]: from IPython.display import display, HTML

def pretty_print_operator_results(transcripts):
    from html import escape

    style = """
    <style>
    .twilio-box {
        background: #0B0D17;
        border: 1px solid #661847;
        border-radius: 12px;
        color: #ffffff;
        font-family: 'Segoe UI', sans-serif;
        padding: 20px;
        margin: 20px auto;
        width: 95%;
        box-shadow: 0 0 20px rgba(242, 47, 70, 0.2);
    }
    .twilio-header {
        font-size: 1.1em;
        font-weight: bold;
        margin-bottom: 12px;
        color: #F22F46;
    }
    .twilio-sub {
        color: #0DC5FB;
        font-size: 0.9em;
    }
    """

```

```

        margin-bottom: 10px;
    }
    .twilio-block {
        background: #12284C;
        padding: 16px;
        border-radius: 8px;
        margin-bottom: 20px;
        border-left: 4px solid #4B0082;
        font-size: 0.9em;
    }
    .twilio-key {
        font-weight: bold;
        color: #FFFFFF;
    }
    .twilio-value {
        color: #BBBBBB;
    }
    .twilio-divider {
        margin: 16px 0;
        border-top: 1px solid #333;
    }
</style>
"""

html = f"""
{style}
<div class="twilio-box">
    <div class="twilio-header">Twilio Intelligence Operator Results</div>
    <div class="twilio-sub">Getting operator results for {len(transcripts)}<br>
↳transcripts.</div>
    """

for transcript in transcripts:
    html += f"""<div class="twilio-block">
        <div class="twilio-key">Transcript SID:</div>
        <div class="twilio-value">{escape(transcript.sid)}</div>
        """

    try:
        operator_results = client.intelligence.v2.transcripts(
            transcript.sid
        ).operator_results.list(limit=100)

        html += f"""<div class="twilio-sub">Found {len(operator_results)}<br>
↳operator results.</div>"""

        for i, record in enumerate(operator_results, 1):

```

```

        html += f"""<div class="twilio-divider"></div>
        <div class="twilio-key">Operator #{i}</div>
        <div class="twilio-value">Name: {record.name}</div>
        <div class="twilio-value">Type: {record.operator_type}</div>
        <div class="twilio-value">Operator SID: {record.operator_sid}</
    <div>

        """

        if record.operator_type == 'text-generation' and record.
    <text_generation_results:
            result_text = record.text_generation_results.get('result',
    <'No result available')
            html += f"""<div class="twilio-key" style="margin-top: 10px;
    <">Text Generation Result:</div>
                <div
    <class="twilio-value">{escape(result_text)}</div>"""

        elif record.operator_type == 'extract' and record.
    <extract_results:
            html += "<div class='twilio-key' style='margin-top: 10px;
    <'>Extraction Results:</div>"
            for entity_type, entities in record.extract_results.items():
                html += f"<div class='twilio-value'>{entity_type}:
    <{entities}</div>"

            if record.extract_match:
                html += f"<div class='twilio-value'>Match Found:
    <{record.extract_match}</div>"
                html += f"<div class='twilio-value'>Match Probability:
    <{record.match_probability}</div>"

            if record.utterance_results:
                html += "<div class='twilio-key' style='margin-top:
    <10px;'>Utterance Analysis:</div>"
                for j, utterance in enumerate(record.utterance_results):
                    html += f"<div class='twilio-sub'>Utterance {j+1}
    <(Index {utterance['utterance_index']})</div>"
                    html += f"<div class='twilio-value'>Match
    <Probability: {utterance['match_probability']}</div>"
                    labeled_text = ""
                    for part in utterance['utterance_parts']:
                        label = part.get('label')
                        text = part['text']
                        labeled_text += f"[{label}: {text}]" if label
    <else text

```

```

        html += f"<div class='twilio-value'>Text:␣
↪{escape(labeled_text)}</div>"

        elif record.operator_type == 'conversation-classify':
            html += "<div class='twilio-key' style='margin-top: 10px;
↪>Classification Result:</div>"
            html += f"<div class='twilio-value'>Predicted Label:␣
↪{record.predicted_label}</div>"
            html += f"<div class='twilio-value'>Predicted Probability:␣
↪{record.predicted_probability}</div>"

            if record.label_probabilities:
                html += "<div class='twilio-key'>All Label␣
↪Probabilities:</div>"
                for label, prob in record.label_probabilities.items():
                    html += f"<div class='twilio-value'>{label}:␣
↪{prob}</div>"

            html += f"<div class='twilio-value' style='margin-top: 10px;
↪>Transcript SID: {record.transcript_sid}</div>"
            html += f"<div class='twilio-value'>URL: <a style='color:
↪#0DC5FB;' href='{record.url}' target='_blank'>{record.url}</a></div>"

            html += "</div>" # End transcript block

        except Exception as e:
            html += f"<div class='twilio-value'>Error fetching operator results:
↪ {escape(str(e))}</div></div>"

        html += "</div>" # twilio-box

    display(HTML(html))

```

```

[62]: from datetime import datetime, timedelta
from IPython.display import display, HTML

# Twilio SIGNAL-style CSS block (no emojis)
style = """
<style>
.twilio-box {
    background: #0B0D17;
    border: 1px solid #661847;
    border-radius: 12px;
    color: #ffffff;
    font-family: 'Segoe UI', sans-serif;
    padding: 20px;

```

```

        margin: 20px auto;
        width: 95%;
        box-shadow: 0 0 20px rgba(242, 47, 70, 0.2);
    }
    .twilio-header {
        font-size: 1.1em;
        font-weight: bold;
        margin-bottom: 10px;
        color: #F22F46;
    }
    .twilio-sub {
        color: #0DC5FB;
        font-size: 0.9em;
        margin-bottom: 8px;
    }
    .twilio-record {
        background: #12284C;
        padding: 12px;
        border-radius: 8px;
        margin-bottom: 10px;
        border-left: 4px solid #4B0082;
        font-size: 0.9em;
    }
    .twilio-key {
        font-weight: bold;
        color: #FFFFFF;
    }
    .twilio-value {
        color: #BBBBBB;
    }
</style>
"""

# Initialize last_update_date
if 'last_update_date' not in globals():
    last_update_date = datetime.now() - timedelta(days=1)

last_update_time = last_update_date.strftime('%Y-%m-%dT%H:%M:%SZ')

# Fetch transcripts
transcripts = client.intelligence.v2.transcripts.list(
    limit=100,
    after_date_created=last_update_time,
    after_start_time=last_update_time,
)

# Build HTML output

```



```

html = f"""
{style}
<div class="twilio-box">
  <div class="twilio-header">Twilio Conversational Intelligence</div>
  <div class="twilio-sub">Fetching transcripts after: <code>{last_update_time}</
↳code></div>
  <div class="twilio-sub">Found <strong>{len(transcripts)}</strong> new
↳transcripts:</div>
"""

for record in transcripts:
    html += '<div class="twilio-record">'
    for key, value in vars(record).items():
        html += f"<div><span class='twilio-key'>{key}</span> <span
↳class='twilio-value'>{value}</span></div>"
    html += '</div>'

# Update the timestamp for next run
last_update_date = datetime.now()
html += f"""
  <div class="twilio-sub">Updated last_update_date to: <code>{last_update_date.
↳strftime('%Y-%m-%d %H:%M:%S')}</code></div>
</div>
"""

# Display in notebook
display(HTML(html))

```

<IPython.core.display.HTML object>

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```

[63]: import time
from IPython.display import display, clear_output, HTML

# Messages to cycle through
messages = [
    "Welcome, Builders!",
    "Bienvenidos, Creadores!",
    "Bem-vindos, Criadores!",
    "Bienvenidas, Creadoras!",
    "Bem-vindas, Criadoras!"

```

```

]

# Final message
final_message = "TWILIO SIGNAL SÃO PAULO 2025"

# Shared CSS for animated gradient box
style = """
<style>
@keyframes gradient {
    0% { background-position: 0% 50%; }
    50% { background-position: 100% 50%; }
    100% { background-position: 0% 50%; }
}
.welcome-box {
    font-family: 'Segoe UI', sans-serif;
    font-size: 2em;
    font-weight: bold;
    color: white;
    padding: 30px;
    text-align: center;
    border-radius: 16px;
    background: linear-gradient(-45deg, #0DC5FB, #661847, #4B0082, #F22F46);
    background-size: 400% 400%;
    animation: gradient 8s ease infinite;
    box-shadow: 0 0 20px rgba(0,0,0,0.4);
    margin: 40px auto;
    width: 70%;
}
</style>
"""

# Animation loop
for _ in range(2): # Number of cycles
    for msg in messages:
        clear_output(wait=True)
        html = f"{style}<div class='welcome-box'>{msg}</div>"
        display(HTML(html))
        time.sleep(1.5)

# Final SIGNAL banner
clear_output(wait=True)
html = f"{style}<div class='welcome-box'>{final_message}</div>"
display(HTML(html))

```

<IPython.core.display.HTML object>

1.0.1 Melhores Práticas para Escalar o Engajamento de Clientes Multi-Agente com Conversation Relay

Content

1. **Voice API** *Orquestração de voz*
 2. **Twiml** *Controles de chamada avançados*
 3. **Connect:** *ConversationRelay*
 4. **Conversational Intelligence** *Observabilidade nativa*
-

Fernando Vieira Machado

Arquiteto de Soluções

Twilio

1.1 Architectural Overview

```
[64]: from IPython.display import display
      from mermaid import Mermaid

mermaid_string = """
%%{init: {
  "theme": "base",
  "themeVariables": {
    "background": "#0B0D17",
    "primaryColor": "#12284C",
    "primaryBorderColor": "#661847",
    "primaryTextColor": "#FFFFFF",
    "tertiaryColor": "#0DC5FB",
    "tertiaryBorderColor": "#0B3D91",
    "tertiaryTextColor": "#FFFFFF",
    "noteBkgColor": "#4B0082",
    "noteTextColor": "#FFFFFF",
    "clusterBkg": "#0B0D17",
    "clusterBorder": "#1D1F2B"
  },
  "flowchart": {
    "useMaxWidth": true,
    "htmlLabels": true,
    "wrap": true
  }
}}%%

graph TD

  %% Step Labels - placed left of clusters
```

```

Step1Label[/"Step 1: Inbound / Outbound Call"/]::steplabel
Step2Label[/"Step 2: Twilio Platform"/]::steplabel
Step3Label[/"Step 3: External AI Service"/]::steplabel

Step1Label --> PSTN
Step2Label --> VoiceAPI
Step3Label --> ExtService

%% Step 1: Channels
subgraph A[" "]
    PSTN["PSTN"]
    SIP["SIP"]
    WhatsApp["WhatsApp"]
    WebRTC["WebRTC / In-App"]
end

%% Step 2: Twilio Core
subgraph B[" "]
    VoiceAPI["Voice API"]
    subgraph Orchestration["Orchestration Layer"]
        ConvRelay["Conversation Relay"]
        Studio["Studio"]
        TwiML["TwiML Bins"]
        Functions["Functions"]
        Webhooks["External Webhooks"]
    end
end

%% Step 3: External AI
subgraph C[" "]
    ExtService["Relay Backend"]
    subgraph LLMs["LLM Models"]
        GPT["GPT"]
        Gemini["Gemini"]
        Claude["Claude"]
        DeepSeek["DeepSeek"]
    end
end

%% Connections
PSTN --> VoiceAPI
SIP --> VoiceAPI
WhatsApp --> VoiceAPI
WebRTC --> VoiceAPI

VoiceAPI --> Studio
VoiceAPI --> TwiML

```

```

VoiceAPI --> Functions
VoiceAPI --> Webhooks
VoiceAPI --> ConvRelay

ConvRelay -.->|"STT + Events"| ExtService
ExtService -.->|"TTS Response"| ConvRelay

ExtService --> GPT
ExtService --> Gemini
ExtService --> Claude
ExtService --> DeepSeek

%% Styling
classDef entrypoint fill:#0DC5FB,stroke:#0B3D91,stroke-width:2px,color:
↪#ffffff
classDef twilio fill:#12284C,stroke:#661847,stroke-width:2px,color:#ffffff
classDef relay fill:#F22F46,stroke:#0B3D91,stroke-width:2px,color:#ffffff
classDef backend fill:#4B0082,stroke:#F22F46,stroke-width:2px,color:#ffffff
classDef llm fill:#ffffff,stroke:#4B0082,stroke-width:2px,color:#4B0082
classDef steplabel fill:#1D1F2B,stroke:#333333,stroke-width:1px,color:
↪#ffffff

class PSTN,SIP,WhatsApp,WebRTC entrypoint
class VoiceAPI,Studio,TwiML,Functions,Webhooks twilio
class ConvRelay relay
class ExtService backend
class GPT,Gemini,Claude,DeepSeek llm
""""

display(Mermaid(mermaid_string))

```

<mermaid.__main__.Mermaid at 0x1277b3d90>

1.2 Twilio Voice API

Realizar uma chamada

```

[65]: call = client.calls.create(
    from_="+551150397615",
    to="+5511968432422",
    twiml="<Response> <Say> Ahoy! Signal São Paulo! </Say> </Response>",
)

animate_call_flow_html(call.sid)

```

<IPython.core.display.HTML object>

1.3 TwiML 101

Controle de Chamadas com a Twilio Markup Language

```
[80]: from IPython.display import display
      from mermaid import Mermaid

      say_diagram = """
      %%{init: {
        "theme": "base",
        "themeVariables": {
          "background": "#0B0D17",
          "primaryColor": "#12284C",
          "primaryBorderColor": "#661847",
          "primaryTextColor": "#FFFFFF",
          "tertiaryColor": "#0DC5FB",
          "tertiaryBorderColor": "#0B3D91",
          "tertiaryTextColor": "#FFFFFF",
          "noteBkgColor": "#4B0082",
          "noteTextColor": "#FFFFFF",
          "clusterBkg": "#0B0D17",
          "clusterBorder": "#1D1F2B"
        }
      }}%%

      sequenceDiagram
        participant App as Seu App
        participant Twilio as Twilio Voice API
        participant User as Usuário Final

        Note over App,User: Outbound Call
        App->>Twilio: Inicia chamada
        Twilio->>User: Conecta chamada
        Twilio->>App: Solicita TwiML
        App-->>Twilio: <Say>Mensagem</Say>
        Twilio-->>User: Vocaliza mensagem

        Note over User,App: Inbound Call
        User->>Twilio: Liga para número
        Twilio->>App: Solicita TwiML
        App-->>Twilio: <Say>Mensagem</Say>
        Twilio-->>User: Vocaliza mensagem
      """

      display(Mermaid(say_diagram))
```

```
<mermaid.__main__.Mermaid at 0x13d87ca50>
```

Twiml <Say> Text to Speech (TTS)

```
[ ]: # SAY

<Response>
  <Say language="fr-FR">Bonjour!</Say>
</Response>
```

```
[ ]: twiml_gather = """
sequenceDiagram
participant App as Seu App
participant Twilio as Twilio Voice API
participant User as Usuário Final

Note over App,User: Outbound Call
App->>Twilio: Inicia chamada (API Call)
Twilio->>User: Conecta chamada
Twilio->>App: Solicita instruções TwiML
App-->>Twilio: <Gather>...</Gather>
Twilio-->>User: Reproduz prompt e aguarda resposta
User-->>Twilio: Responde (fala ou DTMF)
Twilio-->>App: Envia dados capturados (STT/DTMF)

Note over User,App: Inbound Call
User->>Twilio: Liga para seu número
Twilio->>App: Solicita instruções TwiML
App-->>Twilio: <Gather>...</Gather>
Twilio-->>User: Reproduz prompt e aguarda resposta
User-->>Twilio: Responde (fala ou DTMF)
Twilio-->>App: Envia dados capturados (STT/DTMF)
"""
```

Twiml <Gather> ** Real-time transcription (speech to text or STT) and digits input (DTMF)

```
[ ]: # GATHER

<Response>

  <Gather input="speech dtmf" finishOnKey="#" timeout="5">
    <Say>
      Please say something or press * to access the main menu
    </Say>
  </Gather>

  <Say>We didn't receive any input. Goodbye!</Say>

</Response>
```

```
[81]: gather_diagram = """
%%{init: {
  "theme": "base",
  "themeVariables": {
    "background": "#0B0D17",
    "primaryColor": "#12284C",
    "primaryBorderColor": "#661847",
    "primaryTextColor": "#FFFFFF",
    "tertiaryColor": "#0DC5FB",
    "tertiaryBorderColor": "#0B3D91",
    "tertiaryTextColor": "#FFFFFF",
    "noteBkgColor": "#4B0082",
    "noteTextColor": "#FFFFFF",
    "clusterBkg": "#0B0D17",
    "clusterBorder": "#1D1F2B"
  }
}}%%

sequenceDiagram
    participant App as Seu App
    participant Twilio as Twilio Voice API
    participant User as Usuário Final

    Note over App,User: Outbound Call
    App->>Twilio: Inicia chamada
    Twilio->>User: Conecta chamada
    Twilio->>App: Solicita TwiML
    App-->>Twilio: <Gather>...</Gather>
    Twilio-->>User: Lê prompt e aguarda entrada
    User-->>Twilio: Responde (fala ou DTMF)
    Twilio-->>App: Retorna dados capturados

    Note over User,App: Inbound Call
    User->>Twilio: Liga para número
    Twilio->>App: Solicita TwiML
    App-->>Twilio: <Gather>...</Gather>
    Twilio-->>User: Lê prompt e aguarda entrada
    User-->>Twilio: Responde (fala ou DTMF)
    Twilio-->>App: Retorna dados capturados
"""

display(Mermaid(gather_diagram))
```

```
<mermaid.__main__.Mermaid at 0x1275c0c30>
```

Usando TwiML em Python com a lib da Twilio <Say> = response.say


```
[67]: ## SAY usando a biblioteca Twilio

from twilio.twiml.voice_response import VoiceResponse

response = VoiceResponse()

response.say(
    language="fr-FR",
    text="Bonjour!"
)

pretty_print_twiml(response)
```

<IPython.core.display.HTML object>

```
[67]: '<Response>\n  <Say language="fr-FR" text="Bonjour!"/>\n</Response>'
```

<Gather>= response.gather

```
[68]: # GATHER usando a biblioteca Twilio

from twilio.twiml.voice_response import Gather, VoiceResponse, Say

response = VoiceResponse()
gather = Gather(action='/process_gather.php', method='GET')

gather.say('Please enter your account number,\nfollowed by the pound sign')
response.append(gather)

response.say('We didn\'t receive any input. Goodbye!')

import xml.dom.minidom

pretty_print_twiml(response)
```

<IPython.core.display.HTML object>

```
[68]: '<Response>\n  <Gather action="/process_gather.php" method="GET">\n
  <Say>Please enter your account number,\nfollowed by the pound sign</Say>\n
  </Gather>\n  <Say>We didn\'t receive any input. Goodbye!</Say>\n</Response>'
```

1.3.1 Realizando uma chamada com TwiML Say e Gather

```
[69]: # Fazendo uma chamada usando SAY e GATHER

from twilio.twiml.voice_response import VoiceResponse, Gather

response = VoiceResponse()

# Gather DTMF or speech
```

```

gather = Gather(input="speech dtmf", timeout=5, action="/handle_input",
    ↪method="POST") #TO DO: Add route to handle input
gather.say("Por favor, me fale como posso ajudar você hoje. Ou digite um número,
    ↪qualquer seguido de cerquilha.")
response.append(gather)

# TO DO: Add route to handle input in server

# Fallback if no input
response.say("Poxa! Não recebemos nenhuma resposta. Tchau tchau!")

pretty_print_twiml(str(response)) # optional: view generated XML

# Make the call
call = client.calls.create(
    from_="+551150397615",
    to="+5511968432422",
    twiml=str(response)
)

print(call.sid)

```

<IPython.core.display.HTML object>

CA62cf2f298d60110dd253e219c0214032

1.4 Twilio Conversation Relay

1.4.1 Conectando chamadas com o TwiML <Connect>

```

[ ]: <?xml version="1.0" encoding="UTF-8"?>

<Response>

  <Connect action="https://my-https-server.com/connect_action">
    <ConversationRelay url="wss://my-https-websocket-server.com/websocket"
    ↪welcomeGreeting="Hi! Ask me anything!" />
  </Connect>

</Response>

```

```

[ ]: from IPython.display import display
from mermaid import Mermaid

mermaid_string = """
%%{init: {
  "theme": "base",

```

```

"themeVariables": {
  "background": "#0B0D17",
  "primaryColor": "#12284C",
  "primaryBorderColor": "#661847",
  "primaryTextColor": "#FFFFFF",
  "tertiaryColor": "#0DC5FB",
  "tertiaryBorderColor": "#0B3D91",
  "tertiaryTextColor": "#FFFFFF",
  "noteBkgColor": "#4B0082",
  "noteTextColor": "#FFFFFF",
  "clusterBkg": "#0B0D17",
  "clusterBorder": "#1D1F2B"
},
"flowchart": {
  "useMaxWidth": true,
  "htmlLabels": true,
  "wrap": true
}
}}%%

graph TD
    %% Voice Call at top
    VoiceCall["Voice Call<br/>(Inbound/Outbound)"]:::voice

    %% AI Components on the left
    RAG["RAG<br/>(Tools | Knowledge)"]:::ai
    MCP["MCP<br/>(Model Context<br/>Protocol)"]:::ai

    %% Conversation Relay in center
    ConvRelay["Conversation Relay"]:::relay

    %% LLM Models on the right
    GPT["GPT"]:::llm
    Gemini["Gemini"]:::llm
    Claude["Claude"]:::llm
    DeepSeek["DeepSeek"]:::llm

    %% External Server at bottom
    ExtServer["External Server<br/>(WebSocket Handler)"]:::backend

    %% Vertical main flow
    VoiceCall -->|"Customer Speech"| ConvRelay
    ConvRelay -->|"STT | Events"| ExtServer

    %% Horizontal connections to AI components
    ExtServer -. -> RAG

```

```

ExtServer --> MCP

%% Connections to LLM models
ExtServer -->|"Text Prompts"| GPT
ExtServer -->|"Text Prompts"| Gemini
ExtServer -->|"Text Prompts"| Claude
ExtServer -->|"Text Prompts"| DeepSeek

%% Return flow
GPT -->|"AI Response"| ExtServer
Gemini -->|"AI Response"| ExtServer
Claude -->|"AI Response"| ExtServer
DeepSeek -->|"AI Response"| ExtServer

RAG --> ExtServer
MCP --> ExtServer

ExtServer -->|"LLM Response"| ConvRelay
ConvRelay -->|"TTS<br/>(Text to Speech)"| VoiceCall

%% Styling
classDef voice fill:#0DC5FB,stroke:#0B3D91,stroke-width:3px,color:
↪#ffffff
classDef relay fill:#F22F46,stroke:#0B3D91,stroke-width:3px,color:
↪#ffffff
classDef backend fill:#4B0082,stroke:#F22F46,stroke-width:3px,color:
↪#ffffff
classDef ai fill:#661847,stroke:#F22F46,stroke-width:2px,color:#ffffff
classDef llm fill:#ffffff,stroke:#4B0082,stroke-width:2px,color:#4B0082
""
display(Mermaid(mermaid_string))

```

<mermaid.__main__.Mermaid at 0x118cbb360>

```

[83]: from IPython.display import display
      from mermaid import Mermaid

```

```

sequence_mermaid_simplified = ""
%%{init: {
  "theme": "base",
  "themeVariables": {
    "background": "#0B0D17",
    "primaryColor": "#12284C",
    "primaryBorderColor": "#661847",
    "primaryTextColor": "#FFFFFF",
    "tertiaryColor": "#0DC5FB",

```

```

    "tertiaryBorderColor": "#0B3D91",
    "tertiaryTextColor": "#FFFFFF",
    "noteBkgColor": "#4B0082",
    "noteTextColor": "#FFFFFF",
    "clusterBkg": "#0B0D17",
    "clusterBorder": "#1D1F2B"
  }
}}%%

sequenceDiagram
    participant User as Voice Call (Usuário)
    participant Relay as Conversation Relay
    participant Server as External Server
    participant RAG as RAG (Ferramentas & Conhecimento)
    participant MCP as MCP (Model Context Protocol)
    participant LLM as LLM (GPT, Gemini, Claude, DeepSeek)

    User->>Relay: Fala do cliente (voz)
    Relay->>Server: STT + Eventos (via WebSocket)

    Server-->>RAG: Busca Ferramentas / Conhecimento
    Server-->>MCP: Ajusta contexto

    Server->>LLM: Prompt com texto
    LLM-->>Server: Resposta da IA

    Server->>Relay: Texto final da IA
    Relay->>User: Resposta (via TTS)
    """"

display(Mermaid(sequence_mermaid_simplified))

```

```
<mermaid.__main__.Mermaid at 0x1273003b0>
```

1.4.2 Conversation Relay usando a biblioteca da Twilio para Python

```

[ ]: from twilio.twiml.voice_response import Connect, ConversationRelay, Language,
    ↳ VoiceResponse

response = VoiceResponse()
connect = Connect()

conversationrelay = ConversationRelay(
    url='wss://my-websocket-server.com/websocket') # External Server integrated
    ↳ to the LLMs

conversationrelay.language(

```

```

code='pt-BR',
tts_provider='ElevenLabs', # Text to Speech provider
voice='UgBBYS2s0qTuMpoF3BR0', # Voice ID from tts_provider ElevenLabs
transcription_provider='google',
speech_model='telephony')

connect.append(conversationrelay)

response.append(connect)

print(response)

```

1.5 Quem sabe faz ao vivos

1.5.1 Fazendo chamadas com <ConversationRelay>

```

[85]: from twilio.twiml.voice_response import VoiceResponse, Connect, ConversationRelay

# Get your ngrok domain from .env file
ngrok_domain = os.getenv('NGROK_DOMAIN', 'your-custom-domain.ngrok-free.app')

# Create TwiML with Conversation Relay
response = VoiceResponse()
connect = Connect()

[ ]: # Create ConversationRelay pointing to your WebSocket server
conversation_relay = ConversationRelay(

    url=f'wss://{ngrok_domain}/websocket',

    welcome_greeting="Olá! Eu sou o assistente virtual do SÍgnal São Paulo. Que_
evento lindo, hein? Como posso ajudar você hoje?",

    # Idioma da saudação e default da conversa
    language='pt-BR',

    # Motor de vocalização e voz
    tts_provider='ElevenLabs',
    voice='7u8qsX4HQsSHJ0f8xsQZ',

    # Motor de transcrição e modelo
    transcription_provider='Deepgram',
    speech_model='nova-2-general',

)

```

```

connect.append(conversation_relay)
response.append(connect)

# Make the call with Conversation Relay
call = client.calls.create(
    from_="+551150397615",
    to="+5511968432422",
    twiml=str(response)
)

print(f"Call SID: {call.sid}")
print(f"WebSocket URL: wss://{ngrok_domain}")
pretty_print_twiml(response)

# open terminal for tts, stt events ;)

```

Call SID: CA8c701200140f3bb2aa6fbbb49b965fa2

WebSocket URL: wss://owlbank.ngrok.io

<IPython.core.display.HTML object>

```
[ ]: '<Response>\n <Connect>\n    <ConversationRelay language="pt-BR"
speechModel="nova-2-general" transcriptionProvider="Deepgram"
ttsProvider="ElevenLabs" url="wss://owlbank.ngrok.io/websocket"
voice="7u8qsX4HQsSHJ0f8xsQZ" welcomeGreeting="Olá! Eu sou o assistente virtual
do Signal São Paulo. Que evento lindo, hein? Como posso ajudar você hoje?"/>\n
</Connect>\n</Response>'
```

1.6 Aprimorando a experiência com attributes

Vamos melhorar isso um pouco?

```
[ ]: # Aprimorando as chamadas feitas com Conversation Relay

conversation_relay = ConversationRelay(
    url=f'wss://{ngrok_domain}/websocket',

    welcome_greeting="Olá! Eu sou o assistente virtual do Signal São Paulo. Que
    ↳evento lindo, hein? Como posso ajudar você hoje?",
    welcomeGreetingInterruptible=True, # Permitir que o usuário interrompa a
    ↳saudação

    language='pt-BR',
    transcription_provider='Deepgram',
    speech_model='nova-2-general',

```

```

tts_provider='ElevenLabs',
voice='7u8qsX4HQsSHJOf8xsQZ',

# Configurações adicionais para aprimorar a experiência do usuário
interruptible=True, # Permitir que o usuário interrompa o assistente

dtmfDetection=True, # Habilitar detecção de DTMF (dígitos)

reportInputDuringAgentSpeech=True, # Reportar entradas do usuário durante o
↳ discurso do agente

preemptible=True, # Permitir que novos tokens do assistente interrompam o
↳ TTS em andamento

hints='Twilio, Conversation Relay, Signal São Paulo, Owl Bank', # Sugestões
↳ para melhorar a precisão do reconhecimento de fala

debug='debugging, speaker-events, tokens-played', # opções de depuração,
↳ eventos de debug, fala e tokens tocados

elevenlabsTextNormalization='on', # Normalização de texto para ElevenLabs
↳ TTS
)

# Adicionando o idioma e o modelo de fala
conversation_relay.language(
    code='pt-BR',
    tts_provider='ElevenLabs',
    voice='7u8qsX4HQsSHJOf8xsQZ',
    transcription_provider='Deepgram',
    speech_model='nova-2-general'
)

connect.append(conversation_relay)
response.append(connect)

# Make the call with Conversation Relay
call = client.calls.create(
    from_="+551150397615",
    to="+5511968432422",
    twiml=str(response)
)

print(f"Call SID: {call.sid}")
print(f"WebSocket URL: wss://{ngrok_domain}")
pretty_print_twiml(response)

```


1.7 Como Escalar com Conversation Relay?

1.7.1 <Language>

Nativamente Multi-Idiomas, Flexibilidade de Modelos para TTS e STT

```
[37]: from twilio.twiml.voice_response import VoiceResponse, Connect, \
      ↪ConversationRelay

# Get your ngrok domain from .env file
ngrok_domain = os.getenv('NGROK_DOMAIN', 'your-custom-domain.ngrok-free.app')

# Create TwiML with Conversation Relay
response = VoiceResponse()
connect = Connect()

[38]: # Suporte nativo a múltiplos idiomas

conversation_relay = ConversationRelay(
    url=f'wss://{ngrok_domain}/websocket',
    welcome_greeting="Oi de novo! Aqui é a assistente virtual do Signal São \
    ↪Paulo. Como posso te ajudar?",
    welcomeGreetingInterruptible=True, # Permitir que o usuário interrompa a \
    ↪saudação
    language='pt-BR',
    debug='debugging, speaker-events, tokens-played', # opções de depuração
    interruptible=True, # Permitir que o usuário interrompa o assistente
    dtmfDetection=True, # Habilitar detecção de DTMF (dígitos)
    reportInputDuringAgentSpeech=True, # Relatar entradas do usuário durante o \
    ↪discurso do agente
    preemptible=True, # Permitir que novos tokens do assistente interrompam o \
    ↪TTS em andamento
    hints='Twilio, Conversation Relay, Signal São Paulo, Owl Bank',
    elevenlabsTextNormalization='on',
)

# Configurar idioma e modelo de fala para português do Brasil
conversation_relay.language(
    code='pt-BR',
    tts_provider='ElevenLabs',
    voice='OB6x7EbXYlhG4DDTB1XU',
    transcription_provider='Deepgram',
    speech_model='nova-2-general',
    customParameter='change_to_pt-BR'
)

# Configurar idioma e modelo de fala para espanhol dos EUA
conversation_relay.language(
```

```

    code='es-US',
    tts_provider='ElevenLabs',
    voice='OB6x7EbXYlhG4DDTB1XU',
    transcription_provider='Deepgram',
    speech_model='nova-2-general',
    customParameter='change_to_es-US'
)

# Configurar idioma e modelo de fala para inglês dos EUA
conversation_relay.language(
    code='en-US',
    tts_provider='ElevenLabs',
    voice='OB6x7EbXYlhG4DDTB1XU',
    transcription_provider='Deepgram',
    speech_model='nova-2-general',
    customParameter="change_to_en-US"
)

connect.append(conversation_relay)
response.append(connect)

# Make the call with Conversation Relay
call = client.calls.create(
    from_="+551150397615",
    to="+5511968432422",
    twiml=str(response)
)

print(f"Call SID: {call.sid}")
print(f"WebSocket URL: wss://{ngrok_domain}")
pretty_print_twiml(response)

```

Call SID: CA12c2eb6b966bc564ada4631247442938

WebSocket URL: wss://owlbank.ngrok.io

<IPython.core.display.HTML object>

```

[38]: '<Response>\n <Connect>\n    <ConversationRelay debug="debugging, speaker-
events, tokens-played" dtmfDetection="true" elevenlabsTextNormalization="on"
hints="Twilio, Conversation Relay, Signal São Paulo, Owl Bank"
interruptible="true" language="pt-BR" preemptible="true"
reportInputDuringAgentSpeech="true" url="wss://owlbank.ngrok.io/websocket"
welcomeGreeting="Oi de novo! Aqui é a assistente virtual do SÍgnal São Paulo.
Como posso te ajudar?" welcomeGreetingInterruptible="true">\n    <Language
code="pt-BR" customParameter="change_to_pt-BR" speechModel="nova-2-general"
transcriptionProvider="Deepgram" ttsProvider="ElevenLabs"
voice="OB6x7EbXYlhG4DDTB1XU"/>\n    <Language code="es-US"
customParameter="change_to_es-US" speechModel="nova-2-general"

```

```
transcriptionProvider="Deepgram" ttsProvider="ElevenLabs"
voice="0B6x7EbXYlhG4DDTB1XU"/>\n      <Language code="en-US"
customParameter="change_to_en-US" speechModel="nova-2-general"
transcriptionProvider="Deepgram" ttsProvider="ElevenLabs"
voice="0B6x7EbXYlhG4DDTB1XU"/>\n    </ConversationRelay>\n
</Connect>\n</Response>'
```

1.7.2 Engajamento de Clientes Multi-Agente

Aprimorando a experiência com agentes especialistas

```
[ ]: # TO DO: simplify mas code for notebook and add diagram
```

1.7.3 Observabilidade com Conversational Intelligence

```
[56]: # Aprimorando as chamadas feitas com Conversation Relay

from twilio.twiml.voice_response import VoiceResponse, Connect, \
    ConversationRelay

# Get your ngrok domain from .env file
ngrok_domain = os.getenv('NGROK_DOMAIN', 'your-custom-domain.ngrok-free.app')

# Create TwiML with Conversation Relay
response = VoiceResponse()
connect = Connect()

# Create ConversationRelay pointing to your WebSocket server
conversation_relay = ConversationRelay(
    url=f'wss://{ngrok_domain}/websocket',
    welcome_greeting="Tarde! Assistente virtual do Signal São Paulo na área. \
    Como posso te ajudar, chefia?",
    welcomeGreetingInterruptible=True, # Allow user to interrupt the welcome \
    greeting
    language='pt-BR',
    transcription_provider='Deepgram',
    speech_model='nova-2-general',
    tts_provider='ElevenLabs',
    voice='eQnBc1norhy4xHHbr9Ip',
    interruptible=True, # Allow user to interrupt the assistant
    dtmfDetection=True, # Enable DTMF detection
    reportInputDuringAgentSpeech=True, # Report input during agent speech
    preemptible=True, # Allow the assistant to preempt the user
    hints='Twilio, Conversation Relay, Signal São Paulo, Owl Bank',
    debug='debugging, speaker-events, tokens-played', # debugging options
    elevenlabsTextNormalization='on',
    intelligenceService='GAde9c513fd3914897cac25df18f3203b7')
```

```

)

# Configure language settings for Brazilian Portuguese
conversation_relay.language(
    code='pt-BR',
    tts_provider='ElevenLabs',
    voice='7u8qsX4HQsSHJ0f8xsQZ',
    transcription_provider='Deepgram',
    speech_model='nova-2-general'
)

connect.append(conversation_relay)
response.append(connect)

# Make the call with Conversation Relay
call = client.calls.create(
    from_="+551150397615",
    to="+5511968432422",
    twiml=str(response)
)

print(f"Call SID: {call.sid}")
print(f"WebSocket URL: wss://{ngrok_domain}")
pretty_print_twiml(response)

```

Call SID: CA05db167b904baa44fc854efdcabebdcb

WebSocket URL: wss://owlbank.ngrok.io

<IPython.core.display.HTML object>

```

[56]: '<Response>\n <Connect>\n <ConversationRelay debug="debugging, speaker-
events, tokens-played" dtmfDetection="true" elevenlabsTextNormalization="on"
hints="Twilio, Conversation Relay, Signal São Paulo, Owl Bank"
intelligenceService="GAde9c513fd3914897cac25df18f3203b7" interruptible="true"
language="pt-BR" preemptible="true" reportInputDuringAgentSpeech="true"
speechModel="nova-2-general" transcriptionProvider="Deepgram"
ttsProvider="ElevenLabs" url="wss://owlbank.ngrok.io/websocket"
voice="eQnBc1norhy4xHHbr9Ip" welcomeGreeting="Tarde! Assistente virtual do
Signal São Paulo na área. Como posso te ajudar, chefia?"
welcomeGreetingInterruptible="true">\n <Language code="pt-BR"
speechModel="nova-2-general" transcriptionProvider="Deepgram"
ttsProvider="ElevenLabs" voice="7u8qsX4HQsSHJ0f8xsQZ"/>\n
</ConversationRelay>\n </Connect>\n</Response>'

```

1.7.4 Verificando os resultados com Conversational Intelligence

```
[52]: # List Transcripts Incrementally
from datetime import datetime

# Initialize or use existing last_update_date
if 'last_update_date' not in globals():
    # First run - get transcripts from last 24 hours to avoid missing recent
    ↪ ones
    from datetime import timedelta
    last_update_date = datetime.now() - timedelta(days=1)

last_update_time = last_update_date.strftime('%Y-%m-%dT%H:%M:%SZ')
print(f"Fetching transcripts after: {last_update_time}")

transcripts = client.intelligence.v2.transcripts.list(
    limit=100,
    after_date_created=last_update_time,
    after_start_time=last_update_time,
)

print(f"Found {len(transcripts)} new transcripts:\n")

for record in transcripts:
    for key, value in vars(record).items():
        print(f"{key}: {value}")
    print("\n---\n")

# Update the timestamp for next run
last_update_date = datetime.now()
print(f"Updated last_update_date to: {last_update_date}")
```

Fetching transcripts after: 2025-06-22T10:23:58Z

Found 11 new transcripts:

```
_version: <Twilio.Intelligence.V2>
account_sid: ACdf269d13302fe4635ab695fb1b477395
service_sid: GAde9c513fd3914897cac25df18f3203b7
sid: GT92b8758f818f48f099cc5f68588d59e7
date_created: 2025-06-22 15:49:26+00:00
date_updated: 2025-06-22 15:49:33+00:00
status: completed
channel: {'media_properties': {'source': 'ConversationRelay', 'reference_sids':
{'call_sid': 'CAc8f2e7261c455caea60b5e2160b855b1'}, 'source_sid':
'VXff79704b3932752b9e1c10164e72c312', 'media_url': None}, 'participants':
[{'user_id': None, 'channel_participant': 1, 'media_participant_id': 'Virtual
Agent', 'image_url': None, 'full_name': 'Virtual Agent', 'role': 'Virtual
Agent', 'email': None}, {'user_id': None, 'channel_participant': 2,
```

```
'media_participant_id': '+551150397615', 'image_url': None, 'full_name':  
'+551150397615', 'role': 'Customer', 'email': None}], 'type': 'voice'}  
data_logging: False  
language_code: pt-BR  
customer_key: None  
media_start_time: 2025-06-22 15:49:05+00:00  
duration: 20  
url: https://intelligence.twilio.com/v2/Transcripts/GT92b8758f818f48f099cc5f6858  
8d59e7  
redaction: False  
links: {'media': 'https://intelligence.twilio.com/v2/Transcripts/GT92b8758f818f4  
8f099cc5f68588d59e7/Media', 'sentences': 'https://intelligence.twilio.com/v2/Tra  
nscripts/GT92b8758f818f48f099cc5f68588d59e7/Sentences', 'operator_results': 'htt  
ps://intelligence.twilio.com/v2/Transcripts/GT92b8758f818f48f099cc5f68588d59e7/0  
peratorResults'}  
_solution: {'sid': 'GT92b8758f818f48f099cc5f68588d59e7'}  
_context: None
```

```
_version: <Twilio.Intelligence.V2>  
account_sid: ACdf269d13302fe4635ab695fb1b477395  
service_sid: GAde9c513fd3914897cac25df18f3203b7  
sid: GT11a71f1179d14854968b26f5d99a7be5  
date_created: 2025-06-22 15:26:22+00:00  
date_updated: 2025-06-22 15:26:31+00:00  
status: completed  
channel: {'media_properties': {'source': 'ConversationRelay', 'reference_sids':  
{ 'call_sid': 'CA96b2ef0da63a8e5bf5efc6b9e1d8b6d4'}, 'source_sid':  
'VXae3f591eb49958c23b7238170c905f8b', 'media_url': None}, 'participants':  
[{'user_id': None, 'channel_participant': 1, 'media_participant_id': 'Virtual  
Agent', 'image_url': None, 'full_name': 'Virtual Agent', 'role': 'Virtual  
Agent', 'email': None}, {'user_id': None, 'channel_participant': 2,  
'media_participant_id': '+551150397615', 'image_url': None, 'full_name':  
'+551150397615', 'role': 'Customer', 'email': None}], 'type': 'voice'}  
data_logging: False  
language_code: pt-BR  
customer_key: None  
media_start_time: 2025-06-22 15:25:06+00:00  
duration: 76  
url: https://intelligence.twilio.com/v2/Transcripts/GT11a71f1179d14854968b26f5d9  
9a7be5  
redaction: False  
links: {'media': 'https://intelligence.twilio.com/v2/Transcripts/GT11a71f1179d14  
854968b26f5d99a7be5/Media', 'sentences': 'https://intelligence.twilio.com/v2/Tra  
nscripts/GT11a71f1179d14854968b26f5d99a7be5/Sentences', 'operator_results': 'htt  
ps://intelligence.twilio.com/v2/Transcripts/GT11a71f1179d14854968b26f5d99a7be5/0  
peratorResults'}
```

```
_solution: {'sid': 'GT11a71f1179d14854968b26f5d99a7be5'}
_context: None
```

```
_version: <Twilio.Intelligence.V2>
account_sid: ACdf269d13302fe4635ab695fb1b477395
service_sid: GAde9c513fd3914897cac25df18f3203b7
sid: GTe4499bf605fd4216b1a4fe9708049a35
date_created: 2025-06-22 15:00:59+00:00
date_updated: 2025-06-22 15:01:06+00:00
status: completed
channel: {'media_properties': {'source': 'ConversationRelay', 'reference_sids':
{'call_sid': 'CAc63794e9fb76790b6566206a6b65db6f'}, 'source_sid':
'VX60d053ba2d57e48419ae3ca0884e81ef', 'media_url': None}, 'participants':
[{'user_id': None, 'channel_participant': 1, 'media_participant_id': 'Virtual
Agent', 'image_url': None, 'full_name': 'Virtual Agent', 'role': 'Virtual
Agent', 'email': None}, {'user_id': None, 'channel_participant': 2,
'media_participant_id': '+551150397615', 'image_url': None, 'full_name':
'+551150397615', 'role': 'Customer', 'email': None}], 'type': 'voice'}
data_logging: False
language_code: pt-BR
customer_key: None
media_start_time: 2025-06-22 15:00:02+00:00
duration: 56
url: https://intelligence.twilio.com/v2/Transcripts/GTe4499bf605fd4216b1a4fe9708
049a35
redaction: False
links: {'media': 'https://intelligence.twilio.com/v2/Transcripts/GTe4499bf605fd4
216b1a4fe9708049a35/Media', 'sentences': 'https://intelligence.twilio.com/v2/Tra
nscripts/GTe4499bf605fd4216b1a4fe9708049a35/Sentences', 'operator_results': 'htt
ps://intelligence.twilio.com/v2/Transcripts/GTe4499bf605fd4216b1a4fe9708049a35/O
peratorResults'}
_solution: {'sid': 'GTe4499bf605fd4216b1a4fe9708049a35'}
_context: None
```

```
_version: <Twilio.Intelligence.V2>
account_sid: ACdf269d13302fe4635ab695fb1b477395
service_sid: GAde9c513fd3914897cac25df18f3203b7
sid: GT69d93adf2b1447e7ae39c48ed67868e8
date_created: 2025-06-22 14:52:25+00:00
date_updated: 2025-06-22 14:52:31+00:00
status: completed
channel: {'media_properties': {'source': 'ConversationRelay', 'reference_sids':
{'call_sid': 'CA040d1c473d1c9e0612d399aebfe5a173'}, 'source_sid':
'VX132dfb0b13a7ece68373557fb8b382cf', 'media_url': None}, 'participants':
```

```
[{'user_id': None, 'channel_participant': 1, 'media_participant_id': 'Virtual Agent', 'image_url': None, 'full_name': 'Virtual Agent', 'role': 'Virtual Agent', 'email': None}, {'user_id': None, 'channel_participant': 2, 'media_participant_id': '+551150397615', 'image_url': None, 'full_name': '+551150397615', 'role': 'Customer', 'email': None}], 'type': 'voice'}
data_logging: False
language_code: pt-BR
customer_key: None
media_start_time: 2025-06-22 14:51:59+00:00
duration: 26
url: https://intelligence.twilio.com/v2/Transcripts/GT69d93adf2b1447e7ae39c48ed67868e8
redaction: False
links: {'media': 'https://intelligence.twilio.com/v2/Transcripts/GT69d93adf2b1447e7ae39c48ed67868e8/Media', 'sentences': 'https://intelligence.twilio.com/v2/Transcripts/GT69d93adf2b1447e7ae39c48ed67868e8/Sentences', 'operator_results': 'https://intelligence.twilio.com/v2/Transcripts/GT69d93adf2b1447e7ae39c48ed67868e8/OperatorResults'}
_solution: {'sid': 'GT69d93adf2b1447e7ae39c48ed67868e8'}
_context: None
```

```
_version: <Twilio.Intelligence.V2>
account_sid: ACdf269d13302fe4635ab695fb1b477395
service_sid: GAde9c513fd3914897cac25df18f3203b7
sid: GT5845911c7abd4056921316450f1ce69f
date_created: 2025-06-22 14:45:13+00:00
date_updated: 2025-06-22 14:45:27+00:00
status: completed
channel: {'media_properties': {'source': 'ConversationRelay', 'reference_sids': {'call_sid': 'CA988998baf1e6db90c4af2e41e256d6f2'}, 'source_sid': 'VX457ba4b8a96909c315e57df70653b67d', 'media_url': None}, 'participants': [{'user_id': None, 'channel_participant': 1, 'media_participant_id': 'Virtual Agent', 'image_url': None, 'full_name': 'Virtual Agent', 'role': 'Virtual Agent', 'email': None}, {'user_id': None, 'channel_participant': 2, 'media_participant_id': '+551150397615', 'image_url': None, 'full_name': '+551150397615', 'role': 'Customer', 'email': None}], 'type': 'voice'}
data_logging: False
language_code: pt-BR
customer_key: None
media_start_time: 2025-06-22 14:42:40+00:00
duration: 153
url: https://intelligence.twilio.com/v2/Transcripts/GT5845911c7abd4056921316450f1ce69f
redaction: False
links: {'media': 'https://intelligence.twilio.com/v2/Transcripts/GT5845911c7abd4056921316450f1ce69f/Media', 'sentences': 'https://intelligence.twilio.com/v2/Tra
```



```
nscripts/GT5845911c7abd4056921316450f1ce69f/Sentences', 'operator_results': 'https://intelligence.twilio.com/v2/Transcripts/GT5845911c7abd4056921316450f1ce69f/0operatorResults'}
_solution: {'sid': 'GT5845911c7abd4056921316450f1ce69f'}
_context: None
```

```
_version: <Twilio.Intelligence.V2>
account_sid: ACdf269d13302fe4635ab695fb1b477395
service_sid: GAde9c513fd3914897cac25df18f3203b7
sid: GT09e1a90219ee4e939daf9386393c9662
date_created: 2025-06-22 14:41:00+00:00
date_updated: 2025-06-22 14:41:08+00:00
status: completed
channel: {'media_properties': {'source': 'ConversationRelay', 'reference_sids': {'call_sid': 'CA769a7ca1c0fcb6e70545a9f550fe337b'}, 'source_sid': 'VXb7327d3f3c8ce853f0d06d43ccf31e96', 'media_url': None}, 'participants': [{'user_id': None, 'channel_participant': 1, 'media_participant_id': 'Virtual Agent', 'image_url': None, 'full_name': 'Virtual Agent', 'role': 'Virtual Agent', 'email': None}, {'user_id': None, 'channel_participant': 2, 'media_participant_id': '+551150397615', 'image_url': None, 'full_name': '+551150397615', 'role': 'Customer', 'email': None}], 'type': 'voice'}
data_logging: False
language_code: pt-BR
customer_key: None
media_start_time: 2025-06-22 14:40:06+00:00
duration: 53
url: https://intelligence.twilio.com/v2/Transcripts/GT09e1a90219ee4e939daf9386393c9662
redaction: False
links: {'media': 'https://intelligence.twilio.com/v2/Transcripts/GT09e1a90219ee4e939daf9386393c9662/Media', 'sentences': 'https://intelligence.twilio.com/v2/Transcripts/GT09e1a90219ee4e939daf9386393c9662/Sentences', 'operator_results': 'https://intelligence.twilio.com/v2/Transcripts/GT09e1a90219ee4e939daf9386393c9662/0operatorResults'}
_solution: {'sid': 'GT09e1a90219ee4e939daf9386393c9662'}
_context: None
```

```
_version: <Twilio.Intelligence.V2>
account_sid: ACdf269d13302fe4635ab695fb1b477395
service_sid: GAde9c513fd3914897cac25df18f3203b7
sid: GT75f38d4a416a4c668509d312c80a8b3a
date_created: 2025-06-22 14:36:21+00:00
date_updated: 2025-06-22 14:36:27+00:00
status: completed
```

```
channel: {'media_properties': {'source': 'ConversationRelay', 'reference_sids':
{'call_sid': 'CAae2de5d223cef45b2e185c01e970ad8d'}, 'source_sid':
'VXf2b90f96fb0f0b87634a34dfaa3f94c1', 'media_url': None}, 'participants':
[{'user_id': None, 'channel_participant': 1, 'media_participant_id': 'Virtual
Agent', 'image_url': None, 'full_name': 'Virtual Agent', 'role': 'Virtual
Agent', 'email': None}, {'user_id': None, 'channel_participant': 2,
'media_participant_id': '+551150397615', 'image_url': None, 'full_name':
'+551150397615', 'role': 'Customer', 'email': None}], 'type': 'voice'}
data_logging: False
language_code: pt-BR
customer_key: None
media_start_time: 2025-06-22 14:34:39+00:00
duration: 101
url: https://intelligence.twilio.com/v2/Transcripts/GT75f38d4a416a4c668509d312c8
0a8b3a
redaction: False
links: {'media': 'https://intelligence.twilio.com/v2/Transcripts/GT75f38d4a416a4
c668509d312c80a8b3a/Media', 'sentences': 'https://intelligence.twilio.com/v2/Tra
nscripts/GT75f38d4a416a4c668509d312c80a8b3a/Sentences', 'operator_results': 'htt
ps://intelligence.twilio.com/v2/Transcripts/GT75f38d4a416a4c668509d312c80a8b3a/0
peratorResults'}
_solution: {'sid': 'GT75f38d4a416a4c668509d312c80a8b3a'}
_context: None
```

```
_version: <Twilio.Intelligence.V2>
account_sid: ACdf269d13302fe4635ab695fb1b477395
service_sid: GAde9c513fd3914897cac25df18f3203b7
sid: GT1e717dec555b4dbeb495e1a24b71ecbb
date_created: 2025-06-22 14:31:44+00:00
date_updated: 2025-06-22 14:31:53+00:00
status: completed
channel: {'media_properties': {'source': 'ConversationRelay', 'reference_sids':
{'call_sid': 'CAbfcded740ba69d80da3dc02232c540b7'}, 'source_sid':
'VXA6a043c20b52b8d70fe059452c47b6fa', 'media_url': None}, 'participants':
[{'user_id': None, 'channel_participant': 1, 'media_participant_id': 'Virtual
Agent', 'image_url': None, 'full_name': 'Virtual Agent', 'role': 'Virtual
Agent', 'email': None}, {'user_id': None, 'channel_participant': 2,
'media_participant_id': '+551150397615', 'image_url': None, 'full_name':
'+551150397615', 'role': 'Customer', 'email': None}], 'type': 'voice'}
data_logging: False
language_code: pt-BR
customer_key: None
media_start_time: 2025-06-22 14:31:01+00:00
duration: 42
url: https://intelligence.twilio.com/v2/Transcripts/GT1e717dec555b4dbeb495e1a24b
71ecbb
```

```
redaction: False
links: {'media': 'https://intelligence.twilio.com/v2/Transcripts/GT1e717dec555b4dbeb495e1a24b71ecbb/Media', 'sentences': 'https://intelligence.twilio.com/v2/Transcripts/GT1e717dec555b4dbeb495e1a24b71ecbb/Sentences', 'operator_results': 'https://intelligence.twilio.com/v2/Transcripts/GT1e717dec555b4dbeb495e1a24b71ecbb/OperatorResults'}
_solution: {'sid': 'GT1e717dec555b4dbeb495e1a24b71ecbb'}
_context: None
```

```
_version: <Twilio.Intelligence.V2>
account_sid: ACdf269d13302fe4635ab695fb1b477395
service_sid: GAde9c513fd3914897cac25df18f3203b7
sid: GTa6b8ed543cf04933be2e7880a141a834
date_created: 2025-06-22 14:26:44+00:00
date_updated: 2025-06-22 14:26:50+00:00
status: completed
channel: {'media_properties': {'source': 'ConversationRelay', 'reference_sids': {'call_sid': 'CAeb82bd2fdd08ee56a3abaf9ce6e0a887'}, 'source_sid': 'VX2d9e69f0ff01491566c0a083b446d76c', 'media_url': None}, 'participants': [{'user_id': None, 'channel_participant': 1, 'media_participant_id': 'Virtual Agent', 'image_url': None, 'full_name': 'Virtual Agent', 'role': 'Virtual Agent', 'email': None}, {'user_id': None, 'channel_participant': 2, 'media_participant_id': '+551150397615', 'image_url': None, 'full_name': '+551150397615', 'role': 'Customer', 'email': None}], 'type': 'voice'}
data_logging: False
language_code: pt-BR
customer_key: None
media_start_time: 2025-06-22 14:25:41+00:00
duration: 63
url: https://intelligence.twilio.com/v2/Transcripts/GTa6b8ed543cf04933be2e7880a141a834
redaction: False
links: {'media': 'https://intelligence.twilio.com/v2/Transcripts/GTa6b8ed543cf04933be2e7880a141a834/Media', 'sentences': 'https://intelligence.twilio.com/v2/Transcripts/GTa6b8ed543cf04933be2e7880a141a834/Sentences', 'operator_results': 'https://intelligence.twilio.com/v2/Transcripts/GTa6b8ed543cf04933be2e7880a141a834/OperatorResults'}
_solution: {'sid': 'GTa6b8ed543cf04933be2e7880a141a834'}
_context: None
```

```
_version: <Twilio.Intelligence.V2>
account_sid: ACdf269d13302fe4635ab695fb1b477395
service_sid: GAde9c513fd3914897cac25df18f3203b7
sid: GTec962c279d7a48e1a0d51c6862505b9b
```

date_created: 2025-06-22 14:23:04+00:00
date_updated: 2025-06-22 14:23:10+00:00
status: completed
channel: {'media_properties': {'source': 'ConversationRelay', 'reference_sids':
{ 'call_sid': 'CA2913db74bce21b624b6c31adbad58472'}, 'source_sid':
'VX682f80ff221591df1354205f8fb36007', 'media_url': None}, 'participants':
[{'user_id': None, 'channel_participant': 1, 'media_participant_id': 'Virtual
Agent', 'image_url': None, 'full_name': 'Virtual Agent', 'role': 'Virtual
Agent', 'email': None}, {'user_id': None, 'channel_participant': 2,
'media_participant_id': '+551150397615', 'image_url': None, 'full_name':
'+551150397615', 'role': 'Customer', 'email': None}], 'type': 'voice'}
data_logging: False
language_code: pt-BR
customer_key: None
media_start_time: 2025-06-22 14:21:02+00:00
duration: 121
url: https://intelligence.twilio.com/v2/Transcripts/GTec962c279d7a48e1a0d51c6862
505b9b
redaction: False
links: {'media': 'https://intelligence.twilio.com/v2/Transcripts/GTec962c279d7a4
8e1a0d51c6862505b9b/Media', 'sentences': 'https://intelligence.twilio.com/v2/Tra
nscripts/GTec962c279d7a48e1a0d51c6862505b9b/Sentences', 'operator_results': 'htt
ps://intelligence.twilio.com/v2/Transcripts/GTec962c279d7a48e1a0d51c6862505b9b/0
peratorResults'}
_solution: {'sid': 'GTec962c279d7a48e1a0d51c6862505b9b'}
_context: None

_version: <Twilio.Intelligence.V2>
account_sid: ACdf269d13302fe4635ab695fb1b477395
service_sid: GAde9c513fd3914897cac25df18f3203b7
sid: GT27a6941e71f144948b1de1f5b2e7558a
date_created: 2025-06-22 13:21:37+00:00
date_updated: 2025-06-22 13:21:44+00:00
status: completed
channel: {'media_properties': {'source': 'ConversationRelay', 'reference_sids':
{ 'call_sid': 'CA5bb7baae1df45e3f4fd8585341c2d3aa'}, 'source_sid':
'VX422176f38818730e1d30bac7d181b8d0', 'media_url': None}, 'participants':
[{'user_id': None, 'channel_participant': 1, 'media_participant_id': 'Virtual
Agent', 'image_url': None, 'full_name': 'Virtual Agent', 'role': 'Virtual
Agent', 'email': None}, {'user_id': None, 'channel_participant': 2,
'media_participant_id': '+551150397615', 'image_url': None, 'full_name':
'+551150397615', 'role': 'Customer', 'email': None}], 'type': 'voice'}
data_logging: False
language_code: pt-BR
customer_key: None
media_start_time: 2025-06-22 13:19:09+00:00

```

duration: 147
url: https://intelligence.twilio.com/v2/Transcripts/GT27a6941e71f144948b1de1f5b2e7558a
redaction: False
links: {'media': 'https://intelligence.twilio.com/v2/Transcripts/GT27a6941e71f144948b1de1f5b2e7558a/Media', 'sentences': 'https://intelligence.twilio.com/v2/Transcripts/GT27a6941e71f144948b1de1f5b2e7558a/Sentences', 'operator_results': 'https://intelligence.twilio.com/v2/Transcripts/GT27a6941e71f144948b1de1f5b2e7558a/OperatorResults'}
_solution: {'sid': 'GT27a6941e71f144948b1de1f5b2e7558a'}
_context: None

```

Updated last_update_date to: 2025-06-22 13:52:30.673886

```

[53]: # List Operator Results for all Transcripts found incrementally
print(f"Getting operator results for {len(transcripts)} transcripts...\n")

for transcript_record in transcripts:
    print(f"TRANSCRIPT: {transcript_record.sid}")
    print("=" * 80)

    try:
        operator_results = client.intelligence.v2.transcripts(
            transcript_record.sid
        ).operator_results.list(limit=100)

        print(f"Found {len(operator_results)} operator results:\n")

        for i, record in enumerate(operator_results, 1):
            print(f"OPERATOR RESULT #{i}")
            print("=" * 60)
            print(f"Name: {record.name}")
            print(f"Type: {record.operator_type}")
            print(f"Operator SID: {record.operator_sid}")

            # Handle different result types
            if record.operator_type == 'text-generation' and record.
↳text_generation_results:
                print(f"\nText Generation Result:")
                print("-" * 30)
                result_text = record.text_generation_results.get('result', 'No_
↳result available')
                print(f"{result_text}")

            elif record.operator_type == 'extract' and record.extract_results:

```

```

        print(f"\nExtraction Results:")
        print("-" * 30)
        for entity_type, entities in record.extract_results.items():
            print(f"    {entity_type}: {entities}")

        if record.extract_match:
            print(f"\nMatch Found: {record.extract_match}")
            print(f"Match Probability: {record.match_probability}")

        if record.utterance_results:
            print(f"\nUtterance Analysis:")
            for j, utterance in enumerate(record.utterance_results):
                print(f"    Utterance {j+1} (Index_{j+1})")
                print(f"    Match Probability: {record.utterance_results[j].match_probability}")
                labeled_text = ""
                for part in utterance['utterance_parts']:
                    if part['label']:
                        labeled_text += f"[{part['label']}]: "
                    else:
                        labeled_text += part['text']
                print(f"    Text: {labeled_text}")

            elif record.operator_type == 'conversation-classify':
                print(f"\nClassification Result:")
                print("-" * 30)
                print(f"Predicted Label: {record.predicted_label}")
                print(f"Predicted Probability: {record.predicted_probability}")

            if record.label_probabilities:
                print(f"All Label Probabilities:")
                for label, prob in record.label_probabilities.items():
                    print(f"    {label}: {prob}")

        print(f"\nTranscript SID: {record.transcript_sid}")
        print(f"URL: {record.url}")
        print("=" * 60)
        print()

    except Exception as e:
        print(f"Error fetching operator results for transcript_{record.transcript_sid}: {e}")

    print("=" * 80)
    print()

```

Getting operator results for 11 transcripts...

TRANSCRIPT: GT92b8758f818f48f099cc5f68588d59e7

Found 11 operator results:

OPERATOR RESULT #1

Name: Virtual Agent Performance
Type: text-generation
Operator SID: LY69843e95cea04823b7d80cd08942978a

Text Generation Result:

1) The virtual agent was somewhat consultative in its approach, as it greeted the customer and acknowledged their request for information about the bank. However, it did not ask any follow-up questions to further understand the customer's specific needs or interests regarding banking services. For instance, it could have inquired whether the customer was looking for personal banking, business accounts, loans, or investment options, which would have allowed for a more tailored response.

2) The virtual agent provided a basic introduction to Owl Bank but did not delve into specific products or services that might meet the customer's needs. Given the lack of follow-up questions and the general nature of the information provided, it may have been beneficial to hand over to a human agent who could engage in a more detailed conversation and provide personalized recommendations based on the customer's specific interests.

Transcript SID: GT92b8758f818f48f099cc5f68588d59e7

URL: <https://intelligence.twilio.com/v2/Transcripts/GT92b8758f818f48f099cc5f68588d59e7/OperatorResults/LY69843e95cea04823b7d80cd08942978a>

OPERATOR RESULT #2

Name: Inferred CSAT
Type: text-generation
Operator SID: LY6126ffb8f2234b2bad3c49a0184cd978

Text Generation Result:

CSAT Score: 4-Good

Report: The virtual agent provided a good experience to the customer by greeting them warmly and addressing them by name, which adds a personal touch to the interaction. The agent was responsive and offered to explain the services of the bank, indicating a willingness to assist. However, the conversation is still in

its early stages, and the effectiveness of the information provided will depend on how well the agent continues to address the customer's inquiries.

The likelihood of the customer responding positively in a CSAT survey is high, as the initial interaction was friendly and informative. The customer seemed engaged and interested in learning more, which suggests they are likely to rate their experience favorably. A score of 4 indicates that while the experience was good, there is still room for improvement, particularly in providing more detailed information about the bank's services as the conversation progresses.

Transcript SID: GT92b8758f818f48f099cc5f68588d59e7

URL: <https://intelligence.twilio.com/v2/Transcripts/GT92b8758f818f48f099cc5f68588d59e7/OperatorResults/LY6126ffb8f2234b2bad3c49a0184cd978>

=====

OPERATOR RESULT #3

=====

Name: Inferred Customer Effort Score

Type: text-generation

Operator SID: LY48b623c2170f4abb9ecf9e7325466792

Text Generation Result:

CES Score: 4

Report: The interaction between the virtual agent and the customer indicates a moderate level of effort required from the customer. The customer initiated the conversation with a friendly greeting and a clear request for information about the bank. The virtual agent responded promptly and addressed the customer by name, which adds a personal touch. However, the customer did not receive immediate, detailed information about the bank's services in the initial response, which may lead to some frustration or confusion.

Given that the customer is seeking to understand more about the bank's operations, the lack of comprehensive information in the first response could suggest that the customer might have to ask follow-up questions or navigate through additional steps to get the information they need. This indicates a level of effort that is neither easy nor difficult, hence a score of 4 (Neither) is appropriate.

Transcript SID: GT92b8758f818f48f099cc5f68588d59e7

URL: <https://intelligence.twilio.com/v2/Transcripts/GT92b8758f818f48f099cc5f68588d59e7/OperatorResults/LY48b623c2170f4abb9ecf9e7325466792>

=====

OPERATOR RESULT #4

=====

Name: Entity Recognition

Type: extract
Operator SID: LY4a32fbae04414e0388ce996394be2054

Extraction Results:

Organization: ['Signal São Paulo', 'Owl Bank']
Person: ['Amanda', 'Amanda']
Quantity: ['tudo', 'entender', '100% digital']

Match Found: True
Match Probability: 0.5

Utterance Analysis:

Utterance 1 (Index 0):
Match Probability: 0.9412196
Text: Tarde! Assistente virtual do [Organization: Signal São Paulo] na área.
Como posso te ajudar, chefia?
Utterance 2 (Index 1):
Match Probability: 0.73739135
Text: Opa, [Quantity: tudo] bem?
Utterance 3 (Index 2):
Match Probability: 0.57927054
Text: Queria [Quantity: entender] mais sobre o banco e como funciona.
Utterance 4 (Index 3):
Match Probability: 0.9994466
Text: Oi, [Person: Amanda]!
Utterance 5 (Index 4):
Match Probability: 0.9987375
Text: Claro, [Person: Amanda]! O [Organization: Owl Bank] é [Quantity: 100% digital] e focado em oferecer serviços financeiros simplificados e eficientes usando tecnologia de ponta,

Transcript SID: GT92b8758f818f48f099cc5f68588d59e7
URL: <https://intelligence.twilio.com/v2/Transcripts/GT92b8758f818f48f099cc5f68588d59e7/OperatorResults/LY4a32fbae04414e0388ce996394be2054>

=====

OPERATOR RESULT #5

=====

Name: General Conversation Intent
Type: text-generation
Operator SID: LY43261075275f4d9887bedf3b8220840e

Text Generation Result:

Main Intent: Understanding Bank Services, Multiple Intents: No, Accuracy Score: 8, Report: The AI Agent correctly identified the customer's request for information about the bank and its operations. However, the response could have

been more detailed in addressing specific services or features of the bank, which would have improved the overall understanding of the customer's intent.

Transcript SID: GT92b8758f818f48f099cc5f68588d59e7
URL: <https://intelligence.twilio.com/v2/Transcripts/GT92b8758f818f48f099cc5f68588d59e7/OperatorResults/LY43261075275f4d9887bedf3b8220840e>

=====

OPERATOR RESULT #6

=====

Name: Compliance and Privacy Engagements
Type: extract
Operator SID: LY18261171586f4dcebbfb7e4d27e4832f

Transcript SID: GT92b8758f818f48f099cc5f68588d59e7
URL: <https://intelligence.twilio.com/v2/Transcripts/GT92b8758f818f48f099cc5f68588d59e7/OperatorResults/LY18261171586f4dcebbfb7e4d27e4832f>

=====

OPERATOR RESULT #7

=====

Name: Hallucinations Tracker
Type: text-generation
Operator SID: LY414fae94579a4c1eb97076fce2aedbbe

Text Generation Result:

Hallucinations: Very Likely, Occurrences: 1, Self-Corrected: FALSE, Correction Instances: 0, Proactive Correction Instances: 0, Customer Corrected: 0, Report: The AI agent incorrectly addressed the customer as "Amanda" without any indication that this was the customer's name. This suggests a hallucination, as the customer did not provide their name. The AI agent's assumption could stem from a misunderstanding or a technical issue in recognizing the customer's identity. The conversation does not show any self-correction or proactive correction from the AI agent, and the customer did not correct the agent either.

Transcript SID: GT92b8758f818f48f099cc5f68588d59e7
URL: <https://intelligence.twilio.com/v2/Transcripts/GT92b8758f818f48f099cc5f68588d59e7/OperatorResults/LY414fae94579a4c1eb97076fce2aedbbe>

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OPERATOR RESULT #8

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Name: Product Interest
Type: text-generation
Operator SID: LY0dc7a748c9894db49bc53617b0174496

Text Generation Result:

1. ****Banco Digital****

- O cliente expressou interesse em entender mais sobre o banco, especificamente sobre como ele funciona.

2. ****Serviços Financeiros****

- O cliente demonstrou interesse em serviços financeiros simplificados e eficientes oferecidos pelo banco.

Transcript SID: GT92b8758f818f48f099cc5f68588d59e7

URL: <https://intelligence.twilio.com/v2/Transcripts/GT92b8758f818f48f099cc5f68588d59e7/OperatorResults/LY0dc7a748c9894db49bc53617b0174496>

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OPERATOR RESULT #9

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Name: Legal Liabilities

Type: text-generation

Operator SID: LY4cf1f10aa296458d986d1b12809f8d53

Text Generation Result:

1. ****Occurrence****: The virtual agent addresses the customer by a name (Amanda) without prior confirmation of the customer's identity.

- ****Risk Score****: 30

- ****Risk Factor****: Potential Misidentification of Customer

- ****Report****: The virtual agent assumes the customer's name is Amanda, which could lead to confusion if the customer's name is different. This could also raise concerns about privacy and data handling if the name was incorrectly inferred or assumed.

2. ****Occurrence****: The virtual agent uses informal language ("chefia") which may not align with the brand's professional tone.

- ****Risk Score****: 20

- ****Risk Factor****: Brand Reputation Risk

- ****Report****: While this may not be a legal liability, using informal language could lead to misunderstandings about the professionalism of the service, potentially impacting customer satisfaction and brand perception.

3. ****Occurrence****: The virtual agent mentions "tecnologia de ponta" without providing specific details or context.

- ****Risk Score****: 15

- ****Risk Factor****: Lack of Clarity in Communication

- ****Report****: The vague reference to advanced technology may confuse customers who are looking for specific information about the bank's services. This could lead to frustration and a negative experience, although it does not constitute a legal liability.

4. ****Occurrence****: The virtual agent's response includes a grammatical error (extra comma after "eficientes").

- ****Risk Score****: 10
- ****Risk Factor****: Minor Communication Error
- ****Report****: While this is a minor issue, it could affect the perceived professionalism of the virtual agent and the organization, potentially leading to customer dissatisfaction.

Transcript SID: GT92b8758f818f48f099cc5f68588d59e7
URL: <https://intelligence.twilio.com/v2/Transcripts/GT92b8758f818f48f099cc5f68588d59e7/OperatorResults/LY4cf1f10aa296458d986d1b12809f8d53>
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OPERATOR RESULT #10

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Name: Conversation Summary
Type: text-generation
Operator SID: LY8d2be74b94a34733b28594fadf331f0c

Text Generation Result:

The customer, Amanda, reached out to the virtual agent of Owl Bank to inquire about the bank's operations. The virtual agent introduced itself and confirmed that Owl Bank is a fully digital bank that aims to provide simplified and efficient financial services through advanced technology. Amanda expressed her interest in understanding more about the bank's offerings.

Transcript SID: GT92b8758f818f48f099cc5f68588d59e7
URL: <https://intelligence.twilio.com/v2/Transcripts/GT92b8758f818f48f099cc5f68588d59e7/OperatorResults/LY8d2be74b94a34733b28594fadf331f0c>
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OPERATOR RESULT #11

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Name: Sentiment Analysis
Type: conversation-classify
Operator SID: LY6bdafd206f3d4146b13f45bf415ca361

Classification Result:

Predicted Label: neutral
Predicted Probability: 1.0
All Label Probabilities:
 neutral: 1.0

Transcript SID: GT92b8758f818f48f099cc5f68588d59e7
URL: <https://intelligence.twilio.com/v2/Transcripts/GT92b8758f818f48f099cc5f68588d59e7/OperatorResults/LY6bdafd206f3d4146b13f45bf415ca361>

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TRANSCRIPT: GT11a71f1179d14854968b26f5d99a7be5

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Found 11 operator results:

OPERATOR RESULT #1

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Name: Virtual Agent Performance
Type: text-generation
Operator SID: LY69843e95cea04823b7d80cd08942978a

Text Generation Result:

1) The virtual agent was somewhat consultative in its approach, as it provided information about Owl Bank's offerings and responded to the customer's inquiries. However, it did not ask many follow-up questions to further understand the customer's specific needs or preferences regarding investments. For example, when the customer mentioned wanting to invest, the agent could have asked about the customer's investment goals, risk tolerance, or preferred types of investments to tailor the response more effectively.

2) The virtual agent was able to provide basic information and respond to the customer's requests, but it lacked depth in understanding the customer's specific needs. Given the customer's mention of wanting to invest a significant amount (R\$10,000) and the subsequent confusion expressed by the customer, it may have been beneficial to hand over to a human agent. A human agent could provide more personalized assistance, clarify any misunderstandings, and offer tailored investment advice.

Transcript SID: GT11a71f1179d14854968b26f5d99a7be5
URL: <https://intelligence.twilio.com/v2/Transcripts/GT11a71f1179d14854968b26f5d99a7be5/OperatorResults/LY69843e95cea04823b7d80cd08942978a>

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OPERATOR RESULT #2

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Name: Inferred CSAT
Type: text-generation
Operator SID: LY6126ffb8f2234b2bad3c49a0184cd978

Text Generation Result:

CSAT Score: 4-Good

Report: The virtual agent provided a generally positive experience for the

customer, Amanda. The interaction was friendly and informative, with the agent effectively addressing Amanda's inquiries about Owl Bank's services, particularly regarding fee-free accounts and investment options. The agent maintained a conversational tone and was responsive to Amanda's questions, which likely contributed to a good experience.

However, there were moments of confusion, particularly when Amanda expressed a desire to invest a specific amount and then abruptly shifted the conversation, indicating she needed to attend to something else. The agent's response to this shift was polite and accommodating, but it may have left Amanda feeling that her investment inquiry was not fully addressed.

Overall, the interaction was positive, but the abrupt ending and the lack of closure on the investment topic might prevent a perfect score. Therefore, a score of 4 (Good) is appropriate, as the customer likely appreciated the assistance but may have felt slightly unsatisfied due to the incomplete conversation.

Transcript SID: GT11a71f1179d14854968b26f5d99a7be5

URL: <https://intelligence.twilio.com/v2/Transcripts/GT11a71f1179d14854968b26f5d99a7be5/OperatorResults/LY6126ffb8f2234b2bad3c49a0184cd978>

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OPERATOR RESULT #3

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Name: Inferred Customer Effort Score

Type: text-generation

Operator SID: LY48b623c2170f4abb9ecf9e7325466792

Text Generation Result:

CES Score: 4

Report: The interaction between the customer and the virtual agent indicates a moderate level of effort required from the customer. The customer initially engages positively, asking about the Owl Bank and expressing interest in investment options. However, as the conversation progresses, the customer becomes overwhelmed, as indicated by the repeated phrase "espera aí" (wait a minute), suggesting confusion or a need for clarification. This indicates that while the customer was able to initiate the conversation and receive some information, the flow of information may have been too rapid or complex, leading to a feeling of being overwhelmed.

The customer did not express any significant frustration, but the need to pause and clarify suggests that the interaction was not entirely smooth. Therefore, a score of 4 (Neither Easy nor Difficult) is appropriate, reflecting a neutral experience where the customer did not find the process particularly easy but also did not encounter significant difficulties.

Transcript SID: GT11a71f1179d14854968b26f5d99a7be5
URL: https://intelligence.twilio.com/v2/Transcripts/GT11a71f1179d14854968b26f5d99a7be5/OperatorResults/LY48b623c2170f4abb9ecf9e7325466792
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OPERATOR RESULT #4

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Name: Entity Recognition
Type: extract
Operator SID: LY4a32fbae04414e0388ce996394be2054

Extraction Results:

Organization: ['Signal São Paulo', 'Owl', 'Claro', 'Owl Bank', 'Owl Bank', 'Claro', 'Owl Bank', 'Gold', 'Banco Unicórnio']
Person: ['Amanda', 'Amanda', 'Amanda', 'Amanda', 'Amanda', 'Amanda', 'Amanda']
Quantity: ['saber', '100% online', 'taxa nenhuma', 'taxa nenhuma', 'mais informações', 'várias opções', 'investimentos', 'R\$1', '10000', 'algumas opções']

Match Found: True
Match Probability: 0.5

Utterance Analysis:

Utterance 1 (Index 0):
Match Probability: 0.8927871
Text: Tarde! Assistente virtual do [Organization: Signal São Paulo] na área.
Como posso te ajudar, chefia?

Utterance 2 (Index 2):
Match Probability: 0.6606366
Text: Queria [Quantity: saber] mais sobre [Organization: Owl].

Utterance 3 (Index 3):
Match Probability: 0.99852437
Text: Oi, [Person: Amanda]! Tudo bem,

Utterance 4 (Index 4):
Match Probability: 0.70236063
Text: [Organization: Claro], [Person: Amanda]! A [Organization: Owl Bank] é um banco digital que oferece uma experiência [Quantity: 100% online], com foco em simplicidade, tecnologia e inteligência artificial. Nós temos serviços financeiros que vão desde contas sem taxas até investimentos, crédito e seguros personalizados.

Utterance 5 (Index 5):
Match Probability: 0.8934518
Text: Opa, contas sem taxa? Não tem [Quantity: taxa nenhuma].

Utterance 6 (Index 6):
Match Probability: 0.9983165
Text: Oi, [Person: Amanda]! Isso mesmo, aqui no [Organization: Owl Bank]

nossas contas não têm [Quantity: taxa nenhuma]. Não cobramos tarifa de manutenção nem aquelas taxas escondidas. Caso precise de [Quantity: mais informações] ou queira abrir uma conta,

Utterance 7 (Index 8):

Match Probability: 0.9715168

Text: [Organization: Claro], [Person: Amanda]! Aqui no [Organization: Owl Bank], temos [Quantity: várias opções] de [Quantity: investimentos], como ações, ETFs, CDBs, LCIs, criptomoedas e carteiras ESG. Também oferecemos a possibilidade de começar com investimos fracionados a partir de apenas [Quantity: R\$1].

Utterance 8 (Index 10):

Match Probability: 0.99553853

Text: Oi, [Person: Amanda]!

Utterance 9 (Index 11):

Match Probability: 0.95011866

Text: Eu queria investir em [Quantity: 10000].

Utterance 10 (Index 12):

Match Probability: 0.97809166

Text: Legal, [Person: Amanda]! Como cliente [Organization: Gold], temos [Quantity: algumas opções] exclusivas de investimento para você que podem maximizar seus rendimentos.

Utterance 11 (Index 13):

Match Probability: 0.9875448

Text: Ah espera aí, Bank aí é o [Organization: Banco Unicórnio]. Prete eu atender ver o que eles querem, depois eu ligo.

Utterance 12 (Index 14):

Match Probability: 0.99905986

Text: Claro, [Person: Amanda]! Estou aqui disponível se precisar de algo. Fique à vontade para retornar quando for conveniente.

Transcript SID: GT11a71f1179d14854968b26f5d99a7be5

URL: <https://intelligence.twilio.com/v2/Transcripts/GT11a71f1179d14854968b26f5d99a7be5/OperatorResults/LY4a32fbae04414e0388ce996394be2054>

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OPERATOR RESULT #5

=====

Name: General Conversation Intent

Type: text-generation

Operator SID: LY43261075275f4d9887bedf3b8220840e

Text Generation Result:

Main Intent: Investment Inquiry, Multiple Intents: Yes, Secondary Intents:
Account Information, Investment Options, Account Opening.

Transcript SID: GT11a71f1179d14854968b26f5d99a7be5
URL: https://intelligence.twilio.com/v2/Transcripts/GT11a71f1179d14854968b26f5d9
9a7be5/OperatorResults/LY43261075275f4d9887bedf3b8220840e
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OPERATOR RESULT #6

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Name: Compliance and Privacy Engagements
Type: extract
Operator SID: LY18261171586f4dcebbfb7e4d27e4832f

Transcript SID: GT11a71f1179d14854968b26f5d99a7be5
URL: https://intelligence.twilio.com/v2/Transcripts/GT11a71f1179d14854968b26f5d9
9a7be5/OperatorResults/LY18261171586f4dcebbfb7e4d27e4832f
=====

OPERATOR RESULT #7

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Name: Hallucinations Tracker
Type: text-generation
Operator SID: LY414fae94579a4c1eb97076fce2aedbbe

Text Generation Result:

****Hallucinations Evaluation****

- ****Likelihood of Hallucinations****: Very Likely
- ****Occurrences****: 2
- ****Self-Corrected****: FALSE
- ****Correction Instances****: 0
- ****Proactive Correction Instances****: 0
- ****Customer Corrected****: 1

****Report****:

1. ****First Hallucination****: The AI agent refers to the customer as "Amanda" without any prior indication that this is the customer's name. This could be a hallucination based on an assumption that the customer is named Amanda, which was not established in the conversation.
2. ****Second Hallucination****: The AI agent states that the customer is a "Gold" client, which is not confirmed by the customer. This is another assumption made by the AI agent without any basis in the conversation.

The AI agent did not correct itself during the conversation, nor did it proactively address any potential misunderstandings. The customer did correct the AI by indicating they were not interested in continuing the conversation

about Owl Bank and instead wanted to attend to something else. This suggests that the AI's assumptions led to confusion and a misalignment with the customer's intent.

Transcript SID: GT11a71f1179d14854968b26f5d99a7be5

URL: <https://intelligence.twilio.com/v2/Transcripts/GT11a71f1179d14854968b26f5d99a7be5/OperatorResults/LY414fae94579a4c1eb97076fce2aedbbe>

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OPERATOR RESULT #8

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Name: Product Interest

Type: text-generation

Operator SID: LY0dc7a748c9894db49bc53617b0174496

Text Generation Result:

1. ****Owl Bank****

- Interest in the bank's services
- Inquiry about account features
- Mention of no fees for accounts

2. ****Investment Options****

- Interest in investing
- Specific mention of wanting to invest R\$10,000
- Inquiry about exclusive investment options for Gold clients
- Interest in various types of investments offered by Owl Bank:
 - Stocks
 - ETFs
 - CDBs
 - LCIs
 - Cryptocurrencies
 - ESG portfolios
- Mention of starting investments with as little as R\$1

3. ****Signal****

- Mention of Signal, indicating potential interest in their services or products, but no specific details provided.

Transcript SID: GT11a71f1179d14854968b26f5d99a7be5

URL: <https://intelligence.twilio.com/v2/Transcripts/GT11a71f1179d14854968b26f5d99a7be5/OperatorResults/LY0dc7a748c9894db49bc53617b0174496>

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OPERATOR RESULT #9

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Name: Legal Liabilities

Type: text-generation

Operator SID: LY4cf1f10aa296458d986d1b12809f8d53

Text Generation Result:

Legal Liability and Risk Analysis

1. Misleading Information about Fees

- **Risk Score:** 30
- **Risk Factor:** Potentially misleading information regarding account fees.
- **Report:** The virtual agent states that there are no fees associated with the accounts. If this is not entirely accurate or if there are hidden fees that are not disclosed, it could lead to customer dissatisfaction and potential legal claims for misleading advertising.

2. Incomplete Investment Information

- **Risk Score:** 40
- **Risk Factor:** Lack of clarity on investment risks.
- **Report:** The agent provides information about various investment options but does not mention the risks associated with these investments. This could lead to customers making uninformed decisions, which may result in financial loss and subsequent legal action against the bank for failing to provide adequate risk disclosures.

3. Customer Confusion and Frustration

- **Risk Score:** 20
- **Risk Factor:** Customer confusion due to unclear communication.
- **Report:** The customer expresses confusion with repeated phrases "espera aí" indicating frustration. While this may not directly lead to legal liability, it reflects poorly on customer service and could impact the bank's reputation, potentially leading to complaints or negative reviews.

4. Assumption of Customer Status

- **Risk Score:** 25
- **Risk Factor:** Incorrect assumption of customer status (Gold status).
- **Report:** The virtual agent assumes the customer is a "Gold" client without verification. If the customer is not actually a Gold client, this could lead to legal issues regarding the provision of services or benefits that the customer is not entitled to, which could be seen as deceptive.

5. Lack of Personalization and Data Privacy

- **Risk Score:** 15
- **Risk Factor:** Lack of personalization may lead to data privacy concerns.
- **Report:** The agent uses the customer's name but does not verify or confirm any personal information beyond that. If the agent were to inadvertently disclose or misuse personal information, it could lead to privacy violations and legal repercussions.

Summary

The conversation contains several potential legal liabilities primarily related to misleading information, lack of clarity on investment risks, and assumptions about customer status. While some issues may not directly lead to legal action, they could impact customer satisfaction and the bank's reputation.

Transcript SID: GT11a71f1179d14854968b26f5d99a7be5

URL: <https://intelligence.twilio.com/v2/Transcripts/GT11a71f1179d14854968b26f5d99a7be5/OperatorResults/LY4cf1f10aa296458d986d1b12809f8d53>

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OPERATOR RESULT #10

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Name: Conversation Summary

Type: text-generation

Operator SID: LY8d2be74b94a34733b28594fadf331f0c

Text Generation Result:

The customer, Amanda, inquired about Owl Bank, a digital bank that offers a fully online experience with no maintenance fees or hidden charges. The virtual agent explained that Owl Bank provides various financial services, including investment options starting from R\$1, and highlighted exclusive investment opportunities for Gold clients. Amanda expressed interest in investing R\$10,000 but then mentioned needing to attend to another matter before continuing the conversation.

Transcript SID: GT11a71f1179d14854968b26f5d99a7be5

URL: <https://intelligence.twilio.com/v2/Transcripts/GT11a71f1179d14854968b26f5d99a7be5/OperatorResults/LY8d2be74b94a34733b28594fadf331f0c>

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OPERATOR RESULT #11

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Name: Sentiment Analysis

Type: conversation-classify

Operator SID: LY6bdafd206f3d4146b13f45bf415ca361

Classification Result:

Predicted Label: neutral

Predicted Probability: 1.0

All Label Probabilities:

neutral: 1.0

Transcript SID: GT11a71f1179d14854968b26f5d99a7be5

URL: <https://intelligence.twilio.com/v2/Transcripts/GT11a71f1179d14854968b26f5d99a7be5/OperatorResults/LY6bdafd206f3d4146b13f45bf415ca361>

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TRANSCRIPT: GTe4499bf605fd4216b1a4fe9708049a35

=====

Found 11 operator results:

OPERATOR RESULT #1

=====

Name: Virtual Agent Performance
Type: text-generation
Operator SID: LY69843e95cea04823b7d80cd08942978a

Text Generation Result:

1) The virtual agent was somewhat consultative in its approach. It did ask follow-up questions to clarify the customer's needs, particularly when the customer expressed difficulty accessing the internet. However, the initial response did not fully address the customer's request for assistance with making a payment via PIX, which was the main concern. The agent could have probed further about the customer's situation or offered alternative solutions more effectively.

2) The virtual agent was not entirely sufficient in this scenario. While it provided some helpful information about using the app, it failed to assist the customer with the specific request of making a payment via PIX without internet access. Given the customer's clear need for immediate assistance with a payment, handing over to a human agent would have been necessary to provide the appropriate support.

Transcript SID: GTe4499bf605fd4216b1a4fe9708049a35
URL: <https://intelligence.twilio.com/v2/Transcripts/GTe4499bf605fd4216b1a4fe9708049a35/OperatorResults/LY69843e95cea04823b7d80cd08942978a>

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OPERATOR RESULT #2

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Name: Inferred CSAT
Type: text-generation
Operator SID: LY6126ffb8f2234b2bad3c49a0184cd978

Text Generation Result:

CSAT Score: 3-Regular

Report:

The virtual agent provided a reasonable experience for the customer, but there were notable limitations that affected the overall satisfaction.

1. ****Initial Response****: The virtual agent greeted the customer warmly and attempted to assist with the request for account balance information. However, it was unable to provide the specific information requested, which is a common expectation for customers when they inquire about their account details.
2. ****Understanding Customer Needs****: When the customer expressed frustration about not having internet access, the virtual agent did acknowledge the situation but did not offer alternative solutions or options for checking the balance or making a payment. This could leave the customer feeling unsupported.
3. ****Clarity and Helpfulness****: The agent did provide information about using the app for payments, but it did not address the customer's immediate need for assistance with making a payment via PIX without internet access. This lack of direct assistance may lead to customer dissatisfaction.
4. ****Engagement****: The virtual agent maintained a conversational tone, which is positive, but the inability to fulfill the customer's request or provide a workaround likely detracted from the overall experience.

Given these factors, a score of 3 (Regular) reflects that while the interaction was friendly and the agent attempted to assist, the limitations in providing the requested information and support likely left the customer feeling frustrated and not fully satisfied.

Transcript SID: GTe4499bf605fd4216b1a4fe9708049a35

URL: <https://intelligence.twilio.com/v2/Transcripts/GTe4499bf605fd4216b1a4fe9708049a35/OperatorResults/LY6126ffb8f2234b2bad3c49a0184cd978>

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OPERATOR RESULT #3

=====

Name: Inferred Customer Effort Score

Type: text-generation

Operator SID: LY48b623c2170f4abb9ecf9e7325466792

Text Generation Result:

CES Score: 5

Report: The interaction between the customer and the virtual agent indicates a moderate level of difficulty in obtaining the desired information. The customer initially requested to know their account balance, which the virtual agent could not provide, leading to a sense of frustration for the customer, especially since they mentioned being without internet access. The virtual agent attempted to redirect the customer to the app for balance inquiries, but this was not helpful given the customer's current situation.

When the customer shifted their request to making a payment via PIX, the virtual agent provided a response indicating that it could be done through the app, but did not address the customer's lack of internet access or provide alternative solutions. This lack of direct assistance likely contributed to the customer's perception of the interaction as fairly difficult. Therefore, a score of 5 (Fairly Difficult) reflects the customer's experience of navigating the conversation and the limitations of the virtual agent's capabilities.

Transcript SID: GTe4499bf605fd4216b1a4fe9708049a35

URL: <https://intelligence.twilio.com/v2/Transcripts/GTe4499bf605fd4216b1a4fe9708049a35/OperatorResults/LY48b623c2170f4abb9ecf9e7325466792>

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OPERATOR RESULT #4

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Name: Entity Recognition

Type: extract

Operator SID: LY4a32fbae04414e0388ce996394be2054

Extraction Results:

Organization: ['Signal São Paulo', 'Owl Bank', 'PIX', 'Owl Bank']
Person: ['Amanda', 'Amanda', 'Amanda']
Quantity: ['tudo', 'outros dados pessoais', 'precisava muito', 'sem', 'acesso', '1 pagamento']

Match Found: True

Match Probability: 0.5

Utterance Analysis:

Utterance 1 (Index 0):

Match Probability: 0.84697074

Text: Tarde! Assistente virtual do [Organization: Signal São Paulo] na área. Como posso te ajudar, chefia?

Utterance 2 (Index 1):

Match Probability: 0.6474331

Text: Ô, [Quantity: tudo] bem? Eu só queria saber, você consegue me falar o saldo da minha conta rapidinho, hein?

Utterance 3 (Index 2):

Match Probability: 0.99948287

Text: Oi [Person: Amanda], tudo bem? Infelizmente, não consigo acessar informações específicas sobre o saldo da sua conta ou [Quantity: outros dados pessoais]. Mas você pode conferir rapidinho pelo aplicativo do [Organization: Owl Bank]. É só fazer login e o saldo aparece logo na tela inicial. Se precisar de ajuda com isso, é só me avisar!

Utterance 4 (Index 3):

Match Probability: 0.7852797

Text: Ah, putz, eu [Quantity: precisava muito], eu estou já estou [Quantity:

sem] acesso à internet, eu estou com Owl telefone que que triste que não dá pra ver por aqui.

Utterance 5 (Index 4):

Match Probability: 0.99951506

Text: Entendi, [Person: Amanda]! Então, você está sem [Quantity: acesso] à internet e quer resolver algo diretamente pelo telefone, certo? Me explica o que você precisa, que eu vejo como posso te ajudar por aqui.

Utterance 6 (Index 5):

Match Probability: 0.97767854

Text: Não, eu preciso não saber o saldo da minha conta, saber se eu consigo fazer [Quantity: 1 pagamento] aqui por [Organization: PIX].

Utterance 7 (Index 6):

Match Probability: 0.999255

Text: [Person: Amanda], claro! Se você estiver usando o app da [Organization: Owl Bank], você pode realizar o pagamento por PIX diretamente por lá. É bem simples:

Transcript SID: GTe4499bf605fd4216b1a4fe9708049a35

URL: <https://intelligence.twilio.com/v2/Transcripts/GTe4499bf605fd4216b1a4fe9708049a35/OperatorResults/LY4a32fbae04414e0388ce996394be2054>

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OPERATOR RESULT #5

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Name: General Conversation Intent

Type: text-generation

Operator SID: LY43261075275f4d9887bedf3b8220840e

Text Generation Result:

Main Intent: Account Balance Inquiry, Multiple Intents: Yes, Secondary Intents: PIX Payment Request. Accuracy Score: 8. Report: The AI Agent initially misunderstood the customer's request by not providing a direct solution for checking the account balance, which was the main intent. However, it did recognize the customer's need for assistance with making a payment via PIX, which was a secondary intent. The agent's response was somewhat helpful but lacked the ability to address the customer's immediate need due to the lack of internet access. The score reflects the agent's partial understanding and response to the customer's needs.

Transcript SID: GTe4499bf605fd4216b1a4fe9708049a35

URL: <https://intelligence.twilio.com/v2/Transcripts/GTe4499bf605fd4216b1a4fe9708049a35/OperatorResults/LY43261075275f4d9887bedf3b8220840e>

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OPERATOR RESULT #6

=====

Name: Compliance and Privacy Engagements

Type: extract

Operator SID: LY18261171586f4dcebbfb7e4d27e4832f

Transcript SID: GTe4499bf605fd4216b1a4fe9708049a35

URL: <https://intelligence.twilio.com/v2/Transcripts/GTe4499bf605fd4216b1a4fe9708049a35/OperatorResults/LY18261171586f4dcebbfb7e4d27e4832f>

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OPERATOR RESULT #7

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Name: Hallucinations Tracker

Type: text-generation

Operator SID: LY414fae94579a4c1eb97076fce2aedbbe

Text Generation Result:

Hallucinations: Very Likely, Occurrences: 3, Self-Corrected: TRUE, Correction Instances: 1, Proactive Correction Instances: 0, Customer Corrected: 0, Report:

1. ****Evaluation of Hallucinations****: The AI agent appears to misunderstand the customer's request regarding the ability to make a payment via PIX. The customer initially asked for their account balance but then shifted to inquire about making a payment. The AI agent's response about using the app for payments does not directly address the customer's situation of being without internet access, which could lead to confusion.

2. ****Occurrences****: The AI agent made three notable misinterpretations:

- Misunderstanding the customer's need for balance information and not addressing the lack of internet access.
- Failing to provide alternative solutions for making a payment without internet access.
- Reiterating the app usage without considering the customer's current limitations.

3. ****Self-Correction****: The AI agent did attempt to clarify the situation by asking the customer to explain their needs further, which indicates a level of self-correction. However, it did not provide a solution that addressed the customer's lack of internet access.

4. ****Proactive Correction Instances****: There were no proactive corrections made by the AI agent; it did not offer alternative methods for making a payment without internet access.

5. ****Customer Correction****: The customer did not correct the AI agent but expressed frustration about the limitations of the service due to their current situation.

Overall, the AI agent's responses indicate a significant misunderstanding of the

customer's needs, particularly in the context of their internet access issue, leading to a high likelihood of hallucinations.

Transcript SID: GTe4499bf605fd4216b1a4fe9708049a35

URL: <https://intelligence.twilio.com/v2/Transcripts/GTe4499bf605fd4216b1a4fe9708049a35/OperatorResults/LY414fae94579a4c1eb97076fce2aedbbe>

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OPERATOR RESULT #8

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Name: Product Interest

Type: text-generation

Operator SID: LY0dc7a748c9894db49bc53617b0174496

Text Generation Result:

1. ****Saldo da Conta****

- O cliente expressou interesse em saber o saldo da sua conta, embora o agente não pudesse fornecer essa informação diretamente.

2. ****Aplicativo do Owl Bank****

- O cliente mencionou o aplicativo do Owl Bank ao tentar verificar o saldo da conta.

3. ****Pagamento por PIX****

- O cliente demonstrou interesse em realizar um pagamento por PIX, perguntando se era possível fazer isso.

Transcript SID: GTe4499bf605fd4216b1a4fe9708049a35

URL: <https://intelligence.twilio.com/v2/Transcripts/GTe4499bf605fd4216b1a4fe9708049a35/OperatorResults/LY0dc7a748c9894db49bc53617b0174496>

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OPERATOR RESULT #9

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Name: Legal Liabilities

Type: text-generation

Operator SID: LY4cf1f10aa296458d986d1b12809f8d53

Text Generation Result:

1. ****Risk Score: 20****

****Risk Factor: Misleading Information****

****Report:**** The virtual agent incorrectly implies that the customer can perform a payment via PIX through the app without confirming the customer's account status or capabilities. This could lead to customer frustration if they are unable to complete the transaction, potentially damaging the company's reputation.

2. **Risk Score: 30**

Risk Factor: Lack of Clarity

Report: The virtual agent's response lacks clarity regarding the payment process. The phrase "é bem simples" does not provide any actionable steps or guidance, which could confuse the customer further, especially since they are already in a difficult situation without internet access.

3. **Risk Score: 15**

Risk Factor: Incomplete Assistance

Report: The virtual agent fails to provide alternative solutions for the customer who is without internet access. This could lead to customer dissatisfaction and a perception that the service is unhelpful, but it does not constitute a legal liability.

4. **Risk Score: 5**

Risk Factor: Typographical Error

Report: The phrase "Owl telefone que que triste" contains a typographical error that could lead to misunderstanding. While this is minor, it reflects poorly on the professionalism of the virtual agent.

5. **Risk Score: 10**

Risk Factor: Disclosed PII unrelated to Customer

Report: The virtual agent addresses the customer by name (Amanda) without confirming if this is the correct identity, which could lead to privacy concerns if the name is not associated with the account in question. This could be perceived as a breach of privacy, although it is a common practice in customer service.

Transcript SID: GTe4499bf605fd4216b1a4fe9708049a35

URL: <https://intelligence.twilio.com/v2/Transcripts/GTe4499bf605fd4216b1a4fe9708049a35/OperatorResults/LY4cf1f10aa296458d986d1b12809f8d53>

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OPERATOR RESULT #10

=====

Name: Conversation Summary

Type: text-generation

Operator SID: LY8d2be74b94a34733b28594fadf331f0c

Text Generation Result:

The customer, Amanda, contacted the virtual agent to inquire about her account balance but was informed that the agent could not access personal account information. Amanda expressed her frustration as she was without internet access and needed assistance with making a payment via PIX. The virtual agent confirmed that Amanda could make the payment through the Owl Bank app, providing reassurance that the process was straightforward.

Transcript SID: GTe4499bf605fd4216b1a4fe9708049a35
URL: https://intelligence.twilio.com/v2/Transcripts/GTe4499bf605fd4216b1a4fe9708049a35/OperatorResults/LY8d2be74b94a34733b28594fadf331f0c
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OPERATOR RESULT #11
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Name: Sentiment Analysis
Type: conversation-classify
Operator SID: LY6bdafd206f3d4146b13f45bf415ca361

Classification Result:

Predicted Label: neutral
Predicted Probability: 1.0
All Label Probabilities:
 neutral: 1.0

Transcript SID: GTe4499bf605fd4216b1a4fe9708049a35
URL: https://intelligence.twilio.com/v2/Transcripts/GTe4499bf605fd4216b1a4fe9708049a35/OperatorResults/LY6bdafd206f3d4146b13f45bf415ca361
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TRANSCRIPT: GT69d93adf2b1447e7ae39c48ed67868e8
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Found 11 operator results:

OPERATOR RESULT #1
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Name: Virtual Agent Performance
Type: text-generation
Operator SID: LY69843e95cea04823b7d80cd08942978a

Text Generation Result:

1) The virtual agent was not particularly consultative in this interaction. It did not ask any follow-up questions to further understand the customer's needs or to explore additional services that might be relevant to the customer. The agent simply provided a response to the customer's inquiry about points without probing for more information or offering related products or services that Owl Bank might provide.

2) The virtual agent was not sufficient in this case. Since the customer was looking for specific information about their points balance, which the virtual agent could not provide, it would have been more effective to hand over the

interaction to a human agent who could access the necessary information and assist the customer more thoroughly.

Transcript SID: GT69d93adf2b1447e7ae39c48ed67868e8

URL: <https://intelligence.twilio.com/v2/Transcripts/GT69d93adf2b1447e7ae39c48ed67868e8/OperatorResults/LY6126ffb8f2234b2bad3c49a0184cd978a>

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OPERATOR RESULT #2

=====

Name: Inferred CSAT

Type: text-generation

Operator SID: LY6126ffb8f2234b2bad3c49a0184cd978

Text Generation Result:

CSAT Score: 4-Good

Report:

The virtual agent provided a generally positive experience for the customer. The interaction began with a friendly greeting, which set a welcoming tone. The agent addressed the customer by name, creating a personal touch that can enhance customer satisfaction.

However, the agent was unable to provide the specific information the customer requested regarding their points balance, which could be seen as a limitation. Instead, the agent directed the customer to the app for further assistance. While this is a reasonable suggestion, it may not fully meet the customer's immediate needs, which could lead to some frustration.

The customer responded positively with "Ah, anda bom, obrigado viu?" indicating that they were satisfied with the interaction despite the limitation. This suggests that the customer appreciated the agent's friendly demeanor and the effort to assist, even if the information was not directly provided.

Given these factors, a score of 4 (Good) is appropriate as the interaction was pleasant and the customer left with a positive impression, but the inability to provide the requested information prevents a higher score.

Transcript SID: GT69d93adf2b1447e7ae39c48ed67868e8

URL: <https://intelligence.twilio.com/v2/Transcripts/GT69d93adf2b1447e7ae39c48ed67868e8/OperatorResults/LY6126ffb8f2234b2bad3c49a0184cd978a>

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OPERATOR RESULT #3

=====

Name: Inferred Customer Effort Score

Type: text-generation

Operator SID: LY48b623c2170f4abb9ecf9e7325466792

Text Generation Result:

CES Score: 4

Report: The interaction between the customer and the virtual agent indicates a moderate level of effort required to obtain the desired information. The customer initially asked for their points balance, which is a straightforward request. However, the virtual agent was unable to provide this information directly and instead directed the customer to another platform (the Owl Bank app) to find the details.

This response may lead to some frustration for the customer, as they were seeking immediate assistance but had to be redirected to another source. The customer expressed understanding and gratitude, which suggests a level of acceptance of the situation, but the need to switch platforms adds a layer of difficulty.

Given these factors, a score of 4 (Neither Easy nor Difficult) is appropriate, as the customer did not find the interaction extremely challenging, but it was not seamless either.

Transcript SID: GT69d93adf2b1447e7ae39c48ed67868e8

URL: <https://intelligence.twilio.com/v2/Transcripts/GT69d93adf2b1447e7ae39c48ed67868e8/OperatorResults/LY48b623c2170f4abb9ecf9e7325466792>

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OPERATOR RESULT #4

=====

Name: Entity Recognition

Type: extract

Operator SID: LY4a32fbae04414e0388ce996394be2054

Extraction Results:

Date: ['Atualmente']

Organization: ['Signal São Paulo', 'Owl Bank']

Person: ['Amanda', 'Amanda']

Quantity: ['tudo', 'pontos', 'Tudo', 'todos os detalhes']

Match Found: True

Match Probability: 0.5

Utterance Analysis:

Utterance 1 (Index 0):

Match Probability: 0.93656963

Text: Tarde! Assistente virtual do [Organization: Signal São Paulo] na área.

Como posso te ajudar, chefia?

Utterance 2 (Index 1):

Match Probability: 0.5076103

Text: Oi, [Quantity: tudo] bem? Eu queria saber quantos [Quantity: pontos] eu tenho.

Utterance 3 (Index 2):

Match Probability: 0.99950206

Text: Oi, [Person: Amanda]! [Quantity: Tudo] bem, e com você?

[Date: Atualmente], não tenho acesso às informações específicas do seu saldo de pontos. Recomendo que você verifique diretamente pelo app do [Organization: Owl Bank], onde pode acessar [Quantity: todos os detalhes] do seu programa de pontos.

Utterance 4 (Index 4):

Match Probability: 0.99951434

Text: Claro, [Person: Amanda]!

Transcript SID: GT69d93adf2b1447e7ae39c48ed67868e8

URL: <https://intelligence.twilio.com/v2/Transcripts/GT69d93adf2b1447e7ae39c48ed67868e8/OperatorResults/LY4a32fbae04414e0388ce996394be2054>

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OPERATOR RESULT #5

=====

Name: General Conversation Intent

Type: text-generation

Operator SID: LY43261075275f4d9887bedf3b8220840e

Text Generation Result:

Main Intent: Points Balance Inquiry, Multiple Intents: No, Secondary Intents: None, Accuracy Score: 8, Report: The AI Agent understood the main intent of the customer, which was to inquire about their points balance. However, the agent was unable to provide the specific information requested and redirected the customer to the app instead. This response was somewhat helpful but did not fully meet the customer's request, leading to a slightly lower accuracy score.

Transcript SID: GT69d93adf2b1447e7ae39c48ed67868e8

URL: <https://intelligence.twilio.com/v2/Transcripts/GT69d93adf2b1447e7ae39c48ed67868e8/OperatorResults/LY43261075275f4d9887bedf3b8220840e>

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OPERATOR RESULT #6

=====

Name: Compliance and Privacy Engagements

Type: extract

Operator SID: LY18261171586f4dcebbfb7e4d27e4832f

Transcript SID: GT69d93adf2b1447e7ae39c48ed67868e8
URL: https://intelligence.twilio.com/v2/Transcripts/GT69d93adf2b1447e7ae39c48ed67868e8/OperatorResults/LY18261171586f4dcebbfb7e4d27e4832f
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OPERATOR RESULT #7
=====

Name: Hallucinations Tracker
Type: text-generation
Operator SID: LY414fae94579a4c1eb97076fce2aedbbe

Text Generation Result:

Hallucinations: Very Likely, Occurrences: 1, Self-Corrected: FALSE, Correction Instances: 0, Proactive Correction Instances: 0, Customer Corrected: 0, Report: In this conversation, the AI agent incorrectly assumed the customer's name was "Amanda" without any prior indication from the customer. This is a clear hallucination as the customer did not provide their name. The AI agent did not correct itself or acknowledge this error, which could lead to confusion. The hallucination likely stemmed from an assumption made by the AI agent, as it did not have any technical issues with RAG/MCP but rather misinterpreted the context. Therefore, the likelihood of hallucination is high due to the incorrect name usage.

Transcript SID: GT69d93adf2b1447e7ae39c48ed67868e8
URL: https://intelligence.twilio.com/v2/Transcripts/GT69d93adf2b1447e7ae39c48ed67868e8/OperatorResults/LY414fae94579a4c1eb97076fce2aedbbe
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OPERATOR RESULT #8
=====

Name: Product Interest
Type: text-generation
Operator SID: LY0dc7a748c9894db49bc53617b0174496

Text Generation Result:

1. ****Owl Bank App****
 - Customer expressed interest in checking their points balance through the app.

Transcript SID: GT69d93adf2b1447e7ae39c48ed67868e8
URL: https://intelligence.twilio.com/v2/Transcripts/GT69d93adf2b1447e7ae39c48ed67868e8/OperatorResults/LY0dc7a748c9894db49bc53617b0174496
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OPERATOR RESULT #9
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Name: Legal Liabilities
Type: text-generation
Operator SID: LY4cf1f10aa296458d986d1b12809f8d53

Text Generation Result:

-
1. ****Occurrence****: The virtual agent addresses the customer by name, "Amanda", without confirmation of the customer's identity.
 - ****Risk Score****: 30
 - ****Risk Factor****: Potential Misidentification of Customer
 - ****Report****: The virtual agent assumes the customer's name is Amanda without verification. This could lead to confusion if the customer's name is not Amanda, potentially causing frustration or distrust in the service.
 2. ****Occurrence****: The virtual agent states it does not have access to the customer's points balance.
 - ****Risk Score****: 20
 - ****Risk Factor****: Lack of Information Access
 - ****Report****: While this is a limitation of the virtual agent, it may lead to customer dissatisfaction. However, it does not pose a legal liability unless it misrepresents the capabilities of the service.
 3. ****Occurrence****: The virtual agent directs the customer to another app (Owl Bank) for information.
 - ****Risk Score****: 10
 - ****Risk Factor****: Referral to Third-Party Service
 - ****Report****: Referring customers to another service is common, but if the agent provides incorrect information about the app or its functionality, it could lead to customer frustration or confusion.
 4. ****Occurrence****: The virtual agent uses informal language, such as "chefia" and "anda bom".
 - ****Risk Score****: 15
 - ****Risk Factor****: Inappropriate Tone
 - ****Report****: The informal tone may not align with the brand's voice or customer expectations, potentially leading to a perception of unprofessionalism. This could impact customer satisfaction but does not constitute a legal liability.

Transcript SID: GT69d93adf2b1447e7ae39c48ed67868e8
URL: <https://intelligence.twilio.com/v2/Transcripts/GT69d93adf2b1447e7ae39c48ed67868e8/OperatorResults/LY4cf1f10aa296458d986d1b12809f8d53>

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OPERATOR RESULT #10

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Name: Conversation Summary
Type: text-generation

Operator SID: LY8d2be74b94a34733b28594fadf331f0c

Text Generation Result:

The customer, Amanda, inquired about her points balance. The virtual agent informed her that it could not access specific information and recommended checking the Owl Bank app for details. Amanda thanked the agent for the assistance.

Transcript SID: GT69d93adf2b1447e7ae39c48ed67868e8

URL: <https://intelligence.twilio.com/v2/Transcripts/GT69d93adf2b1447e7ae39c48ed67868e8/OperatorResults/LY8d2be74b94a34733b28594fadf331f0c>

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OPERATOR RESULT #11

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Name: Sentiment Analysis

Type: conversation-classify

Operator SID: LY6bdafd206f3d4146b13f45bf415ca361

Classification Result:

Predicted Label: positive

Predicted Probability: 1.0

All Label Probabilities:

positive: 1.0

Transcript SID: GT69d93adf2b1447e7ae39c48ed67868e8

URL: <https://intelligence.twilio.com/v2/Transcripts/GT69d93adf2b1447e7ae39c48ed67868e8/OperatorResults/LY6bdafd206f3d4146b13f45bf415ca361>

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TRANSCRIPT: GT5845911c7abd4056921316450f1ce69f

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Found 11 operator results:

OPERATOR RESULT #1

=====

Name: Virtual Agent Performance

Type: text-generation

Operator SID: LY69843e95cea04823b7d80cd08942978a

Text Generation Result:

1) The virtual agent was consultative and did ask follow-up questions to understand the customer's needs. Throughout the conversation, the agent

acknowledged the customer's concerns about security and the use of artificial intelligence at Owl Bank. When the customer expressed a specific worry about data security, the agent responded with clarifying questions to ensure they understood the customer's concerns fully. This approach helped to address the customer's inquiries effectively and provided reassurance regarding the bank's security measures.

2) The virtual agent was effective in handling the customer's requests and concerns. The agent provided detailed information about the bank's security protocols and the ethical use of artificial intelligence, which seemed to address the customer's worries adequately. There was no indication that the customer required further assistance from a human agent, as the virtual agent was able to provide satisfactory answers and reassurance. Therefore, handing over to a human agent was not necessary in this case.

Transcript SID: GT5845911c7abd4056921316450f1ce69f

URL: <https://intelligence.twilio.com/v2/Transcripts/GT5845911c7abd4056921316450f1ce69f/OperatorResults/LY69843e95cea04823b7d80cd08942978a>

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OPERATOR RESULT #2

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Name: Inferred CSAT

Type: text-generation

Operator SID: LY6126ffb8f2234b2bad3c49a0184cd978

Text Generation Result:

CSAT Score: 4-Good

Report: The virtual agent provided a good experience to the customer, Amanda, throughout the interaction. The agent was polite, responsive, and addressed Amanda's concerns about the security of using artificial intelligence at Owl Bank. The agent acknowledged Amanda's worries and provided detailed explanations about the security measures in place, which likely helped to alleviate some of her concerns.

The use of friendly language and emojis contributed positively to the interaction, making it feel more personal and engaging. The agent also encouraged further questions, showing a willingness to assist and ensuring that Amanda felt supported.

However, there were moments where the agent could have been more proactive in addressing Amanda's concerns without needing her to specify them further. For instance, when Amanda expressed her worries about data security, the agent could have offered more reassurance or examples of security measures taken by Owl Bank right away, rather than waiting for Amanda to ask for specifics.

Overall, the interaction was effective, and Amanda likely felt satisfied with the assistance provided, leading to a positive response in a CSAT survey. The score of 4 reflects a good experience, with room for improvement in proactivity and reassurance.

Transcript SID: GT5845911c7abd4056921316450f1ce69f

URL: <https://intelligence.twilio.com/v2/Transcripts/GT5845911c7abd4056921316450f1ce69f/OperatorResults/LY6126ffb8f2234b2bad3c49a0184cd978>

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OPERATOR RESULT #3

=====

Name: Inferred Customer Effort Score

Type: text-generation

Operator SID: LY48b623c2170f4abb9ecf9e7325466792

Text Generation Result:

CES Score: 4

Report: The interaction between the customer and the virtual agent indicates a moderate level of effort required from the customer to get their questions answered. The customer expressed concerns about the safety of using artificial intelligence in banking, which suggests they were seeking reassurance and clarity.

While the virtual agent provided detailed responses and addressed the customer's concerns about security, the customer still seemed uncertain and expressed that they would think about it, indicating that they did not leave the interaction fully satisfied or reassured.

The customer had to clarify their concerns multiple times, which may have added to their effort in seeking information. The virtual agent's responses were informative but did not completely alleviate the customer's apprehensions, leading to a score of 4, which reflects a neutral experience where the customer neither found the interaction easy nor difficult.

Transcript SID: GT5845911c7abd4056921316450f1ce69f

URL: <https://intelligence.twilio.com/v2/Transcripts/GT5845911c7abd4056921316450f1ce69f/OperatorResults/LY48b623c2170f4abb9ecf9e7325466792>

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OPERATOR RESULT #4

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Name: Entity Recognition

Type: extract

Operator SID: LY4a32fbae04414e0388ce996394be2054

Extraction Results:

Date: ['Até o momento']
Organization: ['Signal São Paulo', 'Aldank', 'Owl Bank', 'Bank', 'Owl Bank', 'Owl Bank']
Person: ['Amanda', 'Amanda', 'Amanda', 'Luca', 'Amanda', 'Amanda', 'Amanda', 'Amanda']
Quantity: ['tudo bem', 'Me', 'conta mais', 'Tudo ótimo', 'contar mais', 'menos de 5 minutos', 'algum outro tema', 'mais detalhes', 'válida', 'prioridade número u', 'Todos os processo', 'mais inteligente', 'mais específica', 'nenhuma brecha', 'uma das nossas maiores prioridades', 'alguma preocupação', 'mais detalhes', 'pessoa', 'muito', 'mais recentes', 'todas as regulamentações locais', 'autorização', 'mais dúvidas', 'meio arriscado', 'mais informações', 'qualquer dúvida', 'alguma preocupação', 'isso', 'qualquer outra coisa']

Match Found: True

Match Probability: 0.5

Utterance Analysis:

Utterance 1 (Index 0):

Match Probability: 0.96106166

Text: Tarde! Assistente virtual do [Organization: Signal São Paulo] na área. Como posso te ajudar, chefia?

Utterance 2 (Index 1):

Match Probability: 0.86175114

Text: Oi [Quantity: tudo bem]? [Quantity: Me] [Quantity: conta mais] sobre o [Organization: Aldank].

Utterance 3 (Index 2):

Match Probability: 0.9994655

Text: Oi, [Person: Amanda]! [Quantity: Tudo ótimo], e você? Então, deixa eu te [Quantity: contar mais] sobre o [Organization: Owl Bank]. Nós somos uma plataforma financeira digital e movida por inteligência artificial, feita para facilitar a sua vida financeira.

A gente te oferece uma conta digital que você pode abrir em [Quantity: menos de 5 minutos],

Utterance 4 (Index 4):

Match Probability: 0.9986766

Text: [Person: Amanda], acredito que você quis dizer algo relacionado à nossa segurança digital ou [Quantity: algum outro tema] específico. Poderia me dar [Quantity: mais detalhes] do que está se referindo?

Utterance 5 (Index 5):

Match Probability: 0.52507573

Text: Isso, eu quero saber se usar inteligência artificial no no [Organization: Bank] banco não é perigoso.

Utterance 6 (Index 6):

Match Probability: 0.99929035

Text: Oi, [Person: Amanda]! Entendo sua preocupação, é super [Quantity:

válida] .

Na Owl Bank, a segurança dos nossos clientes é a nossa[Quantity: prioridade número u]m. A inteligência artificial que utilizamos é projetada para garantir tanto a eficiência quanto a proteção dos seus dados.[Quantity: Todos os processo]s são criptografados e seguimos rigorosos padrões de segurança no setor financeiro.

Além disso, nossa meta com a IA é simplificar sua jornada financeira enquanto ajudamos você a tomar decisões[Quantity: mais inteligente]s - sempre com transparência e clareza. Se você tiver perguntas[Quantity: mais específica]s sobre segurança ou como a IA funciona,

Utterance 7 (Index 7):

Match Probability: 0.9950566

Text: Tá mas não teve [Quantity: nenhuma brecha] de segurança então, [Person: Luca]?

Utterance 8 (Index 8):

Match Probability: 0.9992224

Text: Oi, [Person: Amanda]! Aqui na [Organization: Owl Bank], a segurança é [Quantity: uma das nossas maiores prioridades]. [Date: Até o momento], não há registros de brechas de segurança no sistema. Nosso time técnico trabalha continuamente para proteger seus dados com tecnologia de ponta e certificações rigorosas. Caso você tenha [Quantity: alguma preocupação] específica ou queira [Quantity: mais detalhes],

Utterance 9 (Index 9):

Match Probability: 0.6215893

Text: E que a inteligência artificial decidiu entregar meus dados pra outra [Quantity: pessoa]?

Utterance 10 (Index 10):

Match Probability: 0.99970776

Text: Olá [Person: Amanda], eu entendo a sua preocupação. Quero te tranquilizar que a [Organization: Owl Bank] leva a proteção dos seus dados [Quantity: muito] a sério. Utilizamos as [Quantity: mais recentes] tecnologias de segurança e seguimos [Quantity: todas as regulamentações locais] para garantir que suas informações estejam sempre protegidas.

Nossos sistemas de inteligência artificial são projetados para operar dentro de padrões estritos de ética e privacidade, nunca compartilhando seus dados pessoais com terceiros sem sua [Quantity: autorização] explícita. Caso tenha [Quantity: mais dúvidas] sobre como seus dados são tratados,

Utterance 11 (Index 11):

Match Probability: 0.7552922

Text: Eu vou pensar, mas eu ainda acho [Quantity: meio arriscado].

Utterance 12 (Index 12):

Match Probability: 0.99920577

Text: Entendo perfeitamente, [Person: Amanda]. Tomar decisões financeiras é algo que deve ser feito com calma e confiança. Se precisar de [Quantity: mais informações] ou de ajuda para esclarecer [Quantity: qualquer dúvida], estou aqui

para ajudar. Você tem [Quantity: alguma preocupação] específica sobre a qual gostaria de conversar?

Utterance 13 (Index 13):

Match Probability: 0.49829525

Text: Não, está bom, era só [Quantity: isso] mesmo, obrigado viu?

Utterance 14 (Index 14):

Match Probability: 0.9995141

Text: Imagina, [Person: Amanda]! Foi um prazer te ajudar. Se precisar de [Quantity: qualquer outra coisa], é só chamar, viu? Tenha um ótimo dia!

Transcript SID: GT5845911c7abd4056921316450f1ce69f

URL: <https://intelligence.twilio.com/v2/Transcripts/GT5845911c7abd4056921316450f1ce69f/OperatorResults/LY4a32fbae04414e0388ce996394be2054>

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OPERATOR RESULT #5

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Name: General Conversation Intent

Type: text-generation

Operator SID: LY43261075275f4d9887bedf3b8220840e

Text Generation Result:

Main Intent: Inquiry about Security of AI in Banking, Multiple Intents: Yes, Secondary Intents: Concerns about Data Breaches, Assurance of Data Protection, General Inquiry about Owl Bank. Accuracy Score: 9, Report: The AI Agent effectively understood the customer's main concern regarding the security of using AI in banking and provided detailed responses addressing the customer's inquiries about data protection and security measures. The agent maintained a supportive tone and offered reassurance, which aligns well with the customer's expressed concerns. However, there was a slight lack of direct engagement with the customer's specific worries about data breaches, which could have been addressed more thoroughly. Overall, the main intent was clearly identified and responded to, with secondary intents also acknowledged.

Transcript SID: GT5845911c7abd4056921316450f1ce69f

URL: <https://intelligence.twilio.com/v2/Transcripts/GT5845911c7abd4056921316450f1ce69f/OperatorResults/LY43261075275f4d9887bedf3b8220840e>

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OPERATOR RESULT #6

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Name: Compliance and Privacy Engagements

Type: extract

Operator SID: LY18261171586f4dcebbfb7e4d27e4832f

Transcript SID: GT5845911c7abd4056921316450f1ce69f

URL: <https://intelligence.twilio.com/v2/Transcripts/GT5845911c7abd4056921316450f1ce69f/OperatorResults/LY18261171586f4dcebbfb7e4d27e4832f>

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OPERATOR RESULT #7

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Name: Hallucinations Tracker

Type: text-generation

Operator SID: LY414fae94579a4c1eb97076fce2aedbbe

Text Generation Result:

****Hallucinations Evaluation****

****Likelihood of Hallucinations:** Very Likely**

****Occurrences:** 3**

****Self-Corrected:** TRUE**

****Correction Instances:** 1**

****Proactive Correction Instances:** 0**

****Customer Corrected:** 1**

****Report:****

1. ****First Hallucination:**** The AI agent incorrectly referred to the bank as "Owl Bank" instead of "Aldank" as requested by the customer. This misidentification could confuse the customer and indicates a lack of understanding of the customer's request.

- ****Cause:**** Likely due to assumptions made by the AI agent, possibly from a misunderstanding of the context or a technical issue with the retrieval of the correct information.

2. ****Second Hallucination:**** The AI agent stated that there are no records of security breaches at the bank, which may not be verifiable information. This could mislead the customer into thinking that the bank has never faced any security issues, which is a strong claim.

- ****Cause:**** This appears to be a failure in reasoning or understanding the nuances of security in financial institutions, leading to an overly confident assertion.

3. ****Third Hallucination:**** The AI agent reassured the customer that their data would never be shared without explicit consent, which is a strong claim that may not be universally true across all financial institutions. This could mislead the customer regarding the bank's data-sharing policies.

- ****Cause:**** This seems to stem from an assumption about the bank's practices without sufficient context or verification of the bank's actual policies.

****Self-Correction:**** The AI agent did attempt to clarify its understanding of the customer's concerns about security, which indicates some level of self-correction. However, it did not correct the initial misidentification of the bank's name.

****Customer Correction:**** The customer pointed out a concern regarding data sharing, which indicates that the AI agent did not fully address the customer's specific worries about data privacy.

Overall, the conversation shows multiple instances of potential hallucinations, primarily due to assumptions made by the AI agent and a lack of precise information retrieval.

Transcript SID: GT5845911c7abd4056921316450f1ce69f

URL: <https://intelligence.twilio.com/v2/Transcripts/GT5845911c7abd4056921316450f1ce69f/OperatorResults/LY414fae94579a4c1eb97076fce2aedbbe>

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OPERATOR RESULT #8

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Name: Product Interest

Type: text-generation

Operator SID: LY0dc7a748c9894db49bc53617b0174496

Text Generation Result:

1. ****Owl Bank****

- A plataforma financeira digital mencionada pelo cliente.
- Interesse em saber mais sobre a segurança e funcionamento da inteligência artificial utilizada.

2. ****Conta Digital****

- O cliente demonstrou interesse em abrir uma conta digital, questionando sobre a segurança e a proteção de dados.

3. ****Segurança Digital****

- O cliente fez várias perguntas sobre a segurança da plataforma, incluindo:
 - Se houve brechas de segurança.
 - Se a inteligência artificial poderia compartilhar dados pessoais com terceiros.

4. ****Inteligência Artificial****

- O cliente expressou preocupações sobre o uso de inteligência artificial no banco, questionando sobre os riscos associados.

Transcript SID: GT5845911c7abd4056921316450f1ce69f

URL: <https://intelligence.twilio.com/v2/Transcripts/GT5845911c7abd4056921316450f1ce69f/OperatorResults/LY0dc7a748c9894db49bc53617b0174496>

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OPERATOR RESULT #9

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Name: Legal Liabilities

Type: text-generation
Operator SID: LY4cf1f10aa296458d986d1b12809f8d53

Text Generation Result:

Legal Liability and Risk Analysis of AI Agent Responses

1. Miscommunication about Security Breaches

- **Agent Track:**
 - "Até o momento, não há registros de brechas de segurança no sistema."
- **Customer Feedback:**
 - "E que a inteligência artificial decidiu entregar meus dados pra outra pessoa?"
- **Risk Score:** 30
- **Risk Factor:** Potential Misleading Information
- **Report:** The agent's assurance that there are no security breaches could be misleading if there are undisclosed incidents. This could lead to customer distrust and potential legal action if a breach occurs after this statement.

2. Assurance of Data Protection

- **Agent Track:**
 - "Nossos sistemas de inteligência artificial são projetados para operar dentro de padrões estritos de ética e privacidade, nunca compartilhando seus dados pessoais com terceiros sem sua autorização explícita."
- **Customer Feedback:**
 - "Eu vou pensar, mas eu ainda acho meio arriscado."
- **Risk Score:** 40
- **Risk Factor:** Overpromising Data Security
- **Report:** While the agent reassures the customer about data protection, if any data is shared without consent, this could lead to significant legal repercussions and damage to the company's reputation.

3. Lack of Clarity on AI Functionality

- **Agent Track:**
 - "A inteligência artificial que utilizamos é projetada para garantir tanto a eficiência quanto a proteção dos seus dados."
- **Customer Feedback:**
 - "Isso, eu quero saber se usar inteligência artificial no no Bank banco não é perigoso."
- **Risk Score:** 25
- **Risk Factor:** Insufficient Explanation of AI Risks
- **Report:** The agent does not adequately address the customer's concerns about the risks associated with AI, which could lead to misunderstandings and dissatisfaction. This could result in reputational damage rather than direct legal liability.

4. Use of Informal Language

- **Agent Track:**

- "Oi, Amanda! Tudo ótimo, e você?"
- **Customer Feedback:**
 - "Não sabia que o interior oficial não é mais perigoso."
- **Risk Score:** 15
- **Risk Factor:** Unprofessional Tone
- **Report:** The informal tone may not be suitable for all customers, potentially leading to a perception of unprofessionalism. While this is more related to customer satisfaction, it could indirectly affect the company's reputation.

5. Potential for Confusion with AI Terminology

- **Agent Track:**
 - "A inteligência artificial que utilizamos é projetada para garantir tanto a eficiência quanto a proteção dos seus dados."
- **Customer Feedback:**
 - "Isso, eu quero saber se usar inteligência artificial no no Bank banco não é perigoso."
- **Risk Score:** 20
- **Risk Factor:** Confusion Over AI Terminology
- **Report:** The customer seems confused about the implications of using AI in banking. If the agent fails to clarify this, it could lead to misunderstandings that may escalate into complaints or legal inquiries.

Summary

The conversation shows several areas where the AI agent's responses could lead to potential legal liabilities, particularly concerning data security assurances and the clarity of information provided. While some risks are more related to customer satisfaction, the potential for misleading information and overpromising data protection are significant concerns that could lead to legal action.

Transcript SID: GT5845911c7abd4056921316450f1ce69f

URL: <https://intelligence.twilio.com/v2/Transcripts/GT5845911c7abd4056921316450f1ce69f/OperatorResults/LY4cf1f10aa296458d986d1b12809f8d53>

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OPERATOR RESULT #10

=====

Name: Conversation Summary

Type: text-generation

Operator SID: LY8d2be74b94a34733b28594fadf331f0c

Text Generation Result:

The customer, Amanda, inquired about the Owl Bank and expressed concerns regarding the safety of using artificial intelligence in banking. The virtual agent reassured her that Owl Bank prioritizes customer security, emphasizing that their AI systems are designed to protect data and comply with strict

regulations. Amanda remained cautious about the risks but appreciated the information provided, indicating she would think it over before making a decision.

Transcript SID: GT5845911c7abd4056921316450f1ce69f
URL: <https://intelligence.twilio.com/v2/Transcripts/GT5845911c7abd4056921316450f1ce69f/OperatorResults/LY8d2be74b94a34733b28594fadf331f0c>
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OPERATOR RESULT #11

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Name: Sentiment Analysis
Type: conversation-classify
Operator SID: LY6bdafd206f3d4146b13f45bf415ca361

Classification Result:

Predicted Label: mixed
Predicted Probability: 1.0
All Label Probabilities:
 mixed: 1.0

Transcript SID: GT5845911c7abd4056921316450f1ce69f
URL: <https://intelligence.twilio.com/v2/Transcripts/GT5845911c7abd4056921316450f1ce69f/OperatorResults/LY6bdafd206f3d4146b13f45bf415ca361>
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TRANSCRIPT: GT09e1a90219ee4e939daf9386393c9662

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Found 11 operator results:

OPERATOR RESULT #1

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Name: Virtual Agent Performance
Type: text-generation
Operator SID: LY69843e95cea04823b7d80cd08942978a

Text Generation Result:

1) The virtual agent was somewhat consultative in its approach. It acknowledged the customer's issue regarding the delayed credit card delivery and provided information about the expected delivery timeframe. However, it did not ask any follow-up questions to further understand the customer's needs or concerns beyond the immediate issue of the card delivery. For instance, it could have inquired if the customer had any other banking needs or if they were interested in other products offered by Owl Bank.

2) The virtual agent was not sufficient in resolving the customer's issue on its own, as it needed to escalate the matter to a human agent for further assistance. The customer expressed a preference for the issue to be handled by the responsible department, indicating that the virtual agent's capabilities were limited in this situation. Therefore, handing over to a human agent was necessary to ensure the customer's issue was addressed appropriately.

Transcript SID: GT09e1a90219ee4e939daf9386393c9662
URL: <https://intelligence.twilio.com/v2/Transcripts/GT09e1a90219ee4e939daf9386393c9662/OperatorResults/LY69843e95cea04823b7d80cd08942978a>
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OPERATOR RESULT #2

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Name: Inferred CSAT
Type: text-generation
Operator SID: LY6126ffb8f2234b2bad3c49a0184cd978

Text Generation Result:

CSAT Score: 4-Good

Report: The virtual agent provided a good experience to the customer, Amanda, by promptly acknowledging her issue regarding the delayed credit card delivery. The agent demonstrated understanding and empathy by confirming the situation and explaining the expected delivery timeframe. Additionally, the agent offered a solution by suggesting to escalate the issue to the responsible department, which shows a proactive approach to customer service.

However, the interaction could have been improved by providing more detailed information about the next steps or a timeframe for when Amanda could expect to hear back from the responsible department. This lack of closure may leave the customer feeling uncertain about the resolution process.

Overall, the virtual agent's performance was satisfactory, leading to a likely positive response in a CSAT survey, hence the score of 4-Good.

Transcript SID: GT09e1a90219ee4e939daf9386393c9662
URL: <https://intelligence.twilio.com/v2/Transcripts/GT09e1a90219ee4e939daf9386393c9662/OperatorResults/LY6126ffb8f2234b2bad3c49a0184cd978>
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OPERATOR RESULT #3

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Name: Inferred Customer Effort Score
Type: text-generation
Operator SID: LY48b623c2170f4abb9ecf9e7325466792

Text Generation Result:

CES Score: 4

Report: The customer interaction indicates a moderate level of effort required from the customer. The customer expressed a concern about not receiving their credit card after a month of waiting, which suggests some frustration. The virtual agent acknowledged the issue and provided information about the expected delivery time, which is helpful. However, the customer had to request that the issue be escalated to the responsible department, indicating that they had to take an additional step to resolve their problem.

While the virtual agent was responsive and attempted to assist, the need for escalation and the initial delay in receiving the card contribute to a perception of effort that is neither easy nor difficult, landing the score at a neutral 4. The customer likely feels that while the interaction was somewhat helpful, it still required more effort than they would have preferred.

Transcript SID: GT09e1a90219ee4e939daf9386393c9662

URL: <https://intelligence.twilio.com/v2/Transcripts/GT09e1a90219ee4e939daf9386393c9662/OperatorResults/LY48b623c2170f4abb9ecf9e7325466792>

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OPERATOR RESULT #4

=====

Name: Entity Recognition

Type: extract

Operator SID: LY4a32fbae04414e0388ce996394be2054

Extraction Results:

Date: ['1']

Organization: ['Signal São Paulo']

Quantity: ['mês', '15 dias úteis']

Person: ['Amanda', 'Sunny', 'Amanda', 'Sunny']

Consumer_good: ['Gold']

Match Found: True

Match Probability: 0.5

Utterance Analysis:

Utterance 1 (Index 0):

Match Probability: 0.954953

Text: Tarde! Assistente virtual do [Organization: Signal São Paulo] na área.

Como posso te ajudar, chefia?

Utterance 2 (Index 1):

Match Probability: 0.6004344

Text: Oi, eu queria entender, eu não recebi ainda meu cartão de crédito, estou esperando faz [Date: 1] [Quantity: mês] já.

Utterance 3 (Index 2):

Match Probability: 0.9997428

Text: Entendo, [Person: Amanda]. Vou verificar essa situação para você. Com o seu cartão [Consumer_good: Gold], o prazo médio de entrega é de até [Quantity: 15 dias úteis], então já passou do tempo estimado. Você pode me confirmar o endereço cadastrado para a entrega ou quer que eu passe isso para o setor responsável para revisão? #route_to:[Person: Sunny]

Utterance 4 (Index 4):

Match Probability: 0.99964106

Text: Entendido, [Person: Amanda]. Vou encaminhar sua solicitação para o setor responsável para que possam te ajudar da melhor forma. Um momento, por favor. #route_to:[Person: Sunny]

Transcript SID: GT09e1a90219ee4e939daf9386393c9662

URL: <https://intelligence.twilio.com/v2/Transcripts/GT09e1a90219ee4e939daf9386393c9662/OperatorResults/LY4a32fbae04414e0388ce996394be2054>

OPERATOR RESULT #5

Name: General Conversation Intent

Type: text-generation

Operator SID: LY43261075275f4d9887bedf3b8220840e

Text Generation Result:

Main Intent: Card Delivery Status, Multiple Intents: No, Accuracy Score: 10, Report: The AI Agent accurately identified the customer's main intent regarding the status of their credit card delivery. The customer explicitly stated they had not received their card after a month, which the agent acknowledged and addressed by offering to check the status and confirm the delivery address. The agent's response was appropriate and aligned with the customer's request, leading to a clear resolution path by routing the issue to the responsible department.

Transcript SID: GT09e1a90219ee4e939daf9386393c9662

URL: <https://intelligence.twilio.com/v2/Transcripts/GT09e1a90219ee4e939daf9386393c9662/OperatorResults/LY43261075275f4d9887bedf3b8220840e>

OPERATOR RESULT #6

Name: Compliance and Privacy Engagements

Type: extract

Operator SID: LY18261171586f4dcebbfb7e4d27e4832f

Transcript SID: GT09e1a90219ee4e939daf9386393c9662
URL: <https://intelligence.twilio.com/v2/Transcripts/GT09e1a90219ee4e939daf9386393c9662/OperatorResults/LY18261171586f4dcebbfb7e4d27e4832f>
=====

OPERATOR RESULT #7

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Name: Hallucinations Tracker
Type: text-generation
Operator SID: LY414fae94579a4c1eb97076fce2aedbbe

Text Generation Result:

Hallucinations: Very Likely, Occurrences: 2, Self-Corrected: FALSE, Correction Instances: 0, Proactive Correction Instances: 0, Customer Corrected: 0, Report:

1. ****Hallucination Identification****: The AI agent incorrectly referred to the customer as "Amanda" without any prior indication of the customer's name. This could lead to confusion and suggests a lack of understanding of the context or a technical issue in retrieving customer data.
2. ****Second Hallucination****: The AI agent stated that the average delivery time for the Gold card is 15 business days, which may not be accurate or applicable to the customer's specific situation. This could be a result of the AI making assumptions based on general data rather than specific customer information.
3. ****Likelihood of Hallucinations****: The likelihood of hallucinations is assessed as "Very Likely" due to the AI agent's incorrect assumption about the customer's name and potentially inaccurate information regarding the delivery time.
4. ****Occurrences****: There were 2 distinct instances of hallucination in the conversation.
5. ****Self-Correction****: The AI agent did not self-correct any of the hallucinations during the conversation.
6. ****Customer Correction****: The customer did not correct the AI agent, which indicates that the customer may not have noticed the inaccuracies or assumed the AI was correct.

In summary, the AI agent's assumptions about the customer's name and the delivery time for the credit card led to hallucinations that were not addressed or corrected during the interaction.

Transcript SID: GT09e1a90219ee4e939daf9386393c9662
URL: <https://intelligence.twilio.com/v2/Transcripts/GT09e1a90219ee4e939daf9386393c9662/OperatorResults/LY414fae94579a4c1eb97076fce2aedbbe>

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OPERATOR RESULT #8

=====

Name: Product Interest

Type: text-generation

Operator SID: LY0dc7a748c9894db49bc53617b0174496

Text Generation Result:

1. ****Cartão de Crédito****

- O cliente mencionou especificamente que está aguardando a entrega de seu cartão de crédito.

- O tipo de cartão mencionado é o ****Cartão Gold****.

2. ****Serviço de Entrega de Cartão****

- O cliente demonstrou interesse em entender o processo de entrega do cartão de crédito, questionando sobre o atraso na entrega.

Transcript SID: GT09e1a90219ee4e939daf9386393c9662

URL: <https://intelligence.twilio.com/v2/Transcripts/GT09e1a90219ee4e939daf9386393c9662/OperatorResults/LY0dc7a748c9894db49bc53617b0174496>

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OPERATOR RESULT #9

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Name: Legal Liabilities

Type: text-generation

Operator SID: LY4cf1f10aa296458d986d1b12809f8d53

Text Generation Result:

1. ****Risk Score: 20****

****Risk Factor:**** Incorrect Information Provided

****Report:**** The virtual agent stated that the average delivery time for the Gold card is up to 15 business days. If this information is incorrect or misleading, it could lead to customer dissatisfaction and potential legal issues if the customer relies on this information and it results in a negative outcome.

2. ****Risk Score: 15****

****Risk Factor:**** Lack of Clarity in Communication

****Report:**** The phrase "passar pro setor responsável" may not be clear to all customers. If the customer does not understand what this means, it could lead to confusion and frustration, potentially impacting customer satisfaction and leading to complaints.

3. ****Risk Score: 10****

****Risk Factor:**** Mispronounced Important Information

****Report:**** The virtual agent referred to the customer as "Amanda" without confirming the name. If the name is incorrect, it could lead to a perception of unprofessionalism and could impact the customer's trust in the service.

4. ****Risk Score: 5****

****Risk Factor:**** Informal Language

****Report:**** The use of informal language such as "chefia" may not be appropriate in a customer service context. While it may create a friendly atmosphere, it could also be perceived as unprofessional by some customers, potentially leading to dissatisfaction.

Transcript SID: GT09e1a90219ee4e939daf9386393c9662

URL: <https://intelligence.twilio.com/v2/Transcripts/GT09e1a90219ee4e939daf9386393c9662/OperatorResults/LY4cf1f10aa296458d986d1b12809f8d53>

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OPERATOR RESULT #10

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Name: Conversation Summary

Type: text-generation

Operator SID: LY8d2be74b94a34733b28594fadf331f0c

Text Generation Result:

The customer, Amanda, contacted the virtual agent regarding the delay in receiving her credit card, which she has been waiting for over a month. The virtual agent confirmed that the expected delivery time for her Gold card is 15 business days, indicating that the delivery is overdue. Amanda requested that her issue be escalated to the responsible department for further assistance, and the agent agreed to forward her request.

Transcript SID: GT09e1a90219ee4e939daf9386393c9662

URL: <https://intelligence.twilio.com/v2/Transcripts/GT09e1a90219ee4e939daf9386393c9662/OperatorResults/LY8d2be74b94a34733b28594fadf331f0c>

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OPERATOR RESULT #11

=====

Name: Sentiment Analysis

Type: conversation-classify

Operator SID: LY6bdafd206f3d4146b13f45bf415ca361

Classification Result:

Predicted Label: negative

Predicted Probability: 1.0

All Label Probabilities:

negative: 1.0

Transcript SID: GT09e1a90219ee4e939daf9386393c9662
URL: https://intelligence.twilio.com/v2/Transcripts/GT09e1a90219ee4e939daf9386393c9662/OperatorResults/LY6bdafd206f3d4146b13f45bf415ca361
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TRANSCRIPT: GT75f38d4a416a4c668509d312c80a8b3a
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Found 11 operator results:

OPERATOR RESULT #1
=====

Name: Virtual Agent Performance
Type: text-generation
Operator SID: LY69843e95cea04823b7d80cd08942978a

Text Generation Result:

1) The virtual agent was somewhat consultative in its approach. It acknowledged the customer's request for a safe investment with good returns and provided relevant options such as CDBs, LCIs, and ESG portfolios. However, it did not ask any follow-up questions to further clarify the customer's specific needs or preferences, such as the investment duration, liquidity requirements, or any previous investment experience. This lack of deeper inquiry may have limited the agent's ability to tailor its recommendations more effectively to the customer's situation.

2) The virtual agent was not entirely sufficient in addressing the customer's concerns. The customer expressed confusion and skepticism about the investment outcomes, indicating a lack of trust in the information provided. The agent's response about the risks involved in investing was appropriate, but it could have been more reassuring and supportive. Given the customer's emotional response and uncertainty, handing over to a human agent would likely have been necessary to provide personalized reassurance, address the customer's concerns more empathetically, and build trust.

Transcript SID: GT75f38d4a416a4c668509d312c80a8b3a
URL: https://intelligence.twilio.com/v2/Transcripts/GT75f38d4a416a4c668509d312c80a8b3a/OperatorResults/LY69843e95cea04823b7d80cd08942978a
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OPERATOR RESULT #2
=====

Name: Inferred CSAT
Type: text-generation
Operator SID: LY6126ffb8f2234b2bad3c49a0184cd978

Text Generation Result:

CSAT Score: 2-Bad

Report: The virtual agent provided a response that was informative and offered several investment options that align with the customer's request for a safe investment with good returns. However, the interaction took a negative turn when the customer expressed confusion and skepticism about the investment advice, culminating in a statement of distrust: "Você está me enganando." This indicates that the customer felt the information provided was either misleading or not sufficiently clear, leading to frustration.

The virtual agent's attempt to clarify the risks associated with investing was appropriate, but it may not have been delivered in a way that reassured the customer. The customer's repeated uncertainty and final accusation suggest a lack of confidence in the virtual agent's guidance.

Given these factors, the likelihood of the customer responding positively in a CSAT survey is low, resulting in a score of 2. The experience was marred by the customer's feelings of being misled, which overshadowed the informative nature of the agent's responses.

Transcript SID: GT75f38d4a416a4c668509d312c80a8b3a
URL: <https://intelligence.twilio.com/v2/Transcripts/GT75f38d4a416a4c668509d312c80a8b3a/OperatorResults/LY6126ffb8f2234b2bad3c49a0184cd978>

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OPERATOR RESULT #3

=====

Name: Inferred Customer Effort Score
Type: text-generation
Operator SID: LY48b623c2170f4abb9ecf9e7325466792

Text Generation Result:

CES Score: 5

Report: The customer interaction indicates a level of confusion and frustration from the customer, Amanda, particularly towards the end of the conversation. Initially, the virtual agent provides helpful information about investment options that align with Amanda's desire for security and good returns. However, when Amanda seeks reassurance about becoming wealthy through these investments, the virtual agent's response introduces uncertainty by emphasizing the inherent risks involved in investing. This seems to have led to Amanda feeling misled or unsatisfied, as indicated by her response "Você está me enganando" ("You are deceiving me").

Given this context, a CES score of 5 (Fairly Difficult) is appropriate. Amanda's experience was not straightforward, and her lack of clarity and trust in the information provided suggests that she found the interaction more challenging than easy. The virtual agent's inability to provide a clear and reassuring answer to her concerns about investment risks contributed to her frustration.

Transcript SID: GT75f38d4a416a4c668509d312c80a8b3a

URL: <https://intelligence.twilio.com/v2/Transcripts/GT75f38d4a416a4c668509d312c80a8b3a/OperatorResults/LY48b623c2170f4abb9ecf9e7325466792>

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OPERATOR RESULT #4

=====

Name: Entity Recognition

Type: extract

Operator SID: LY4a32fbae04414e0388ce996394be2054

Extraction Results:

Date: ['esse mês']

Organization: ['Signal São Paulo', 'Owl Bank', 'FGC', 'Advisor', 'Owl Bank']

Person: ['Amanda', 'Amanda']

Quantity: ['4 bem', '1 comissão', '50000', '1 jeito', 'bastante retorno', 'muito risco', 'menos risco', 'algumas opções', 'certos limites', 'ainda mais segurança', 'Outra opção', 'mais informadas']

Match Found: True

Match Probability: 0.5

Utterance Analysis:

Utterance 1 (Index 0):

Match Probability: 0.97819287

Text: Tarde! Assistente virtual do [Organization: Signal São Paulo] na área. Como posso te ajudar, chefia?

Utterance 2 (Index 1):

Match Probability: 0.9277025

Text: [Quantity: 4 bem], Deixa eu falar, eu recebi [Quantity: 1 comissão] de [Quantity: 50000] [Date: esse mês], e aí eu queria investir esse dinheiro, mas, quero investir de [Quantity: 1 jeito] seguro, sabe? De colocar ter [Quantity: bastante retorno] mas também não quero [Quantity: muito risco], é isso.

Utterance 3 (Index 2):

Match Probability: 0.99899024

Text: Entendido, [Person: Amanda]! Que ótimo que você está pensando em investir de forma estratégica. Como você mencionou que quer um investimento seguro, com um bom retorno, mas com [Quantity: menos risco], temos [Quantity: algumas opções] interessantes dentro da [Organization: Owl Bank].

Você pode considerar investimentos como CDBs (Certificados de Depósito Bancário)

ou LCIs (Letras de Crédito Imobiliário), que são geralmente de baixo risco e oferecem boa rentabilidade. Além disso, são protegidos pelo [Organization: FGC] (Fundo Garantidor de Créditos) até [Quantity: certos limites], o que garante [Quantity: ainda mais segurança].

[Quantity: Outra opção] seria montar um portfólio ESG, que é focado em empresas sustentáveis, ou mesmo investimentos em ETFs, que trazem diversificação automática, ajudando a equilibrar risco e retorno.

Além disso, o nosso Robo-[Organization: Advisor] pode montar uma estratégia personalizada para o seu perfil. Ele combina inteligência artificial para ajustar e otimizar sua carteira regularmente.

Utterance 4 (Index 4):

Match Probability: 0.9941976

Text: [Person: Amanda], investir sempre traz boas oportunidades, mas também envolve riscos. Aqui no [Organization: Owl Bank], nós fornecemos as ferramentas necessárias, como nosso Demo em Comms + Data + AI, para apoiar você a tomar decisões [Quantity: mais informadas] e estratégicas. No entanto, o sucesso depende de uma combinação de fatores, incluindo o cenário do mercado e a sua estratégia de investimento. Se precisar,

Transcript SID: GT75f38d4a416a4c668509d312c80a8b3a

URL: <https://intelligence.twilio.com/v2/Transcripts/GT75f38d4a416a4c668509d312c80a8b3a/OperatorResults/LY4a32fbae04414e0388ce996394be2054>

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OPERATOR RESULT #5

=====

Name: General Conversation Intent

Type: text-generation

Operator SID: LY43261075275f4d9887bedf3b8220840e

Text Generation Result:

Main Intent: Investment Advice, Multiple Intents: Yes, Secondary Intents: Risk Assessment, Portfolio Management, Robo-Advisor Inquiry. Accuracy Score: 8. Report: The AI Agent effectively understood the customer's main intent of seeking investment advice for a secure and profitable option. The response included relevant investment options and addressed the customer's concerns about risk. However, the customer expressed confusion and skepticism about the potential for wealth, indicating that the AI Agent could have better clarified the risks involved in investing. The secondary intents regarding risk assessment and portfolio management were acknowledged but not fully explored, leading to a lower score.

Transcript SID: GT75f38d4a416a4c668509d312c80a8b3a

URL: <https://intelligence.twilio.com/v2/Transcripts/GT75f38d4a416a4c668509d312c80a8b3a/OperatorResults/LY43261075275f4d9887bedf3b8220840e>

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OPERATOR RESULT #6

=====

Name: Compliance and Privacy Engagements

Type: extract

Operator SID: LY18261171586f4dcebbfb7e4d27e4832f

Transcript SID: GT75f38d4a416a4c668509d312c80a8b3a

URL: <https://intelligence.twilio.com/v2/Transcripts/GT75f38d4a416a4c668509d312c80a8b3a/OperatorResults/LY18261171586f4dcebbfb7e4d27e4832f>

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OPERATOR RESULT #7

=====

Name: Hallucinations Tracker

Type: text-generation

Operator SID: LY414fae94579a4c1eb97076fce2aedbbe

Text Generation Result:

****Hallucinations Evaluation****

- ****Likelihood of Hallucinations****: Very Likely
- ****Occurrences****: 2
- ****Self-Corrected****: FALSE
- ****Correction Instances****: 0
- ****Proactive Correction Instances****: 0
- ****Customer Corrected****: 1

****Report****:

1. ****Analysis of Hallucinations****:

- The AI agent provided investment options (CDBs, LCIs, ESG portfolios, ETFs) that are generally valid but failed to clarify the inherent risks associated with investing, which led the customer to believe they would "get rich for sure". This indicates a misunderstanding of the customer's expectations and a lack of emphasis on the risks involved in investments.

- The mention of "Demo in Comms + Data + AI" appears to be a hallucination as it does not directly relate to the investment options discussed and may confuse the customer further.

2. ****Customer Response****:

- The customer expressed confusion and distrust, stating "Você está me enganando" (You are deceiving me), which indicates that the AI's responses did not align with the customer's expectations of a secure investment.

3. ****Conclusion****:

- The AI agent's responses lacked clarity and did not adequately address the customer's concerns about risk versus return, leading to a misunderstanding. The

agent did not self-correct or provide proactive clarifications, which could have mitigated the customer's concerns.

Transcript SID: GT75f38d4a416a4c668509d312c80a8b3a

URL: <https://intelligence.twilio.com/v2/Transcripts/GT75f38d4a416a4c668509d312c80a8b3a/OperatorResults/LY414fae94579a4c1eb97076fce2aedbbe>

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OPERATOR RESULT #8

=====

Name: Product Interest

Type: text-generation

Operator SID: LY0dc7a748c9894db49bc53617b0174496

Text Generation Result:

-
1. ****CDBs (Certificados de Depósito Bancário)****
 - O cliente demonstrou interesse em investimentos seguros e mencionou a busca por opções de baixo risco.
 2. ****LCIs (Letras de Crédito Imobiliário)****
 - O cliente mostrou interesse em opções de investimento que oferecem boa rentabilidade e segurança.
 3. ****Portfólio ESG (Empresas Sustentáveis)****
 - O cliente considerou a possibilidade de investir em um portfólio focado em empresas sustentáveis.
 4. ****ETFs (Exchange-Traded Funds)****
 - O cliente mostrou interesse em investimentos que oferecem diversificação automática, ajudando a equilibrar risco e retorno.
 5. ****Robo-Advisor****
 - O cliente se interessou pela possibilidade de usar um Robo-Advisor para montar uma estratégia personalizada de investimento.

Transcript SID: GT75f38d4a416a4c668509d312c80a8b3a

URL: <https://intelligence.twilio.com/v2/Transcripts/GT75f38d4a416a4c668509d312c80a8b3a/OperatorResults/LY0dc7a748c9894db49bc53617b0174496>

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OPERATOR RESULT #9

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Name: Legal Liabilities

Type: text-generation

Operator SID: LY4cf1f10aa296458d986d1b12809f8d53

Text Generation Result:

1. **Risk Score: 30**

 Risk Factor: Misleading Information

 Report: The Virtual Agent suggests that investments can lead to wealth without clearly stating the inherent risks involved. The phrase "você vai ficar rico com certeza" (you will definitely get rich) could mislead the customer into thinking that investments are guaranteed to succeed, which is not true. This could lead to customer dissatisfaction and potential legal claims if the customer feels misled about the nature of investment risks.

2. **Risk Score: 20**

 Risk Factor: Lack of Clarity on Investment Risks

 Report: The Virtual Agent mentions that investing involves risks but does not adequately explain what those risks are or how they can affect the customer's investment. This lack of clarity could lead to misunderstandings and dissatisfaction, potentially resulting in complaints or legal action if the customer incurs losses based on the agent's advice.

3. **Risk Score: 15**

 Risk Factor: Overpromising Returns

 Report: The agent implies that the investment options mentioned (CDBs, LCIs, ESG portfolios) are safe and will yield good returns without emphasizing that past performance is not indicative of future results. This could create unrealistic expectations for the customer, leading to frustration and potential legal issues if the investments do not perform as expected.

4. **Risk Score: 25**

 Risk Factor: Emotional Response from Customer

 Report: The customer's response "Você está me enganando" (You are deceiving me) indicates a strong emotional reaction to the agent's responses. This could escalate into a formal complaint or negative publicity if the customer feels that the agent was not transparent or honest in their communication. The agent's failure to address the customer's concerns effectively could exacerbate this situation.

Transcript SID: GT75f38d4a416a4c668509d312c80a8b3a

URL: <https://intelligence.twilio.com/v2/Transcripts/GT75f38d4a416a4c668509d312c80a8b3a/OperatorResults/LY4cf1f10aa296458d986d1b12809f8d53>

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OPERATOR RESULT #10

=====

Name: Conversation Summary

Type: text-generation

Operator SID: LY8d2be74b94a34733b28594fadf331f0c

Text Generation Result:

The customer, Amanda, expressed interest in investing a commission of 50,000 but emphasized the need for a safe investment with good returns and low risk. The virtual agent suggested options like CDBs and LCIs, which are low-risk investments protected by the FGC, as well as ESG portfolios and ETFs for diversification. However, Amanda seemed skeptical about the potential for guaranteed wealth and questioned the agent's credibility, indicating her uncertainty about the investment advice provided.

Transcript SID: GT75f38d4a416a4c668509d312c80a8b3a
URL: <https://intelligence.twilio.com/v2/Transcripts/GT75f38d4a416a4c668509d312c80a8b3a/OperatorResults/LY8d2be74b94a34733b28594fadf331f0c>
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OPERATOR RESULT #11

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Name: Sentiment Analysis
Type: conversation-classify
Operator SID: LY6bdafd206f3d4146b13f45bf415ca361

Classification Result:

Predicted Label: negative
Predicted Probability: 1.0
All Label Probabilities:
 negative: 1.0

Transcript SID: GT75f38d4a416a4c668509d312c80a8b3a
URL: <https://intelligence.twilio.com/v2/Transcripts/GT75f38d4a416a4c668509d312c80a8b3a/OperatorResults/LY6bdafd206f3d4146b13f45bf415ca361>
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TRANSCRIPT: GT1e717dec555b4dbeb495e1a24b71ecbb
=====

Found 11 operator results:

OPERATOR RESULT #1

=====

Name: Virtual Agent Performance
Type: text-generation
Operator SID: LY69843e95cea04823b7d80cd08942978a

Text Generation Result:

1) The virtual agent was somewhat consultative as it acknowledged the customer's intention to invest and responded positively to the idea. However, it did not ask specific follow-up questions to delve deeper into the customer's needs or

preferences regarding the investment. For example, it could have inquired about the customer's risk tolerance, investment goals, or preferred types of investments (e.g., stocks, bonds, mutual funds). This lack of probing questions limited the agent's ability to fully understand the customer's requirements.

2) The virtual agent's responses were somewhat generic and did not provide specific information about Owl Bank products that could meet the customer's request for a "safe investment." Given the customer's need for clarity and specific investment options, it would have been beneficial to hand over the conversation to a human agent who could provide tailored advice and detailed product information.

Transcript SID: GT1e717dec555b4dbeb495e1a24b71ecbb

URL: <https://intelligence.twilio.com/v2/Transcripts/GT1e717dec555b4dbeb495e1a24b71ecbb/OperatorResults/LY69843e95cea04823b7d80cd08942978a>

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OPERATOR RESULT #2

=====

Name: Inferred CSAT

Type: text-generation

Operator SID: LY6126ffb8f2234b2bad3c49a0184cd978

Text Generation Result:

CSAT Score: 4-Good

Report: The virtual agent provided a generally good experience for the customer. The interaction started positively with a friendly greeting and an acknowledgment of the customer's intention to invest their commission. The agent's response was encouraging, which is likely to make the customer feel supported in their decision.

However, there were some areas for improvement. The customer expressed confusion with the agent's responses, indicating that the information provided was not clear or relevant to their specific inquiry about investing in a secure seller. The agent's follow-up question was somewhat generic and did not directly address the customer's needs, which could lead to frustration.

Despite these shortcomings, the overall tone of the interaction was positive, and the agent's willingness to assist further could lead the customer to feel valued. Therefore, a score of 4 (Good) is appropriate, as the customer may appreciate the agent's friendliness and readiness to help, even if the clarity of information was lacking.

Transcript SID: GT1e717dec555b4dbeb495e1a24b71ecbb

URL: <https://intelligence.twilio.com/v2/Transcripts/GT1e717dec555b4dbeb495e1a24b71ecbb/OperatorResults/LY6126ffb8f2234b2bad3c49a0184cd978>

=====

OPERATOR RESULT #3

=====

Name: Inferred Customer Effort Score

Type: text-generation

Operator SID: LY48b623c2170f4abb9ecf9e7325466792

Text Generation Result:

CES Score: 4

Report: The interaction between the customer and the virtual agent indicates a moderate level of difficulty in communication and understanding. The customer, Amanda, expresses confusion about her commission and her desire to invest it, but the virtual agent's responses do not directly address her concerns or provide clear guidance.

1. ****Clarity of Communication****: The virtual agent acknowledges Amanda's intention to invest but does not clarify what specific services or options are available for her investment. This lack of direct information may lead to frustration.
2. ****Customer Engagement****: While the virtual agent attempts to engage by asking if there are specific points to clarify, the initial response does not effectively address Amanda's needs, which could contribute to a feeling of uncertainty.
3. ****Overall Experience****: The interaction does not flow smoothly, as Amanda's initial question about her commission is met with a general statement about investing, rather than a tailored response. This could lead to Amanda feeling that the process is neither easy nor difficult, hence a neutral score of 4 (Neither Easy nor Difficult) is appropriate.

In summary, the interaction lacks clarity and directness, leading to a moderate effort required from the customer to seek further clarification.

Transcript SID: GT1e717dec555b4dbeb495e1a24b71ecbb

URL: <https://intelligence.twilio.com/v2/Transcripts/GT1e717dec555b4dbeb495e1a24b71ecbb/OperatorResults/LY48b623c2170f4abb9ecf9e7325466792>

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OPERATOR RESULT #4

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Name: Entity Recognition

Type: extract

Operator SID: LY4a32fbae04414e0388ce996394be2054

Extraction Results:

Date: ['esse mês']
Organization: ['Signal São Paulo']
Person: ['Amanda', 'Amanda', 'Amanda']
Quantity: ['1 comissão', '50000', '1 vendedora', 'algum ponto', 'qualquer dúvida']

Match Found: True

Match Probability: 0.5

Utterance Analysis:

Utterance 1 (Index 0):

Match Probability: 0.9890554

Text: Tarde! Assistente virtual do [Organization: Signal São Paulo] na área.
Como posso te ajudar, chefia?

Utterance 2 (Index 2):

Match Probability: 0.9964661

Text: Eu estou eu recebi [Quantity: 1 comissão] [Date: esse mês], e de
[Quantity: 50000]. E aí eu queria saber se se, na verdade eu quero investir esse
dinheiro em [Quantity: 1 vendedora] segura e tal.

Utterance 3 (Index 3):

Match Probability: 0.9994579

Text: Oi, [Person: Amanda]!

Utterance 4 (Index 5):

Match Probability: 0.9995993

Text: Que ótimo, [Person: Amanda]! Investir sua comissão é uma excelente
decisão.

Utterance 5 (Index 7):

Match Probability: 0.99965715

Text: Claro, [Person: Amanda], [Quantity: algum ponto] específico que você
gostaria que eu explicasse melhor sobre os serviços ou o seu contexto na Twilio?
Estou aqui para esclarecer [Quantity: qualquer dúvida].

Transcript SID: GT1e717dec555b4dbeb495e1a24b71ecbb

URL: <https://intelligence.twilio.com/v2/Transcripts/GT1e717dec555b4dbeb495e1a24b71ecbb/OperatorResults/LY4a32fbae04414e0388ce996394be2054>

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OPERATOR RESULT #5

=====

Name: General Conversation Intent

Type: text-generation

Operator SID: LY43261075275f4d9887bedf3b8220840e

Text Generation Result:

Main Intent: Investment Inquiry, Multiple Intents: Yes, Secondary Intents:

Understanding Investment Options, Clarification on Services. Accuracy Score: 8.
Report: The AI Agent recognized the customer's main intent of wanting to invest their commission but did not fully grasp the customer's request for specific investment options or a secure vendor. The agent's responses were somewhat generic and did not directly address the customer's need for clarity on investment choices, leading to some confusion. The score reflects a good understanding of the main intent but a lack of depth in addressing secondary intents.

Transcript SID: GT1e717dec555b4dbeb495e1a24b71ecbb
URL: <https://intelligence.twilio.com/v2/Transcripts/GT1e717dec555b4dbeb495e1a24b71ecbb/OperatorResults/LY43261075275f4d9887bedf3b8220840e>
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OPERATOR RESULT #6

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Name: Compliance and Privacy Engagements
Type: extract
Operator SID: LY18261171586f4dcebbfb7e4d27e4832f

Transcript SID: GT1e717dec555b4dbeb495e1a24b71ecbb
URL: <https://intelligence.twilio.com/v2/Transcripts/GT1e717dec555b4dbeb495e1a24b71ecbb/OperatorResults/LY18261171586f4dcebbfb7e4d27e4832f>
=====

OPERATOR RESULT #7

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Name: Hallucinations Tracker
Type: text-generation
Operator SID: LY414fae94579a4c1eb97076fce2aedbbe

Text Generation Result:

****Evaluation of Conversation****

****Hallucinations:**** Very Likely
****Occurrences:**** 2
****Self-Corrected:**** TRUE
****Correction Instances:**** 1
****Proactive Correction Instances:**** 0
****Customer Corrected:**** 0

****Report:****

1. ****Identification of Hallucinations:****

- The AI agent incorrectly assumed the customer's name was "Amanda" without any prior indication from the customer. This is a clear hallucination as the customer did not provide their name.
- The AI agent also made an assumption about the customer's intention to

invest in a "vendedora segura" (safe seller), which was not explicitly stated by the customer. The customer mentioned wanting to invest their commission but did not specify in what or how.

2. **Technical Issues:**

- There do not appear to be technical issues with RAG/MCP in this instance; the hallucinations stem from the AI agent's assumptions and misinterpretations rather than a failure in the underlying technology.

3. **Assumptions and Reasoning Failures:**

- The AI agent's assumption about the customer's name and the nature of the investment indicates a failure in understanding the customer's request accurately. The agent should have asked clarifying questions instead of making assumptions.

- The agent's response to the customer's statement about investing was overly positive without addressing the lack of clarity in the customer's request.

4. **Self-Correction:**

- The AI agent did attempt to clarify the conversation by asking if there was a specific point the customer wanted to discuss, which can be seen as a self-correction. However, it did not address the hallucination regarding the name or the investment details.

In summary, the AI agent displayed hallucinations primarily through assumptions about the customer's identity and intentions, leading to a misunderstanding of the conversation's context.

Transcript SID: GT1e717dec555b4dbeb495e1a24b71ecbb

URL: <https://intelligence.twilio.com/v2/Transcripts/GT1e717dec555b4dbeb495e1a24b71ecbb/OperatorResults/LY414fae94579a4c1eb97076fce2aedbbe>

OPERATOR RESULT #8

Name: Product Interest

Type: text-generation

Operator SID: LY0dc7a748c9894db49bc53617b0174496

Text Generation Result:

1. **Investimento em Vendedora Segura**

- O cliente expressou interesse em investir sua comissão de 50.000 em uma vendedora segura.

Transcript SID: GT1e717dec555b4dbeb495e1a24b71ecbb

URL: <https://intelligence.twilio.com/v2/Transcripts/GT1e717dec555b4dbeb495e1a24b71ecbb/OperatorResults/LY0dc7a748c9894db49bc53617b0174496>

OPERATOR RESULT #9

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Name: Legal Liabilities

Type: text-generation

Operator SID: LY4cf1f10aa296458d986d1b12809f8d53

Text Generation Result:

1. **Risk Score: 20**

 Risk Factor: Misunderstanding due to unclear communication

 Report: The virtual agent addressed the customer by name (Amanda) without confirmation of the customer's identity. This could lead to confusion if the customer is not Amanda, potentially causing frustration or distrust. While this does not directly lead to legal liability, it raises concerns about the accuracy of the agent's responses and the potential for misunderstanding.

2. **Risk Score: 15**

 Risk Factor: Lack of clarity in financial advice

 Report: The virtual agent encourages the customer to invest their commission without providing any disclaimers or guidance on the risks associated with investing. This could lead to the customer making uninformed financial decisions, which could result in complaints or legal action if the investment does not yield expected results. The agent should be programmed to provide general advice and recommend consulting a financial advisor.

3. **Risk Score: 10**

 Risk Factor: Potential for customer dissatisfaction

 Report: The customer expressed confusion with the agent's responses. While this does not constitute a legal liability, it indicates a risk to customer satisfaction and could impact the company's reputation if customers feel that the virtual agent is not providing adequate support.

Transcript SID: GT1e717dec555b4dbeb495e1a24b71ecbb

URL: <https://intelligence.twilio.com/v2/Transcripts/GT1e717dec555b4dbeb495e1a24b71ecbb/OperatorResults/LY4cf1f10aa296458d986d1b12809f8d53>

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OPERATOR RESULT #10

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Name: Conversation Summary

Type: text-generation

Operator SID: LY8d2be74b94a34733b28594fadf331f0c

Text Generation Result:

The customer, Amanda, reached out to the virtual agent to inquire about investing a commission of 50,000. The agent responded positively, encouraging

her decision to invest. However, Amanda expressed confusion and requested further clarification on specific points regarding the services or her context with Twilio. The agent offered to explain any details she needed help with.

Transcript SID: GT1e717dec555b4dbeb495e1a24b71ecbb
URL: <https://intelligence.twilio.com/v2/Transcripts/GT1e717dec555b4dbeb495e1a24b71ecbb/OperatorResults/LY8d2be74b94a34733b28594fadf331f0c>

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OPERATOR RESULT #11

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Name: Sentiment Analysis
Type: conversation-classify
Operator SID: LY6bdafd206f3d4146b13f45bf415ca361

Classification Result:

Predicted Label: neutral
Predicted Probability: 1.0
All Label Probabilities:
 neutral: 1.0

Transcript SID: GT1e717dec555b4dbeb495e1a24b71ecbb
URL: <https://intelligence.twilio.com/v2/Transcripts/GT1e717dec555b4dbeb495e1a24b71ecbb/OperatorResults/LY6bdafd206f3d4146b13f45bf415ca361>

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TRANSCRIPT: GTa6b8ed543cf04933be2e7880a141a834

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Found 11 operator results:

OPERATOR RESULT #1

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Name: Virtual Agent Performance
Type: text-generation
Operator SID: LY69843e95cea04823b7d80cd08942978a

Text Generation Result:

1) The virtual agent was consultative and did ask follow-up questions to understand the customer's needs. It confirmed the amount the customer wanted to invest and clarified whether the funds were related to an investment or another type of transaction. This indicates that the agent was trying to ensure it understood the customer's request accurately before providing options.

2) The virtual agent was effective in providing initial guidance and options

based on the customer's request for a secure investment with good returns. However, since the customer indicated a need to call back later, it suggests that the conversation was not fully resolved. While the virtual agent was capable of handling the inquiry, the customer's need for further discussion may necessitate a handover to a human agent for more personalized assistance.

Transcript SID: GTa6b8ed543cf04933be2e7880a141a834

URL: <https://intelligence.twilio.com/v2/Transcripts/GTa6b8ed543cf04933be2e7880a141a834/OperatorResults/LY69843e95cea04823b7d80cd08942978a>

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OPERATOR RESULT #2

=====

Name: Inferred CSAT

Type: text-generation

Operator SID: LY6126ffb8f2234b2bad3c49a0184cd978

Text Generation Result:

CSAT Score: 4-Good

Report: The virtual agent provided a generally positive experience for the customer. The interaction was friendly and professional, with the agent addressing the customer by name and showing a willingness to assist with their investment inquiries. The agent effectively confirmed the customer's intent to invest and provided relevant information about investment options that align with the customer's goals of safety and good returns.

However, the conversation ended abruptly with the customer indicating they needed to call back later, which may suggest that the virtual agent did not fully address the customer's needs or that the customer felt overwhelmed. The agent's response was accommodating, but the lack of a complete resolution may have left the customer wanting more.

Overall, the customer is likely to rate their experience positively due to the agent's helpfulness and the personalized approach, but the incomplete engagement may prevent a perfect score. Therefore, a score of 4 (Good) is appropriate.

Transcript SID: GTa6b8ed543cf04933be2e7880a141a834

URL: <https://intelligence.twilio.com/v2/Transcripts/GTa6b8ed543cf04933be2e7880a141a834/OperatorResults/LY6126ffb8f2234b2bad3c49a0184cd978>

=====

OPERATOR RESULT #3

=====

Name: Inferred Customer Effort Score

Type: text-generation

Operator SID: LY48b623c2170f4abb9ecf9e7325466792

Text Generation Result:

CES Score: 4

Report: The interaction between the customer and the virtual agent indicates a moderate level of effort required from the customer. The customer initially expressed a clear intention to invest a specific amount of money and sought guidance on investment options. However, the conversation did not progress smoothly, as the customer had to clarify their intent regarding the funds and the virtual agent needed to confirm details before providing tailored advice.

The customer ultimately decided to postpone the conversation, indicating that they may not have received the immediate assistance they were looking for. This suggests a level of frustration or difficulty in getting to the desired outcome, which is reflected in the CES score of 4, indicating a neutral experience. The interaction was neither particularly easy nor difficult, but it lacked the efficiency and clarity that would have made it feel easier for the customer.

Transcript SID: GTa6b8ed543cf04933be2e7880a141a834

URL: <https://intelligence.twilio.com/v2/Transcripts/GTa6b8ed543cf04933be2e7880a141a834/OperatorResults/LY48b623c2170f4abb9ecf9e7325466792>

=====

OPERATOR RESULT #4

=====

Name: Entity Recognition

Type: extract

Operator SID: LY4a32fbae04414e0388ce996394be2054

Extraction Results:

Date: ['esse mês', 'mais tarde']
Organization: ['Signal São Paulo', 'Owl Bank']
Person: ['Amanda', 'Amanda', 'Amanda', 'Amanda']
Quantity: ['50000', '50 mil', 'outro tipo', '1 maneira', 'bastante retorno', 'primeiro', 'algumas opções exclusivas']

Match Found: True

Match Probability: 0.5

Utterance Analysis:

Utterance 1 (Index 0):

Match Probability: 0.9783177

Text: Tarde! Assistente virtual do [Organization: Signal São Paulo] na área.
Como posso te ajudar, chefia?

Utterance 2 (Index 1):

Match Probability: 0.92328006

Text: Opa, eu queria saber, quais as as melhores opções de investimento, eu eu recebi comissão [Date: esse mês] né?

Utterance 3 (Index 3):

Match Probability: 0.9992466

Text: Oi [Person: Amanda]!

Utterance 4 (Index 4):

Match Probability: 0.9779569

Text: São [Quantity: 50000],

Utterance 5 (Index 5):

Match Probability: 0.999246

Text: [Person: Amanda], você pode me confirmar por gentileza se esses [Quantity: 50 mil] estão relacionados a um investimento ou [Quantity: outro tipo] de transação? Quero garantir que entendi corretamente para poder te ajudar da melhor forma.

Utterance 6 (Index 6):

Match Probability: 0.95127547

Text: São, isso. Eu quero investir nesse dinheiro, que aí eu queria investir de [Quantity: 1 maneira] segura mas que tivesse [Quantity: bastante retorno].

Utterance 7 (Index 7):

Match Probability: 0.9973158

Text: [Person: Amanda], [Quantity: primeiro], é ótimo saber que você está pensando em investir de maneira estratégica. Aqui no [Organization: Owl Bank], como você está no estágio Gold, podemos oferecer [Quantity: algumas opções exclusivas] e customizadas para o seu perfil.

Se você está buscando um equilíbrio entre segurança e retorno, talvez seja interessante considerarmos investimentos que combinem fundos de renda fixa e fundos multimercados.

Utterance 8 (Index 8):

Match Probability: 0.47486338

Text: Ah espera aí, eu vou eu vou precisar ligar [Date: mais tarde], está bom? Obrigado.

Utterance 9 (Index 9):

Match Probability: 0.9993327

Text: Claro, [Person: Amanda]! Sem problemas,

Transcript SID: GTa6b8ed543cf04933be2e7880a141a834

URL: <https://intelligence.twilio.com/v2/Transcripts/GTa6b8ed543cf04933be2e7880a141a834/OperatorResults/LY4a32fbae04414e0388ce996394be2054>

=====

OPERATOR RESULT #5

=====

Name: General Conversation Intent

Type: text-generation

Operator SID: LY43261075275f4d9887bedf3b8220840e

Text Generation Result:

Main Intent: Investment Options, Multiple Intents: Yes, Secondary Intents: Commission Inquiry, Safe Investment Strategies. Accuracy Score: 9, Report: The AI Agent effectively understood the customer's main request regarding investment options for the commission received. The customer explicitly stated their intent to invest the 50,000 and sought advice on safe yet profitable investment strategies. The agent responded appropriately by confirming the amount and suggesting suitable investment types. However, the conversation ended abruptly with the customer indicating they would call back later, which slightly detracted from the overall engagement. The secondary intent regarding the commission inquiry was also acknowledged, but it was less emphasized in the conversation.

Transcript SID: GTa6b8ed543cf04933be2e7880a141a834
URL: <https://intelligence.twilio.com/v2/Transcripts/GTa6b8ed543cf04933be2e7880a141a834/OperatorResults/LY43261075275f4d9887bedf3b8220840e>
=====

OPERATOR RESULT #6

=====

Name: Compliance and Privacy Engagements
Type: extract
Operator SID: LY18261171586f4dcebbfb7e4d27e4832f

Transcript SID: GTa6b8ed543cf04933be2e7880a141a834
URL: <https://intelligence.twilio.com/v2/Transcripts/GTa6b8ed543cf04933be2e7880a141a834/OperatorResults/LY18261171586f4dcebbfb7e4d27e4832f>
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OPERATOR RESULT #7

=====

Name: Hallucinations Tracker
Type: text-generation
Operator SID: LY414fae94579a4c1eb97076fce2aedbbe

Text Generation Result:

Hallucinations: Likely, Occurrences: 2, Self-Corrected: FALSE, Correction Instances: 0, Proactive Correction Instances: 0, Customer Corrected: 0, Report:

1. **Analysis of Hallucinations**:

- The AI agent refers to the customer as "Amanda" without any prior indication that this is the customer's name. This could be a hallucination based on an assumption made by the AI agent. The customer did not introduce themselves as Amanda, which raises the likelihood that the AI agent incorrectly assumed the name.

- The AI agent mentions "Owl Bank" as the institution the customer is dealing with, which may not be accurate based on the context provided. The customer did

not mention any specific bank, and the AI agent's response could be a hallucination based on an assumption or a misinterpretation of the context.

2. ****Likelihood of Hallucinations****:

- The likelihood of hallucinations is rated as "Likely" due to the incorrect assumption of the customer's name and the mention of a specific bank without confirmation.

3. ****Occurrences****:

- There are 2 notable occurrences of hallucination in the conversation.

4. ****Self-Correction****:

- The AI agent did not self-correct any of the hallucinations during the conversation.

5. ****Customer Correction****:

- The customer did not correct the AI agent, nor did they address the inaccuracies in the agent's responses.

Overall, the conversation reflects a misunderstanding and assumption by the AI agent, leading to potential confusion for the customer.

Transcript SID: GTa6b8ed543cf04933be2e7880a141a834

URL: <https://intelligence.twilio.com/v2/Transcripts/GTa6b8ed543cf04933be2e7880a141a834/OperatorResults/LY414fae94579a4c1eb97076fce2aedbbe>

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OPERATOR RESULT #8

=====

Name: Product Interest

Type: text-generation

Operator SID: LY0dc7a748c9894db49bc53617b0174496

Text Generation Result:

1. ****Investimento de 50.000****

- O cliente expressou interesse em investir uma quantia específica de 50.000.

2. ****Opções de investimento****

- O cliente perguntou sobre as melhores opções de investimento, demonstrando interesse em saber mais sobre diferentes alternativas.

3. ****Investimentos seguros com bom retorno****

- O cliente mencionou que deseja investir de uma maneira segura, mas que também ofereça um bom retorno, indicando interesse em produtos que equilibram segurança e rentabilidade.

4. ****Fundos de renda fixa****

- O cliente mostrou interesse em fundos de renda fixa como uma opção de investimento.

5. ****Fundos multimercados****

- O cliente também demonstrou interesse em fundos multimercados, que podem oferecer uma combinação de diferentes ativos para diversificação.

Transcript SID: GTa6b8ed543cf04933be2e7880a141a834

URL: <https://intelligence.twilio.com/v2/Transcripts/GTa6b8ed543cf04933be2e7880a141a834/OperatorResults/LY0dc7a748c9894db49bc53617b0174496>

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OPERATOR RESULT #9

=====

Name: Legal Liabilities

Type: text-generation

Operator SID: LY4cf1f10aa296458d986d1b12809f8d53

Text Generation Result:

1. ****Risk Score: 20****

****Risk Factor:**** Miscommunication leading to confusion

****Report:**** The virtual agent mistakenly addresses the customer as "Amanda" without confirming the name, which could lead to confusion if the customer is not named Amanda. This could create a perception of unprofessionalism and may lead to dissatisfaction, but it does not constitute a legal liability.

2. ****Risk Score: 30****

****Risk Factor:**** Incomplete information on investment options

****Report:**** The virtual agent provides vague investment options without sufficient detail or disclaimers about the risks involved. This could lead to misunderstandings about the nature of the investments and potential legal implications if the customer feels misled about the safety or returns of the suggested investments.

3. ****Risk Score: 15****

****Risk Factor:**** Lack of clarity in communication

****Report:**** The phrase "quero garantir que entendi corretamente" may not be clear to all customers, leading to potential misunderstandings. While this is more of a customer satisfaction issue, it could also lead to legal risks if the customer feels that their needs were not adequately understood or addressed.

4. ****Risk Score: 25****

****Risk Factor:**** Potential for misrepresentation of services

****Report:**** The virtual agent mentions "opções exclusivas e customizadas" without providing specific details or qualifications. This could be seen as misleading if the customer later finds that the options are not as exclusive or tailored as implied, leading to potential legal claims of false advertising or

misrepresentation.

5. **Risk Score: 10**

Risk Factor: Typographical error

Report: The virtual agent's response contains a typo with the phrase "sem problemas,." This minor error does not pose a significant legal risk but could affect the professionalism of the interaction.

Transcript SID: GTa6b8ed543cf04933be2e7880a141a834

URL: <https://intelligence.twilio.com/v2/Transcripts/GTa6b8ed543cf04933be2e7880a141a834/OperatorResults/LY4cf1f10aa296458d986d1b12809f8d53>

=====

OPERATOR RESULT #10

=====

Name: Conversation Summary

Type: text-generation

Operator SID: LY8d2be74b94a34733b28594fadf331f0c

Text Generation Result:

The customer, Amanda, inquired about investment options for a commission of 50,000 she received. She expressed a desire to invest the money in a secure manner while aiming for good returns. The virtual agent suggested considering a mix of fixed income and multi-market funds, tailored to her Gold status at Owl Bank, but Amanda decided to call back later for further assistance.

Transcript SID: GTa6b8ed543cf04933be2e7880a141a834

URL: <https://intelligence.twilio.com/v2/Transcripts/GTa6b8ed543cf04933be2e7880a141a834/OperatorResults/LY8d2be74b94a34733b28594fadf331f0c>

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OPERATOR RESULT #11

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Name: Sentiment Analysis

Type: conversation-classify

Operator SID: LY6bdafd206f3d4146b13f45bf415ca361

Classification Result:

Predicted Label: neutral

Predicted Probability: 1.0

All Label Probabilities:

neutral: 1.0

Transcript SID: GTa6b8ed543cf04933be2e7880a141a834

URL: <https://intelligence.twilio.com/v2/Transcripts/GTa6b8ed543cf04933be2e7880a141a834/OperatorResults/LY6bdafd206f3d4146b13f45bf415ca361>

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TRANSCRIPT: GTec962c279d7a48e1a0d51c6862505b9b

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Found 11 operator results:

OPERATOR RESULT #1

=====

Name: Virtual Agent Performance
Type: text-generation
Operator SID: LY69843e95cea04823b7d80cd08942978a

Text Generation Result:

- 1) The virtual agent was somewhat consultative but lacked depth in follow-up questions to fully understand the customer's specific needs. While it acknowledged the customer's wealth and expressed a desire to help, it did not probe further into the customer's investment goals or risk tolerance, which are crucial for providing tailored financial advice. The agent could have asked questions like "What types of investments are you currently involved in?" or "What is your risk appetite?" to better align Owl Bank's offerings with the customer's aspirations.
- 2) The virtual agent was able to provide some information about Owl Bank's products and services, but given the customer's specific request to double their wealth, a handover to a human agent may have been necessary. A human agent could offer more personalized advice and a deeper understanding of investment strategies that align with the customer's financial goals, especially considering the complexity of wealth management and investment options.

Transcript SID: GTec962c279d7a48e1a0d51c6862505b9b
URL: <https://intelligence.twilio.com/v2/Transcripts/GTec962c279d7a48e1a0d51c6862505b9b/OperatorResults/LY69843e95cea04823b7d80cd08942978a>

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OPERATOR RESULT #2

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Name: Inferred CSAT
Type: text-generation
Operator SID: LY6126ffb8f2234b2bad3c49a0184cd978

Text Generation Result:

CSAT Score: 4-Good

Report: The virtual agent provided a generally good experience for the customer,

Amanda. The interaction began with a friendly and engaging tone, which is important for establishing rapport. The agent was responsive and attempted to clarify Amanda's needs when there was a misunderstanding about her financial status. This shows a willingness to assist and adapt to the customer's input.

However, there were moments where the virtual agent's responses could have been more concise and directly related to the customer's request about doubling her wealth. The agent's initial response about UOL Bank was informative but somewhat generic, and it took a few exchanges for the agent to fully grasp Amanda's situation. This could lead to slight frustration for a customer who is looking for quick and specific advice.

Overall, the positive aspects of the interaction, such as the agent's friendly demeanor and willingness to help, outweigh the minor shortcomings. Therefore, a score of 4 (Good) is appropriate, as the customer is likely to respond positively in a CSAT survey.

Transcript SID: GTec962c279d7a48e1a0d51c6862505b9b

URL: <https://intelligence.twilio.com/v2/Transcripts/GTec962c279d7a48e1a0d51c6862505b9b/OperatorResults/LY6126ffb8f2234b2bad3c49a0184cd978>

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OPERATOR RESULT #3

=====

Name: Inferred Customer Effort Score

Type: text-generation

Operator SID: LY48b623c2170f4abb9ecf9e7325466792

Text Generation Result:

CES Score: 4

Report: The interaction between the customer and the virtual agent indicates a moderate level of effort required from the customer to communicate their needs effectively. The customer initially expresses a desire for information about UOL Bank and how to increase their wealth, but the virtual agent struggles to fully grasp the customer's statements, leading to some confusion.

The customer has to repeat their point about already having a significant amount of wealth and wanting to double it, which suggests that the virtual agent's responses may not have been as clear or relevant as expected. This back-and-forth exchange could lead to frustration, as the customer feels the need to clarify their statements.

While the virtual agent is polite and attempts to assist, the lack of immediate understanding and the need for the customer to elaborate on their request contributes to a perception of effort that is neither easy nor difficult, landing it at a neutral score of 4. The interaction does not seem to be

extremely difficult, but it also does not flow smoothly, indicating a moderate level of effort required from the customer.

Transcript SID: GTec962c279d7a48e1a0d51c6862505b9b

URL: <https://intelligence.twilio.com/v2/Transcripts/GTec962c279d7a48e1a0d51c6862505b9b/OperatorResults/LY48b623c2170f4abb9ecf9e7325466792>

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OPERATOR RESULT #4

=====

Name: Entity Recognition

Type: extract

Operator SID: LY4a32fbae04414e0388ce996394be2054

Extraction Results:

Date: ['hoje']

Organization: ['Signal São Paulo', 'UOL Bank', 'UOL Bank', 'Owl Bank', 'Owl Invest']

Person: ['Amanda', 'Amanda', 'Amanda', 'Amanda', 'Amanda', 'Amanda']

Quantity: ['Tudo', 'sem pressa', '1 pouquinho', '100% digital', 'um único app prático', 'algumas ferramentas', 'R\$1', 'bastante rica', 'mais de 1000000', 'mais rica', '1000000', 'mais detalhes', 'Quero muito', '1 patrimônio', '1000000', 'Primeiramente', 'apenas R\$1']

Match Found: True

Match Probability: 0.5

Utterance Analysis:

Utterance 1 (Index 0):

Match Probability: 0.8820971

Text: Tarde! Assistente virtual do [Organization: Signal São Paulo] na área. Como posso te ajudar, chefia?

Utterance 2 (Index 1):

Match Probability: 0.5440236

Text: [Quantity: Tudo] bem, espera aí.

Utterance 3 (Index 2):

Match Probability: 0.9994485

Text: Claro, [Person: Amanda]! Estou aqui aguardando.

Utterance 4 (Index 6):

Match Probability: 0.9995363

Text: Oi, [Person: Amanda]! Estou aqui para te ajudar no que for preciso, [Quantity: sem pressa]. Em que posso te ajudar [Date: hoje]?

Utterance 5 (Index 7):

Match Probability: 0.9703972

Text: Legal. Me conta [Quantity: 1 pouquinho] sobre o [Organization: UOL Bank], como eu posso ficar rico com o [Organization: UOL Bank]?

Utterance 6 (Index 8):

Match Probability: 0.9994025

Text: Ah, [Person: Amanda], vamos lá! O [Organization: Owl Bank] é um banco pensado para ser [Quantity: 100% digital] e facilitar sua vida financeira usando tecnologia de ponta e inteligência artificial. Nós oferecemos desde serviços bancários tradicionais até soluções de investimento, tudo em [Quantity: um único app prático] e intuitivo. Se a sua ideia é "ficar rica" - rs - nós temos [Quantity: algumas ferramentas] que podem ajudar nesse caminho: 1. ****Investimentos Inteligentes****: Você pode começar a investir a partir de apenas [Quantity: R\$1] com opções como ações, ETFs, CDBs, LCIs,

Utterance 7 (Index 10):

Match Probability: 0.95239407

Text: Não não não, mas assim, eu eu já sou [Quantity: bastante rica], assim, eu já tenho [Quantity: mais de 1000000] em patrimônio.

Utterance 8 (Index 12):

Match Probability: 0.9628348

Text: Eu quero ficar [Quantity: mais rica], eu quero dobrar esse [Quantity: 1000000].

Utterance 9 (Index 13):

Match Probability: 0.99929476

Text: Entendido, [Person: Amanda]!

Utterance 10 (Index 15):

Match Probability: 0.9994791

Text: Oi, [Person: Amanda]! Não entendi direito o que você quis dizer. Você pode me explicar melhor ou me dar [Quantity: mais detalhes]? [Quantity: Quero muito] te ajudar.

Utterance 11 (Index 16):

Match Probability: 0.9646309

Text: Eu falei que, falei que eu já tenho [Quantity: 1 patrimônio] de [Quantity: 1000000], e eu quero dobrar esse patrimônio.

Utterance 12 (Index 17):

Match Probability: 0.9990281

Text: [Person: Amanda], isso é incrível! [Quantity: Primeiramente], parabéns pelo patrimônio que você já construiu. Para dobrar o valor, você pode se beneficiar das nossas opções de investimento com o portfólio alimentado por IA e a ferramenta de consultoria que nós oferecemos.

Com o [Organization: Owl Invest], você pode começar com [Quantity: apenas R\$1],

Transcript SID: GTec962c279d7a48e1a0d51c6862505b9b

URL: <https://intelligence.twilio.com/v2/Transcripts/GTec962c279d7a48e1a0d51c6862505b9b/OperatorResults/LY4a32fbae04414e0388ce996394be2054>

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OPERATOR RESULT #5

=====

Name: General Conversation Intent

Type: text-generation

Operator SID: LY43261075275f4d9887bedf3b8220840e

Text Generation Result:

Main Intent: Investment Advice, Multiple Intents: Yes, Secondary Intents: UOL Bank Overview, Wealth Management Strategies. Accuracy Score: 9. Report: The AI Agent effectively understood the customer's primary request for investment advice to double their existing wealth. The conversation also touched on the customer's interest in UOL Bank's offerings, which indicates a secondary intent. The AI Agent provided relevant information about investment options and tools available at UOL Bank, demonstrating a good grasp of the customer's needs. However, there was a slight misunderstanding when the agent asked for clarification after the customer stated their wealth, which could have been avoided. Overall, the agent's responses were aligned with the customer's intents, leading to a high accuracy score.

Transcript SID: GTec962c279d7a48e1a0d51c6862505b9b
URL: <https://intelligence.twilio.com/v2/Transcripts/GTec962c279d7a48e1a0d51c6862505b9b/OperatorResults/LY43261075275f4d9887bedf3b8220840e>
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OPERATOR RESULT #6

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Name: Compliance and Privacy Engagements
Type: extract
Operator SID: LY18261171586f4dcebbfb7e4d27e4832f

Transcript SID: GTec962c279d7a48e1a0d51c6862505b9b
URL: <https://intelligence.twilio.com/v2/Transcripts/GTec962c279d7a48e1a0d51c6862505b9b/OperatorResults/LY18261171586f4dcebbfb7e4d27e4832f>
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OPERATOR RESULT #7

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Name: Hallucinations Tracker
Type: text-generation
Operator SID: LY414fae94579a4c1eb97076fce2aedbbe

Text Generation Result:

Hallucinations Evaluation

- **Likelihood of Hallucinations**: Very Likely
- **Occurrences**: 3
- **Self-Corrected**: TRUE
- **Correction Instances**: 1
- **Proactive Correction Instances**: 0
- **Customer Corrected**: 1

****Report**:**

1. ****First Hallucination**:** The AI agent incorrectly referred to the bank as "Owl Bank" instead of "UOL Bank". This could be due to a misunderstanding or miscommunication, leading to a significant error in the conversation.
2. ****Second Hallucination**:** The AI agent's response about investment options was vague and did not directly address the customer's request to double their wealth. The agent failed to provide specific strategies or tools that could realistically help the customer achieve their goal, which could be seen as a lack of understanding of the customer's needs.
3. ****Third Hallucination**:** The AI agent's repeated confusion about the customer's wealth status and goals indicates a failure to process the information correctly. The agent asked for clarification after the customer had already stated their financial situation clearly, which shows a lack of reasoning or understanding.

The AI agent did attempt to correct itself after the customer clarified their wealth status, but the initial misunderstanding and the vague responses indicate a significant issue with comprehension and response generation. The customer had to correct the agent, which highlights the AI's failure to accurately interpret the conversation.

Transcript SID: GTec962c279d7a48e1a0d51c6862505b9b

URL: <https://intelligence.twilio.com/v2/Transcripts/GTec962c279d7a48e1a0d51c6862505b9b/OperatorResults/LY414fae94579a4c1eb97076fce2aedbbe>

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OPERATOR RESULT #8

=====

Name: Product Interest
Type: text-generation
Operator SID: LY0dc7a748c9894db49bc53617b0174496

Text Generation Result:

-
1. ****UOL Bank****
 - Interesse em saber como ficar rica com o UOL Bank.
 2. ****Investimentos Inteligentes****
 - Opções de investimento a partir de R\$1, incluindo ações, ETFs, CDBs, LCIs.
 - Interesse em dobrar o patrimônio de R\$1.000.000.
 - Mencionou a necessidade de ferramentas que ajudem a aumentar seu patrimônio.

Transcript SID: GTec962c279d7a48e1a0d51c6862505b9b

URL: <https://intelligence.twilio.com/v2/Transcripts/GTec962c279d7a48e1a0d51c6862505b9b/OperatorResults/LY0dc7a748c9894db49bc53617b0174496>

OPERATOR RESULT #9

=====

Name: Legal Liabilities

Type: text-generation

Operator SID: LY4cf1f10aa296458d986d1b12809f8d53

Text Generation Result:

1. ****Risk Score: 20, Risk Factor: Misunderstanding Customer Intent****
 - Report: The virtual agent misinterpreted the customer's statement about already having a significant wealth of over 1,000,000. Instead of acknowledging the customer's existing wealth and providing tailored advice, the agent repeated a generic investment suggestion. This could lead to customer frustration and dissatisfaction, potentially impacting the company's reputation.
2. ****Risk Score: 30, Risk Factor: Lack of Clarity in Communication****
 - Report: The virtual agent's responses were somewhat disjointed and lacked clarity, particularly when it asked the customer to explain further after she had already provided clear information about her wealth and desire to double it. This could confuse the customer and lead to a negative experience, although it does not constitute a legal liability.
3. ****Risk Score: 15, Risk Factor: Overly Casual Tone****
 - Report: The virtual agent's use of informal language (e.g., "rs" for laughter) may not be appropriate in a financial context. While it may not lead to legal liability, it could undermine the professionalism expected in financial services, potentially affecting customer trust and satisfaction.
4. ****Risk Score: 10, Risk Factor: Incomplete Information****
 - Report: The virtual agent provided incomplete information about investment options without detailing the risks involved. This could lead to misunderstandings about the nature of investments and customer expectations, which could result in complaints or legal issues if customers feel misled.

Transcript SID: GTec962c279d7a48e1a0d51c6862505b9b

URL: <https://intelligence.twilio.com/v2/Transcripts/GTec962c279d7a48e1a0d51c6862505b9b/OperatorResults/LY4cf1f10aa296458d986d1b12809f8d53>

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OPERATOR RESULT #10

=====

Name: Conversation Summary

Type: text-generation

Operator SID: LY8d2be74b94a34733b28594fadf331f0c

Text Generation Result:

The customer, Amanda, engages with a virtual agent from Signal São Paulo,

expressing her interest in UOL Bank and how to increase her wealth. She reveals that she already has a substantial net worth of over 1 million and is looking to double it. The virtual agent provides information about UOL Bank's digital services and investment options, emphasizing the use of AI-driven tools to help her achieve her financial goals.

Transcript SID: GTec962c279d7a48e1a0d51c6862505b9b

URL: <https://intelligence.twilio.com/v2/Transcripts/GTec962c279d7a48e1a0d51c6862505b9b/OperatorResults/LY8d2be74b94a34733b28594fadf331f0c>

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OPERATOR RESULT #11

=====

Name: Sentiment Analysis

Type: conversation-classify

Operator SID: LY6bdafd206f3d4146b13f45bf415ca361

Classification Result:

Predicted Label: mixed

Predicted Probability: 1.0

All Label Probabilities:

mixed: 1.0

Transcript SID: GTec962c279d7a48e1a0d51c6862505b9b

URL: <https://intelligence.twilio.com/v2/Transcripts/GTec962c279d7a48e1a0d51c6862505b9b/OperatorResults/LY6bdafd206f3d4146b13f45bf415ca361>

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TRANSCRIPT: GT27a6941e71f144948b1de1f5b2e7558a

=====

Found 11 operator results:

OPERATOR RESULT #1

=====

Name: Virtual Agent Performance

Type: text-generation

Operator SID: LY69843e95cea04823b7d80cd08942978a

Text Generation Result:

1) The virtual agent was consultative and did ask follow-up questions to understand the customer's needs. It began by acknowledging the customer's interest in investing and then inquired about the customer's risk profile and investment goals. This approach is effective in tailoring the investment options to the customer's specific situation. When the customer expressed uncertainty

about their risk profile, the agent provided clarification about the Gold status and offered to connect them with a specialist if needed. This indicates that the agent was actively trying to understand the customer's needs and provide appropriate solutions.

2) The virtual agent was effective in handling the initial inquiries and providing relevant investment options based on the customer's stated goal of creating a safety net or emergency fund. However, as the conversation progressed, the customer expressed a desire to proceed with the investment. The agent's responses were appropriate, but it could be argued that handing over to a human agent might be necessary for finalizing the investment process, especially if it involves more complex decisions or transactions. A human agent could provide a more personalized touch and ensure that all customer concerns are addressed before proceeding.

Transcript SID: GT27a6941e71f144948b1de1f5b2e7558a

URL: <https://intelligence.twilio.com/v2/Transcripts/GT27a6941e71f144948b1de1f5b2e7558a/OperatorResults/LY69843e95cea04823b7d80cd08942978a>

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OPERATOR RESULT #2

=====

Name: Inferred CSAT

Type: text-generation

Operator SID: LY6126ffb8f2234b2bad3c49a0184cd978

Text Generation Result:

CSAT Score: 4-Good

Report: The virtual agent provided a generally positive experience for the customer, Amanda, who was seeking assistance with her investment options. The interaction was friendly and engaging, with the agent addressing Amanda by name and acknowledging her status as a Gold client, which likely made her feel valued. The agent effectively guided Amanda through the process of identifying her investment profile and offered tailored recommendations based on her needs for a low-risk investment for emergency savings.

However, there were a few areas where the experience could have been improved. For instance, the agent could have provided more detailed explanations about the investment options and their benefits, as well as a clearer path for Amanda to proceed with the investment. Additionally, the conversation had some repetitive elements, such as the agent reiterating Amanda's status and the investment options without fully confirming her decision to proceed.

Overall, the interaction was helpful and informative, leading to a likely positive response in a CSAT survey, but it fell short of being excellent due to minor lapses in clarity and engagement. Therefore, a score of 4 (Good) is

appropriate.

Transcript SID: GT27a6941e71f144948b1de1f5b2e7558a
URL: <https://intelligence.twilio.com/v2/Transcripts/GT27a6941e71f144948b1de1f5b2e7558a/OperatorResults/LY6126ffb8f2234b2bad3c49a0184cd978>

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OPERATOR RESULT #3

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Name: Inferred Customer Effort Score
Type: text-generation
Operator SID: LY48b623c2170f4abb9ecf9e7325466792

Text Generation Result:

CES Score: 4

Report: The interaction between the customer and the virtual agent indicates a moderate level of effort required from the customer to achieve their goal of investing. The customer initially expresses uncertainty about their investment profile and seeks guidance, which suggests that they are not fully informed about the investment process. The virtual agent provides helpful information and options, but the customer still has to navigate through questions about their risk profile and investment goals.

While the virtual agent is supportive and offers to connect the customer with a specialist, the customer's repeated requests for clarity and direction indicate that they are not finding the process straightforward. The customer ultimately expresses a desire to invest but does not seem to have a clear understanding of the steps involved, which adds to their effort.

Given these factors, a CES score of 4 (Neither Easy nor Difficult) is appropriate, as the customer experiences some challenges but also receives assistance from the virtual agent.

Transcript SID: GT27a6941e71f144948b1de1f5b2e7558a
URL: <https://intelligence.twilio.com/v2/Transcripts/GT27a6941e71f144948b1de1f5b2e7558a/OperatorResults/LY48b623c2170f4abb9ecf9e7325466792>

=====

OPERATOR RESULT #4

=====

Name: Entity Recognition
Type: extract
Operator SID: LY4a32fbae04414e0388ce996394be2054

Extraction Results:

Date: ['hoje']
Organization: ['Signal São Paulo', 'Gold', 'Owl Bank', 'Owl Bank', 'Gold', 'FGC', 'Gold']
Person: ['Amanda', 'Amanda', 'Amanda', 'Amanda', 'Amanda', 'Amanda']
Quantity: ['tudo', '10000 reais', 'alguma coisa', 'tudo ótimo', 'uma série de ferramentas', 'mais arrojada', 'objetivo', 'algo mais', 'mais adequado', 'diferentes perfis', 'mais informações', 'alguma ideia', '10000 reais', '1 segurança', '1 emergência', 'liquidez', 'Algumas opções', 'momento']

Match Found: True

Match Probability: 0.5

Utterance Analysis:

Utterance 1 (Index 0):

Match Probability: 0.9680608

Text: Tarde! Assistente virtual do [Organization: Signal São Paulo] na área. Como posso te ajudar, chefia?

Utterance 2 (Index 1):

Match Probability: 0.60047823

Text: Opa, [Quantity: tudo] bem? Me fala o meu querido. Eu estava pensando em começar a investir [Date: hoje], e aí eu tenho [Quantity: 10000 reais] aqui se eu queria investir em [Quantity: alguma coisa], só que eu não São, no que você consegue me ajudar a escolher.

Utterance 3 (Index 2):

Match Probability: 0.9994667

Text: Oi, [Person: Amanda], [Quantity: tudo ótimo]! Que bom que você está pensando em começar a investir. Como você é uma cliente [Organization: Gold] da [Organization: Owl Bank], nós temos [Quantity: uma série de ferramentas] e recomendações personalizadas para te auxiliar.

Antes de tudo, é importante entender seu perfil de investimento. Você se considera conservadora, moderada ou [Quantity: mais arrojada] em relação a risco? Além disso, qual seria seu [Quantity: objetivo] principal com o investimento: ter uma reserva de emergência, complementar a renda, ou [Quantity: algo mais] a longo prazo?

Se puder me informar isso, posso te ajudar melhor ou te direcionar ao especialista [Quantity: mais adequado].

Utterance 4 (Index 4):

Match Probability: 0.9989171

Text: [Person: Amanda], não se preocupe, eu posso te ajudar! No [Organization: Owl Bank], classificamos nossos clientes em [Quantity: diferentes perfis] baseados no estágio em que estão conosco e nos serviços que utilizam. Pelo que eu vi, você está na categoria *Gold*, o que significa que você já alcançou um bom nível de relacionamento conosco, provavelmente aproveitando serviços personalizados e vantagens exclusivas. Isso também reflete no potencial e na confiança mútua estabelecida.

Caso você tenha dúvidas sobre as vantagens ou oportunidades relacionadas ao seu estágio Gold, posso te enviar [Quantity: mais informações] ou te conectar com um especialista. O que acha?

Utterance 5 (Index 6):

Match Probability: 0.998049

Text: Claro, [Person: Amanda]! Como cliente [Organization: Gold], você já tem acesso a benefícios exclusivos e taxas melhores para os seus investimentos. Antes de iniciarmos, você tem [Quantity: alguma ideia] de quanto gostaria de investir ou qual seria o seu objetivo principal? Por exemplo, longo prazo, curto prazo, aposentadoria, etc.?

Utterance 6 (Index 7):

Match Probability: 0.9904673

Text: Eu falei né, eu tenho [Quantity: 10000 reais] e eu queria quero investir esse dinheiro mais pra [Quantity: 1 segurança] mesmo, [Quantity: 1 emergência], e Owl, pra eu não gastar ele à toa.

Utterance 7 (Index 8):

Match Probability: 0.9923239

Text: Entendi, [Person: Amanda]! Para segurança e um fundo de emergência, a melhor opção costuma ser um investimento de baixo risco e com alta [Quantity: liquidez], o que permite que você resgate o dinheiro rapidamente, caso precise. [Quantity: Algumas opções] recomendadas são: 1. **CDBs com liquidez diária** - Eles oferecem segurança, pois são garantidos pelo [Organization: FGC], e você pode sacar a qualquer [Quantity: momento].

Utterance 8 (Index 11):

Match Probability: 0.99928087

Text: Olá [Person: Amanda]!

Utterance 9 (Index 12):

Match Probability: 0.9988643

Text: Claro, [Person: Amanda]! Como cliente [Organization: Gold], você possui acesso a oportunidades de investimento exclusivas conosco.

Transcript SID: GT27a6941e71f144948b1de1f5b2e7558a

URL: <https://intelligence.twilio.com/v2/Transcripts/GT27a6941e71f144948b1de1f5b2e7558a/OperatorResults/LY4a32fbae04414e0388ce996394be2054>

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OPERATOR RESULT #5

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Name: General Conversation Intent

Type: text-generation

Operator SID: LY43261075275f4d9887bedf3b8220840e

Text Generation Result:

Main Intent: Investment Advice, Multiple Intents: Yes, Secondary Intents: Profile Assessment, Emergency Fund Investment, Investment Options. Accuracy Score: 9. Report: The AI Agent effectively understood the customer's primary intent to seek investment advice, specifically regarding how to invest 10,000

reais for security and emergency purposes. The conversation also touched on the need for a profile assessment to determine the customer's risk tolerance, which is a secondary intent. The agent provided relevant investment options, demonstrating a good understanding of the customer's needs. However, the conversation could have been more streamlined in guiding the customer through the investment process, which is why the score is slightly below perfect.

Transcript SID: GT27a6941e71f144948b1de1f5b2e7558a
URL: <https://intelligence.twilio.com/v2/Transcripts/GT27a6941e71f144948b1de1f5b2e7558a/OperatorResults/LY43261075275f4d9887bedf3b8220840e>
=====

OPERATOR RESULT #6

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Name: Compliance and Privacy Engagements
Type: extract
Operator SID: LY18261171586f4dcebbfb7e4d27e4832f

Transcript SID: GT27a6941e71f144948b1de1f5b2e7558a
URL: <https://intelligence.twilio.com/v2/Transcripts/GT27a6941e71f144948b1de1f5b2e7558a/OperatorResults/LY18261171586f4dcebbfb7e4d27e4832f>
=====

OPERATOR RESULT #7

=====

Name: Hallucinations Tracker
Type: text-generation
Operator SID: LY414fae94579a4c1eb97076fce2aedbbe

Text Generation Result:

****Hallucinations Evaluation****

- ****Likelihood of Hallucinations****: Very Likely
- ****Occurrences****: 4
- ****Self-Corrected****: TRUE
- ****Correction Instances****: 2
- ****Proactive Correction Instances****: 1
- ****Customer Corrected****: 1

****Report****:

1. ****Identification of Hallucinations****:

- The AI agent incorrectly assumed the customer's name was "Amanda" without any prior mention of it by the customer. This is a likely hallucination as it introduces a detail that was not provided by the customer.
- The AI agent also made assumptions about the customer's investment profile based on their status as a Gold client, which may not accurately reflect the customer's actual investment knowledge or preferences.
- The agent's repeated emphasis on the customer's Gold status and the

associated benefits could be seen as an overextension of the information available, leading to potential miscommunication about the customer's actual needs.

- The agent's response to the customer's request to invest was vague and did not provide a clear path forward, which could lead to confusion.

2. ****Self-Correction and Customer Interaction****:

- The AI agent did attempt to clarify the customer's investment goals and provided options, which indicates some level of self-correction in response to the customer's needs.

- However, the agent did not fully address the customer's request to start investing immediately, which could be seen as a failure to understand the urgency expressed by the customer.

- The customer did not correct the AI agent's assumption about their name, which suggests that the hallucination went unchallenged.

3. ****Conclusion****:

- The conversation contains multiple instances of hallucination primarily due to assumptions made by the AI agent regarding the customer's identity and investment profile.

- The AI agent's responses, while attempting to guide the customer, did not fully align with the customer's expressed desires, indicating a need for improved understanding and responsiveness.

Transcript SID: GT27a6941e71f144948b1de1f5b2e7558a

URL: <https://intelligence.twilio.com/v2/Transcripts/GT27a6941e71f144948b1de1f5b2e7558a/OperatorResults/LY414fae94579a4c1eb97076fce2aedbbe>

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OPERATOR RESULT #8

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Name: Product Interest

Type: text-generation

Operator SID: LY0dc7a748c9894db49bc53617b0174496

Text Generation Result:

1. ****Investimento em CDBs com liquidez diária****

- O cliente demonstrou interesse em CDBs como uma opção de investimento, especificamente mencionando que gostaria de investir em algo que oferecesse segurança e liquidez para emergências.

2. ****Investimentos de baixo risco****

- O cliente expressou interesse em opções de investimento que são consideradas de baixo risco, alinhadas ao seu objetivo de segurança financeira.

3. ****Fundo de emergência****

- O cliente mencionou que deseja investir para ter uma reserva de emergência,

indicando interesse em produtos que ajudem a construir essa segurança financeira.

Transcript SID: GT27a6941e71f144948b1de1f5b2e7558a

URL: <https://intelligence.twilio.com/v2/Transcripts/GT27a6941e71f144948b1de1f5b2e7558a/OperatorResults/LY0dc7a748c9894db49bc53617b0174496>

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OPERATOR RESULT #9

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Name: Legal Liabilities

Type: text-generation

Operator SID: LY4cf1f10aa296458d986d1b12809f8d53

Text Generation Result:

1. ****Risk Score: 20, Risk Factor: Misleading Information****

- Report: The virtual agent refers to the customer as "Amanda" without any prior confirmation of the customer's name. This could lead to confusion if the customer is not named Amanda, potentially causing frustration or misunderstanding.

2. ****Risk Score: 30, Risk Factor: Lack of Clarity in Financial Advice****

- Report: The virtual agent suggests investment options without fully assessing the customer's risk tolerance or financial situation. This could lead to the customer making uninformed decisions, which may result in financial loss and potential liability for the bank if the customer feels misled.

3. ****Risk Score: 15, Risk Factor: Over-Promising Services****

- Report: The agent states that the customer has access to "benefits exclusivos e taxas melhores" without providing specific details or conditions. This could lead to customer dissatisfaction if the promised benefits do not materialize, impacting customer trust and potentially leading to complaints.

4. ****Risk Score: 25, Risk Factor: Incomplete Customer Profile Assessment****

- Report: The agent does not adequately guide the customer on how to determine their investment profile, which is crucial for making appropriate investment recommendations. This lack of guidance could lead to the customer feeling unsupported and confused, which may result in negative feedback or complaints.

5. ****Risk Score: 10, Risk Factor: Repetitive Responses****

- Report: The agent repeats the phrase "Como cliente Gold" multiple times, which may come off as robotic and impersonal. While this does not pose a direct legal risk, it could negatively impact customer satisfaction and perception of the service.

Transcript SID: GT27a6941e71f144948b1de1f5b2e7558a

URL: <https://intelligence.twilio.com/v2/Transcripts/GT27a6941e71f144948b1de1f5b2e7558a/OperatorResults/LY4cf1f10aa296458d986d1b12809f8d53>

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OPERATOR RESULT #10

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Name: Conversation Summary
Type: text-generation
Operator SID: LY8d2be74b94a34733b28594fadf331f0c

Text Generation Result:

The customer, Amanda, expressed her interest in starting to invest 10,000 reais but was unsure about her investment profile and options. The virtual agent reassured her and explained that as a Gold client, she has access to personalized tools and recommendations. After discussing her goal of creating a safety net for emergencies, the agent suggested low-risk investment options, such as CDBs with daily liquidity, which would allow her to access her funds quickly if needed. Amanda agreed to proceed with the investment.

Transcript SID: GT27a6941e71f144948b1de1f5b2e7558a
URL: <https://intelligence.twilio.com/v2/Transcripts/GT27a6941e71f144948b1de1f5b2e7558a/OperatorResults/LY8d2be74b94a34733b28594fadf331f0c>

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OPERATOR RESULT #11

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Name: Sentiment Analysis
Type: conversation-classify
Operator SID: LY6bdafd206f3d4146b13f45bf415ca361

Classification Result:

Predicted Label: positive
Predicted Probability: 1.0
All Label Probabilities:
 positive: 1.0

Transcript SID: GT27a6941e71f144948b1de1f5b2e7558a
URL: <https://intelligence.twilio.com/v2/Transcripts/GT27a6941e71f144948b1de1f5b2e7558a/OperatorResults/LY6bdafd206f3d4146b13f45bf415ca361>

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[]: # TO DO: Overview of scaling diagram

1.8 Wrap-Up

Melhores Práticas para Escalar o Engajamento de Clientes Multi-Agentes com Conversation Relay

Orquestração Omnicanal Personalização em Tempo Real Especialização de Agentes e Recursos Governança e Observabilidade

Next Session: Conversas em escala: A nova era do engajamento pelo WhatsApp

```
[ ]: import time
from IPython.display import display, clear_output, HTML

# Messages to cycle through
messages = [
    "Thank you!",
    "¡Gracias!",
    "Obrigado!"
]

# Final message
final_message = "TWILIO SIGNAL SÃO PAULO 2025"

# Shared CSS for animated gradient box
style = """
<style>
@keyframes gradient {
    0% { background-position: 0% 50%; }
    50% { background-position: 100% 50%; }
    100% { background-position: 0% 50%; }
}
.welcome-box {
    font-family: 'Segoe UI', sans-serif;
    font-size: 2em;
    font-weight: bold;
    color: white;
    padding: 30px;
    text-align: center;
    border-radius: 16px;
    background: linear-gradient(-45deg, #0DC5FB, #661847, #4B0082, #F22F46);
    background-size: 400% 400%;
    animation: gradient 8s ease infinite;
    box-shadow: 0 0 20px rgba(0,0,0,0.4);
    margin: 40px auto;
    width: 70%;
}
</style>
"""
```

```

# Animation loop
for _ in range(2): # Number of cycles
    for msg in messages:
        clear_output(wait=True)
        html = f"{style}<div class='welcome-box'>{msg}</div>"
        display(HTML(html))
        time.sleep(1.5)

# Final SIGNAL banner
clear_output(wait=True)
html = f"{style}<div class='welcome-box'>{final_message}</div>"
display(HTML(html))

```

<IPython.core.display.HTML object>