

Unstructured Data Analytics for Customer Services



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

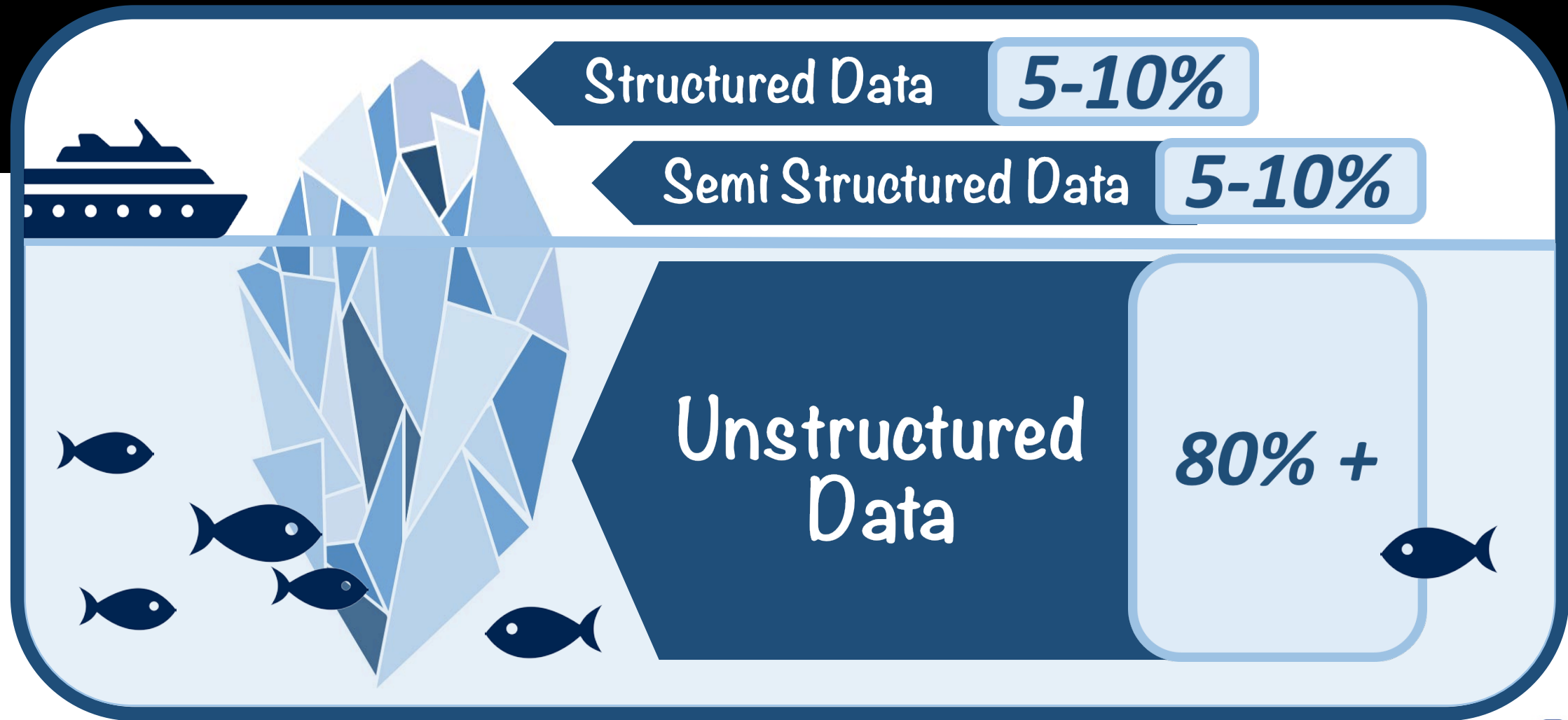
- Tips & Tricks for working with **Unstructured Data**
- *Extremely Informative*
- **Bonus 3** Horrible Ideas

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



Unstructured Data Analytics

For Customer Service



Unstructured Data Analytics

For Customer Service



Structured Data

5-10%

What ?

Semi Structured Data

5-10%

Why ?

Unstructured Data

80% +

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



Unstructured Data Analytics

For Customer Service



What ?

Why ?

Support Case Brief

Description *Customer*

Employee

Social Media
Feeds

Survey Comments

Field Service

Fields

Support
Case

Request Description

Cause Notes

Project Management Tool

For PS (open text fields)

Customer Service

Survey Comments

Support Case

Customer

Activity Notes

Community

Knowledge Base

Threads

Search strings

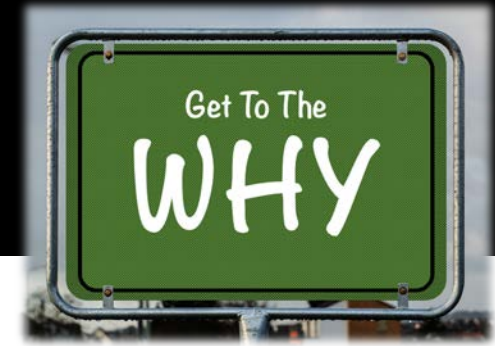
Support

Case Resolution Notes

Unstructured Data

Unstructured Data Analytics

For Customer Service



Example
#1



Unstructured Data

*Support Case Brief
Description*



What ?

Why ?



Unstructured Data

*Customer Service
Survey Comments*



Example
#2

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

Unstructured Data Analytics

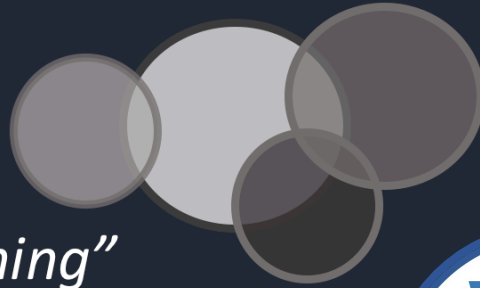
For Customer Service



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

#1
TIP

*Avoid creating Structured Data as a **BAND-AID** to get to your Unstructured Data*



#2
TIP



#3
TIP



#4
TIP





Tip #2 for Working with Unstructured Data

1
TIP



2
TIP *If possible, put **GUIDELINES** in place to Better Manage Unstructured Data Entry and Maintenance*

3
TIP

Industry Best Practice Guidelines

Guidelines that add process steps to your workflow

4
TIP



Tip #3 for Working with Unstructured Data

1
TIP



2
TIP



3
TIP

Consider using **OPEN SOURCE SOLUTIONS** as a Starting Point



4
TIP





Tip #4 for Working with Unstructured Data

1
TIP



2
TIP



3
TIP



4
TIP

COMBINE *Structured and Unstructured Reporting for Enhanced Business Insight*



What

?

Customer Insight

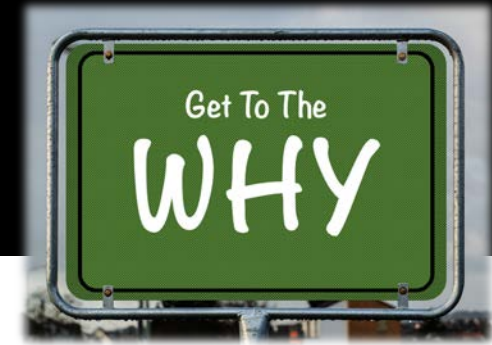
Why

?



Unstructured Data Analytics

For Customer Service



Example
#1



Unstructured Data

*Support Case Brief
Description*



What ?

Why ?



Unstructured Data

*Customer Service
Survey Comments*



Example
#2

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

Unstructured Data Analytics

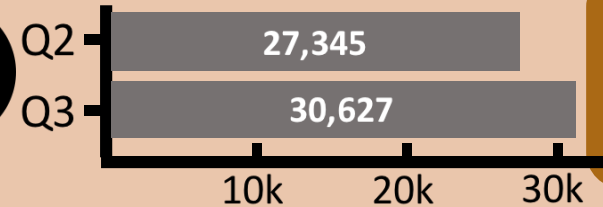
For Customer Service



Case Management System
Structured Data

What ?

Case
Volume



12%
Increase




Example
#1

Unstructured Data

Support Case Brief
Description 

Why ?

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?

Motivation

Improve Self Help

Improve the Product

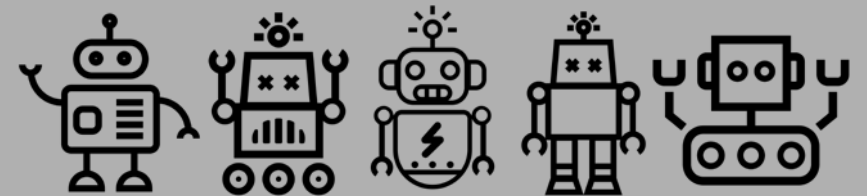
Increase Support Efficiency

Byproducts when Done Well

Knowledge Content Creation

Product Case/Call Drivers

Process & Automation Efficiency Ideas



Unstructured Data Analytics

For Customer Service



Example
#1

Unstructured Data

Support Case Brief
Description



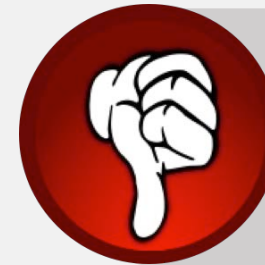
Why are customers contacting Support?

#2
TIP

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



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

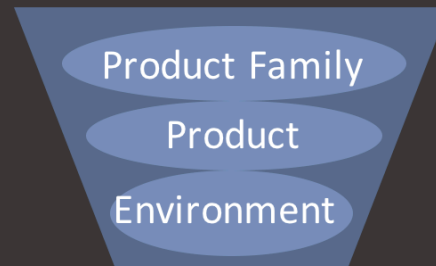
- ✓ Entity Recognition

Natural Language Semantic Similarity Match



95.7% Match

Grouped by Product and Environment



Clustered Requests Based on Demand



Customer Requests

Unstructured Data Analytics

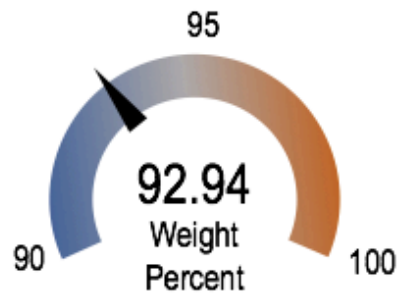
For Customer Service

CSLD Data Analytics for Customer Requests

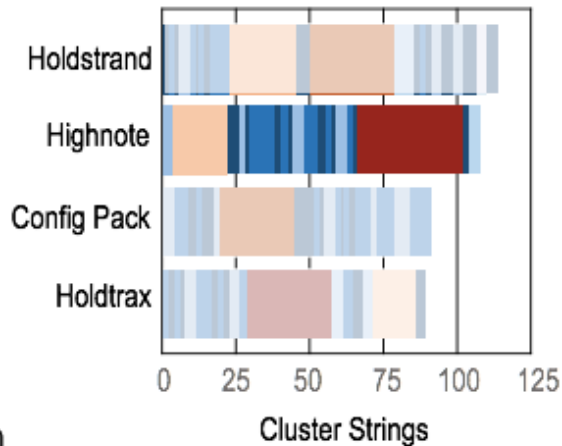


Product Group
Goodlab

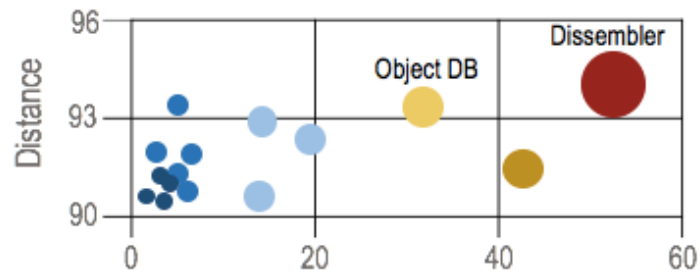
Request Cluster Weight



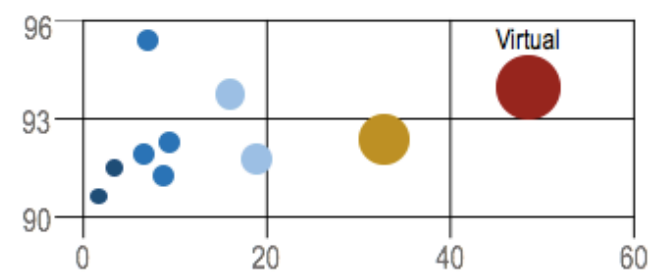
Knowledge Clusters



Environment A



Environment B



Keyword Clusters



Request Cluster Strings

407

Case Detail

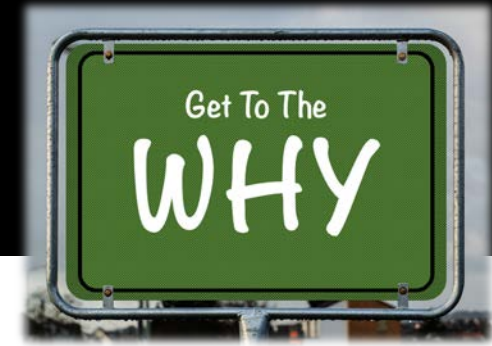
#	Count	Case Description
584132	12	The Dissembler inside Highnote will not fully validate when initiated.
588434	9	During validation the Highnote dissembler does not complete without frame packet errors.

Clustered Cases

#	Similar %	Case Description
588434	98.92	During validation the Highnote dissembler does not complete without frame packet errors.
592315	96.27	Validating and constructing the object database in the dissembler produces packet error messages in our log.
583014	92.33	I am working with Amobu Highnote in a virtual environment and can't get the dissembler to validate
571902	91.46	Framepacket errors keep occurring during the validation phase while constructing the object DB.

Unstructured Data Analytics

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Example
#1



Unstructured Data

Support Case Brief
Description 

What 

Why 



Unstructured Data

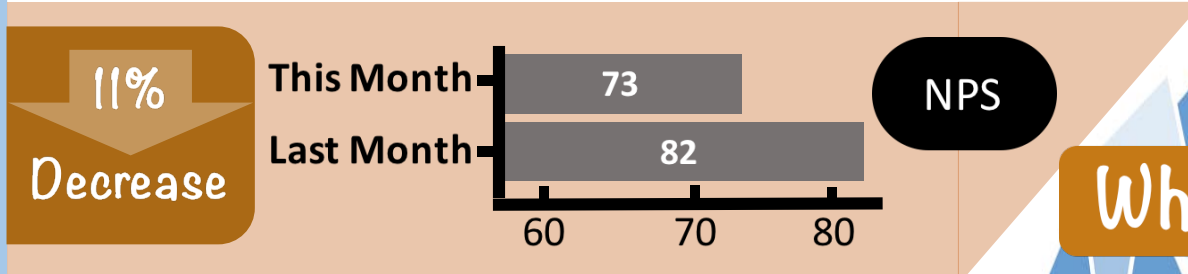
Customer Service 
Survey Comments

Example
#2

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

Unstructured Data Analytics

For Customer Service



Customer Satisfaction
Structured Data

What ?




Why did your NPS Score drop 11% this month? Why are customers dissatisfied?

Why ?

Unstructured Data

Example #2

Customer Service 
Survey Comments

-  A new & specific product feature failure
-  Price increase on a specific product module
-  Transfer hold times in a specific region & scenario

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

Unstructured Data Analytics

For Customer Service



Why are customers _____?

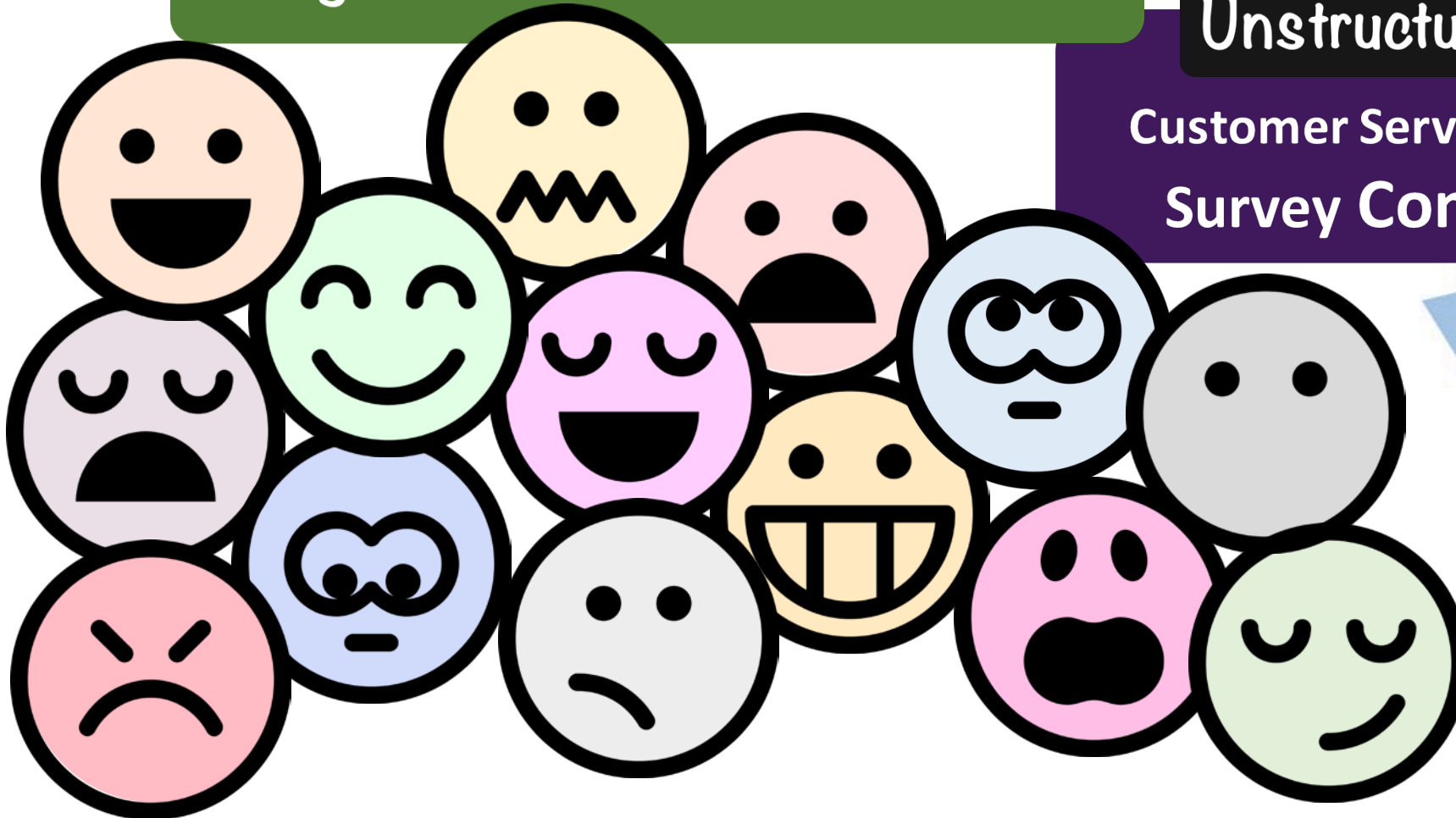
Unstructured Data

Example
#2

Customer Service



Survey Comments



Unstructured Data Analytics

For Customer Service




Why are customers _____ ?

Unstructured Data
Customer Service 
Survey Comments

Example #2

Clustering



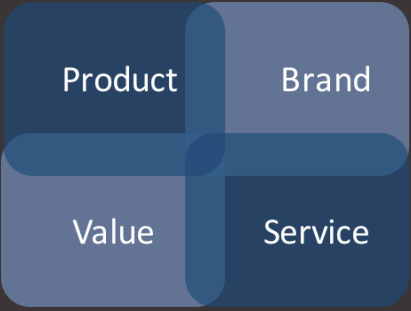
- ✓ Term Frequency
- ✓ Similarity Matching

Classification



- ✓ Sentiment Analysis
- ✓ Term Classification

Clustered in Logical Categories



Product	Brand
Value	Service

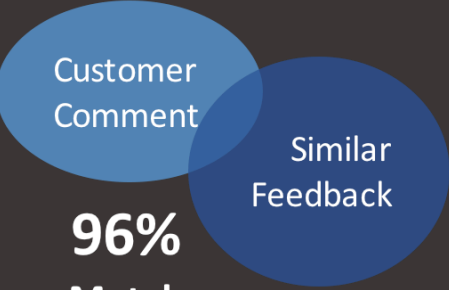
Emotion Enhanced Sentiment Analysis



“ECSTATIC”
“Amazing”
“Happy”

“Struggle”
“Frustrated”
“HORRIBLE”

Similarity Match Algorithms



Customer Comment

Similar Feedback

96% Match

Unstructured Data Analytics

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Why are customers _____ ?

Unstructured Data

Example #2

Customer Service  Survey Comments

S
Service

Customer Feedback on Service

P
Product

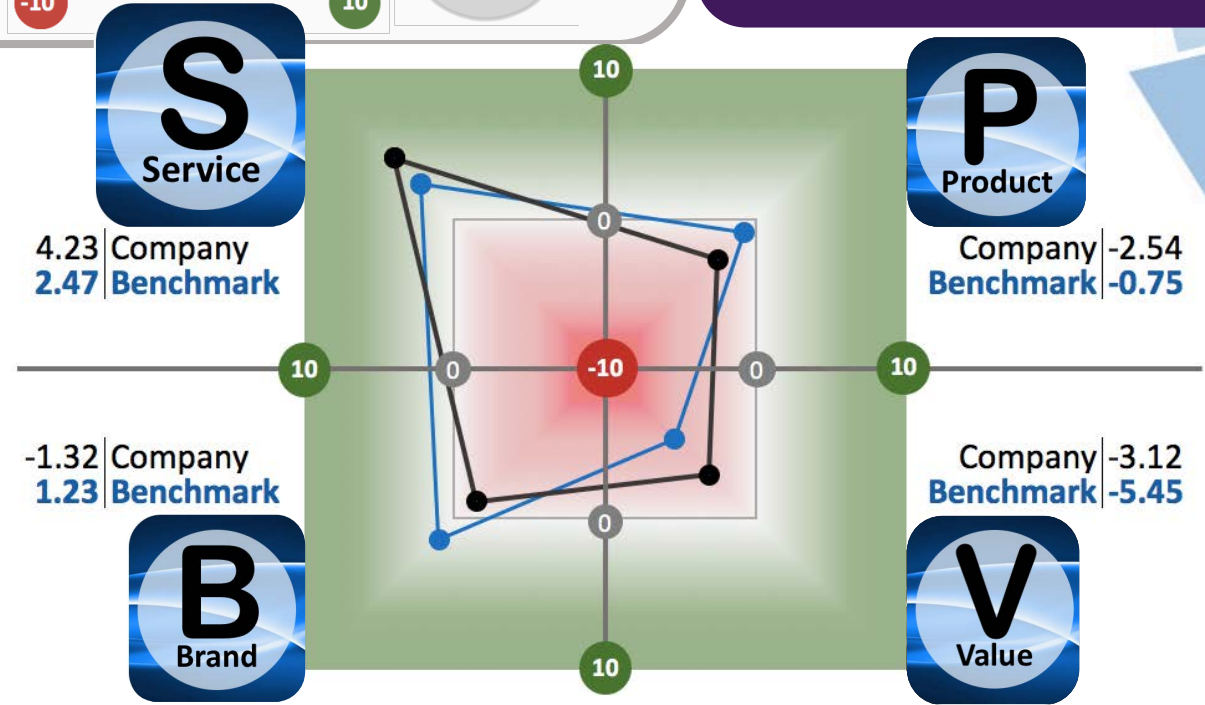
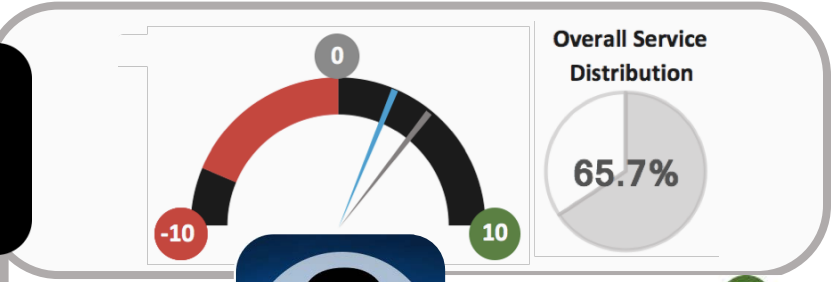
Analysis on Product Opinions

B
Brand

Insight on Brand Perception

V
Value

Indicators of Overall Value



Unstructured Data Analytics

For Customer Service

CSLD Data Analytics for Customer Feedback



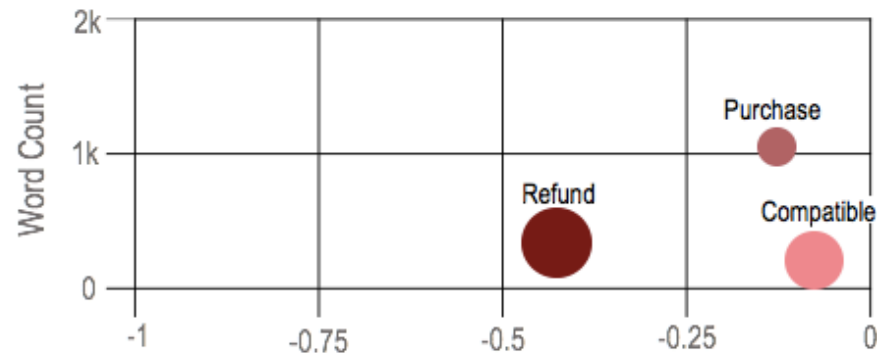
Product Group	Score
Goodlab	0.17
Goodpulse	0.35
Goodsolve	0.38

Sentiment Score



Feedback Dimension	Score
Brand	0.11
Customer Service	0.55
Product	-0.16
Value	-0.32

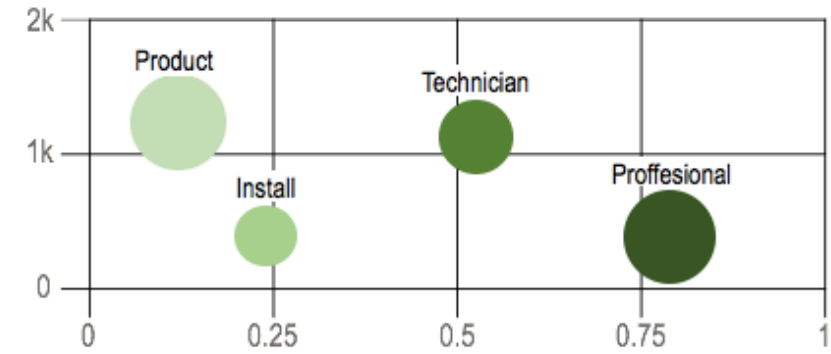
Negative Quadrant



Customer Comments

#	S Score	Customer Comment
10749.001	0.79	<i>The technician was very professional and he helped my installation problem.</i>

Positive Quadrant



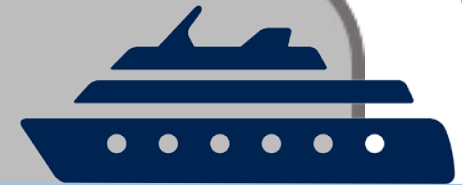
Similar Comments

#	Similar %	Comment
10876.001	93.52	<i>This was very professional, caring service</i>
11491.004	91.44	<i>I am not trying to be mean but this was a poor installation repair service experience</i>
14261.001	90.18	<i>I am very pleased with the outcome and the professional service.</i>
12128.002	90.10	<i>Efficient, Prompt, Professional Service</i>

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



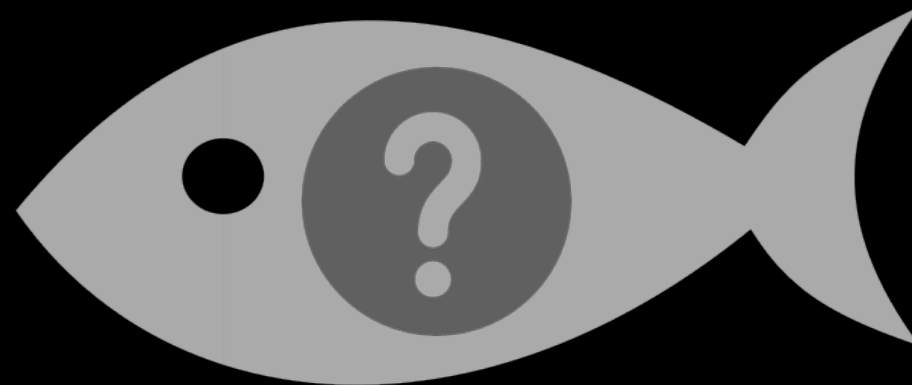
#3
TIP

Consider using **OPEN SOURCE SOLUTIONS** as a Starting Point



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QUESTIONS





Thank You

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