Unstructured Data Analytics for Customer Services

Get To The WHY

Service Strategies Corporation
www.servicestrategies.com
info@servicestrategies.com
858.674.4864 – Corporate Office
800.552.3058 – Toll Free in the US

Kelly Hoopes
Senior Consultant, Service Strategies
Before We Get Started

- The Webinar is “listen only” and is being recorded
- A link to the session recording and a PDF of the slide deck will be sent to all registrants afterwards
- To submit questions, use the Question Panel of the GoToWebinar console
- Visit the Service Strategies Network group on LinkedIn to continue today’s discussion
Service Strategies Corporation

A Global Service Improvement Company

- Service Strategies provides consulting, training, industry standards and certification programs that help you deliver better service to your clients
- Global organization with partners in Australia, China, Netherlands, Nigeria, UK

- **Consulting and Strategic Advisory Services**
  Guidance to assist companies in improving eService, Support, Field Service and Professional Services operations

- **The Service Capability & Performance (SCP) Standards**
  Recognized as the global benchmark of service excellence. The SCP Standards have been deployed by leading service organizations worldwide for the past 18 years

- **SCP Career Certification and Training Programs**
  Over 5000 service professionals worldwide have attained certification under our industry leading training and certification programs
Kelly Hoopes
Senior Consultant, Service Strategies

Kelly has over fifteen years experience in various technical product support management and customer service operation leadership roles. He has a history of initiating and leading organizational change in the international high-tech industry with proven success in service marketing, mergers and acquisitions, strategy, serviceability, service product design, and innovation. Prior to consulting with Service Strategies, Kelly worked in customer service executive and leadership roles for Avid, Hewlett Packard, and Peregrine Systems.
Unstructured Data Analytics
For Customer Service

Agenda
- Tips & Tricks for working with Unstructured Data
- Extremely Informative
- Bonus 3 Horrible Ideas

What if... All of your Customer Service Data was Frozen Water?

Service Strategies
Advancing Service Excellence
Unstructured Data Analytics
For Customer Service

- Structured Data: 5-10%
- Semi Structured Data: 5-10%
- Unstructured Data: 80% +
Unstructured Data Analytics
For Customer Service

Understanding the **WHY**, Enables you to Act!

- **Structured Data**: 5-10%
- **Semi-Structured Data**: 5-10%
- **Unstructured Data**: 80% +
Unstructured Data Analytics
For Customer Service

Support Case Brief
Description Customer
Employee Survey Comments
Social Media Feeds
Field Service Case
Request Description Cause Notes
Project Management Tool For PS (open text fields)

Customer Service
Survey Comments
Support Case Customer
Activity Notes Community Threads
Knowledge Base Support Case
Search Strings Case Resolution Notes

Get To The WHY

Unstructured Data
Unstructured Data Analytics
For Customer Service

Example #1
Unstructured Data
Support Case Brief Description

What?

Example #2
Unstructured Data
Customer Service Survey Comments

Why?

Understanding the **WHY**, Enables you to Act!
Unstructured Data Analytics
For Customer Service

Unstructured Data Analytic Techniques

Clustering
“Unsupervised Learning”
- Term Frequency
- Similarity Matching
- Topic Modeling

Classification
“Supervised Learning”
- Sentiment Analysis
- Named Entity Recognition
- Term Classification
Tips for Working with Unstructured Data

#1 Tip

#2 Tip

#3 Tip

#4 Tip
Tip #1 for Working with Unstructured Data

Avoid creating Structured Data as a Band-Aid to get to your Unstructured Data.

Tip #2

You haven't heard what the problem is yet; how can you recommend building a database to solve it??

Tip #3

We always build a database. And we'll need coffee mugs for the project team.

Tip #4

The problem is that we have poor processes. That could be the slogan on our mugs!
Tip #2 for Working with **Unstructured Data**

**#2**

*If possible, put **GUIDELINES** in place to Better Manage Unstructured Data Entry and Maintenance*

**#3**

*Industry Best Practice Guidelines*

**#4**

*Guidelines that add process steps to your workflow*
Tip #3 for Working with Unstructured Data

Consider using OPEN SOURCE SOLUTIONS as a Starting Point
Tip #4 for Working with Unstructured Data

#1 Tip

#2 Tip

#3 Tip

#4 Tip

**Combine** Structured and Unstructured Reporting for Enhanced Business Insight

Get To The WHY

What

Customer Insight

Why
Unstructured Data Analytics
For Customer Service

Example #1
Unstructured Data
Support Case Brief Description

Example #2
Unstructured Data
Customer Service Survey Comments

Understanding the WHY, Enables you to Act!
Unstructured Data Analytics
For Customer Service

Example #1
Unstructured Data
Support Case Brief
Description

Case Management System
Structured Data

What

Why

Case Volume
Q2
Q3

12% Increase

10k
20k
30k

27,345
30,627

Why did you see an Increase of 12% in Case Volume from Q2 to Q3?

- Customer confusion on a specific new feature
- Licensing issues based on a specific configuration
- Database error after an update to amazon web service

Understanding the WHY, Enables you to Act!
Unstructured Data Analytics
For Customer Service

Example #1
Unstructured Data
Support Case Brief
Description

Why are customers contacting Support?

Byproducts when Done Well
- Knowledge Content Creation
- Product Case/Call Drivers
- Process & Automation Efficiency Ideas

Motivation
- Improve Self Help
- Improve the Product
- Increase Support Efficiency
Unstructured Data Analytics
For Customer Service

Example #1

Unstructured Data
Support Case Brief
Description

Why are customers contacting Support?

If possible, put GUIDELINES in place to Better Manage Unstructured Data Entry and Maintenance

#2 Tip

Industry Best Practice Guidelines
Guidelines that add process steps to your workflow
Unstructured Data Analytics
For Customer Service

Example #1: Unstructured Data
Support Case Brief
Description

Why are customers contacting Support?

Clustering
- Similarity Matching
- Topic Modeling

Classification
- Entity Recognition

Natural Language Semantic Similarity Match
95.7% Match

Grouped by Product and Environment
- Product Family
- Product
- Environment

Clustered Requests Based on Demand
- 2
- 3
- 5
- 12

Customer Requests
Unstructured Data Analytics
For Customer Service

CSLD Data Analytics for Customer Requests

Product Group: Goodlab

Knowledge Clusters:
- Holdstrand
- Highnote
- Config Pack
- Holdtrax

Request Cluster Weight:
- 92.94%

Environment A:
- Object DB
- Disassembler

Distance:
- 96
- 93
- 90

Keyword Clusters:
- Validate
- Frame Packet
- Complete

Case Detail:

<table>
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<tr>
<th>#</th>
<th>Count</th>
<th>Case Description</th>
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<tbody>
<tr>
<td>584132</td>
<td>12</td>
<td>The Disassembler inside Highnote will not fully validate when initiated.</td>
</tr>
<tr>
<td>588434</td>
<td>9</td>
<td>During validation the Highnote disassembler does not complete without frame packet errors.</td>
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Clustered Cases:

<table>
<thead>
<tr>
<th>#</th>
<th>Similar %</th>
<th>Case Description</th>
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</thead>
<tbody>
<tr>
<td>58434</td>
<td>98.92</td>
<td>During validation the Highnote disassembler does not complete without frame packet errors.</td>
</tr>
<tr>
<td>592315</td>
<td>96.27</td>
<td>Validating and constructing the object database in the disassembler produces packet error messages in our log.</td>
</tr>
<tr>
<td>583014</td>
<td>92.33</td>
<td>I am working with Amobu Highnote in a virtual environment and can’t get the dissembler to validate.</td>
</tr>
<tr>
<td>571902</td>
<td>91.46</td>
<td>Framepacket errors keep occurring during the validation phase while constructing the object DB.</td>
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For Customer Service

Example #1
Unstructured Data
Support Case Brief Description

Example #2
Unstructured Data
Customer Service Survey Comments

Understanding the **WHY**, Enables you to Act!
Unstructured Data Analytics
For Customer Service

Why did your NPS Score drop 11% this month? Why are customers dissatisfied?
- A new & specific product feature failure
- Price increase on a specific product module
- Transfer hold times in a specific region & scenario

Unstructured Data
Customer Service Survey Comments

Understand the WHY, Enables you to Act!
Unstructured Data Analytics
For Customer Service

Why are customers ___________?

Unstructured Data
Customer Service Survey Comments

Example #2
Unstructured Data Analytics

For Customer Service

Why are customers _________?

Clustering
- Term Frequency
- Similarity Matching

Classification
- Sentiment Analysis
- Term Classification

Example #2

Customer Service Survey Comments

Clustered in Logical Categories

Emotion Enhanced Sentiment Analysis

“ECSTATIC” “Amazing” “Happy”

“Struggle” “Frustrated” “HORRIBLE”

Similarity Match Algorithms

96% Match

Customer Comment

Similar Feedback

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For Customer Service

Why are customers __________?

S
Service
Customer Feedback on Service

P
Product
Analysis on Product Opinions

B
Brand
Insight on Brand Perception

V
Value
Indicators of Overall Value

Company
4.23
Benchmark
2.47

Company
-1.32
Benchmark
1.23

Company
-2.54
Benchmark
-0.75

Company
-3.12
Benchmark
-5.45

Overall Service Distribution
65.7%

Unstructured Data
Customer Service
Survey Comments
Unstructured Data Analytics
For Customer Service

CSLD Data Analytics for Customer Feedback

<table>
<thead>
<tr>
<th>Product Group</th>
<th>Score</th>
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<tbody>
<tr>
<td>Goodlab</td>
<td>0.17</td>
</tr>
<tr>
<td>Goodpulse</td>
<td>0.35</td>
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<tr>
<td>Goodsolve</td>
<td>0.38</td>
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Sentiment Score

-1  0  1
Score w/ Emotion

0.27

<table>
<thead>
<tr>
<th>Feedback Dimension</th>
<th>Score</th>
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<tbody>
<tr>
<td>Brand</td>
<td>0.11</td>
</tr>
<tr>
<td>Customer Service</td>
<td>0.55</td>
</tr>
<tr>
<td>Product</td>
<td>-0.16</td>
</tr>
<tr>
<td>Value</td>
<td>-0.32</td>
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</table>

Customer Comments

<table>
<thead>
<tr>
<th>#</th>
<th>S Score</th>
<th>Customer Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>10749.001</td>
<td>0.79</td>
<td>The technician was very professional and he helped my installation problem.</td>
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</table>

Similar Comments

<table>
<thead>
<tr>
<th>#</th>
<th>Similar %</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>10876.001</td>
<td>93.52</td>
<td>This was very professional, caring service</td>
</tr>
<tr>
<td>11491.004</td>
<td>91.44</td>
<td>I am not trying to be mean but this was a poor installation repair service experience</td>
</tr>
<tr>
<td>14261.001</td>
<td>90.18</td>
<td>I am very pleased with the outcome and the professional service.</td>
</tr>
<tr>
<td>12128.002</td>
<td>90.10</td>
<td>Efficient, Prompt, Professional Service</td>
</tr>
</tbody>
</table>
Unstructured Data Analytics
For Customer Service

Next Steps
- Contact Service Strategies for a Free 1-hour “getting started” consultation
- Check out CSLD Solutions
  www.csldsolutions.com
- Consider using Open Source Solutions as a Starting Point
Tip #3 for Working with Unstructured Data

Consider using OPEN SOURCE SOLUTIONS as a Starting Point

khoopes@servicestrategies.com
QUESTIONS
Thank You