



Focus on what **truly** matters!

Measure
**Customer
Satisfaction**
in Social Media



LingRep

Text Analytics



Determine a customers' attitude towards a certain product or service by interpreting (textual) information according to a predefined goal.





- What is the Product?

- Device, Service, Food, Software, ...



- Who is the Customer (Speaker)?

- Expertise, reasons for feedback, ...



- How is Satisfaction formulated and quantified?

- Low price, benefits, faster, bigger, higher, ...



- Why are we measuring and who is the Evaluator?

- Buy product, react on complaints, improve quality, infer features, tune advertising, identify trends, ...





■ Textual Information Source

- User: amateur, professional, owner/user/tester
- Type: proposition, feedback, comment, rating
- State: raw, reviewed, edited
- Conventions and Markup: hashtags, emoticons, links
- Language: English, German
- Quality: well formed, dialect, full sentences, snippets
- Length: tweet, article, review



■ Broad Common Knowledge

– Cultural aspects, language, defaults

- Company, Car, Features
- Samples

good 

bad  accident 

■ Specific Domain Knowledge

– Overrules

- VW Passat, Price, CO²
- Samples



up 



down  emission 

■ Application Goals and Viewpoint

– Quantifies

- Potential Buyer
- Shareholder

price up 
price up 

CO² down 
CO² down 

Customization

➔ **Linguistic Resources**

Quantification Process (1) – Steps



1. Identify Anchors
2. Combine to higher-level Closures
3. Evaluation: assign and merge values
 - structures, concepts, and concept instances



Lorem ipsum dolor sit amet, consectetur adipiscing elit.

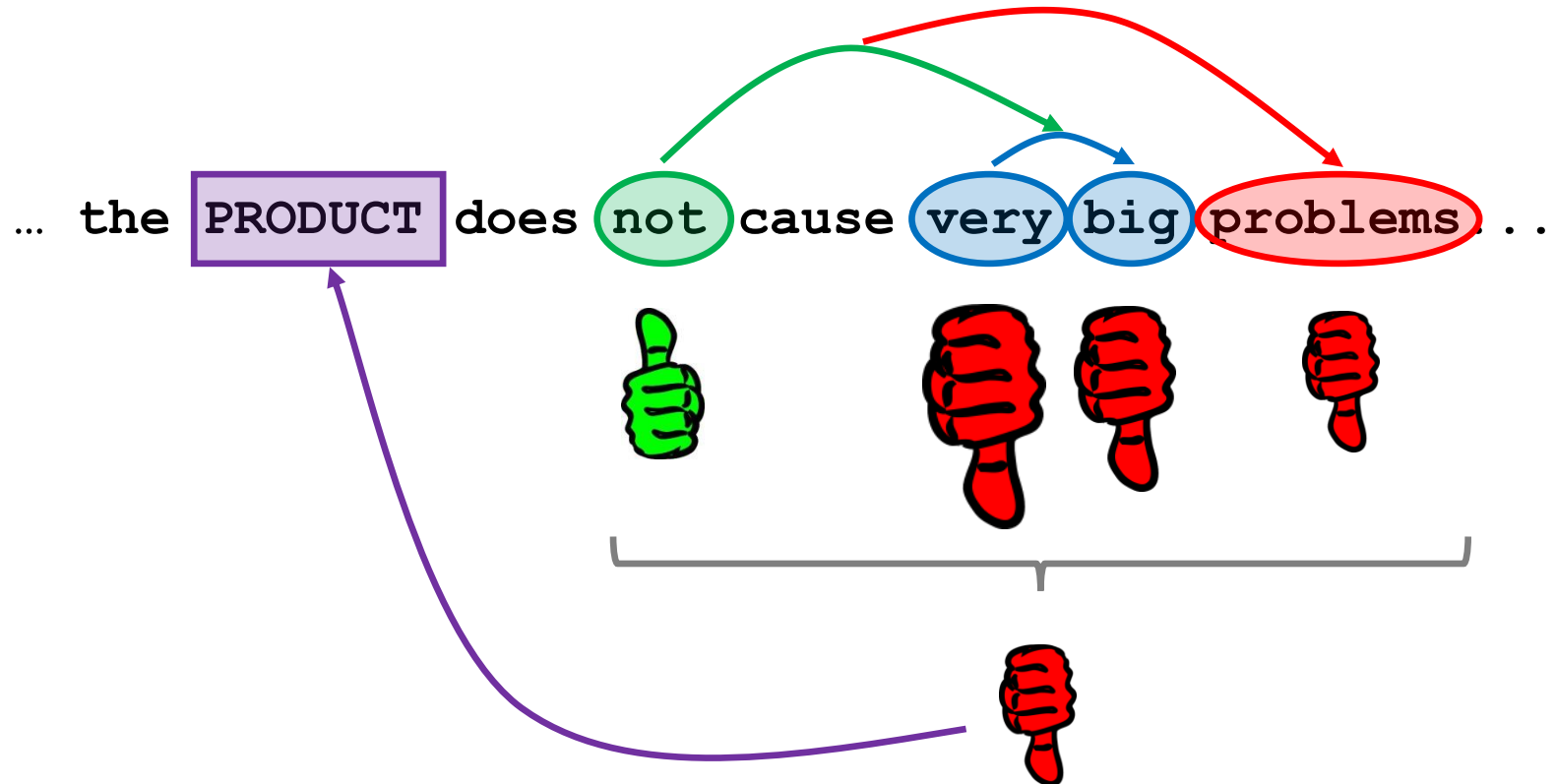
Morbi eget sem tempus, lacinia sem ac, consequat quam.



■ Example

– **Concept Instances**

– Operators: **Negators**, **Intensifiers**, **Modifiers**, and **Statics**










- Large Resource Pools
 - Quality assured by (domain) experts
 - 3rd Party data integration

- Resource Types
 - Dictionaries and Ontologies
 - Language independent merged with language specific
 - Language Models and Statistics
 - Linguistic Knowledge (syntax, semantics, grammar)
 - Hierarchically organized
 - Common > Domain > Viewpoint

➔ Customized generation of resources



- **Broad bandwidth of sentiment analysis services**

Input					
These products cause <u>problems</u> for customers.	-0,50	-0,25	-0,34	-1,00	-0,50
These products do <u>not</u> cause <u>problems</u> for customers.	0,50	0,00	0,29	-1,00	0,50
These products do <u>not</u> cause <u>big problems</u> for customers.	1,00	0,00	0,27	-1,00	-0,25
These products do <u>not</u> cause <u>very big problems</u> for customers.	1,00	-0,21	0,26	-1,00	-0,62
These products do <u>not</u> cause <u>any problems</u> for the customers.	0,50	0,00	0,27	1,00	0,50

1



2



3



4



5





- **Free Test Service and Demo**

- REST API, <http://processing.lingrep.com>





■ TWIction – Twitter in Action

- Real time text analytics
- Based on public and user streams
- Tracking of
 - Global: Products, People, Topics (terrorism)
 - Finance: Single Stocks, Opinion Leaders, and Topics (employment rate)
- Research functionality on historic data
- Qualitative analytics with drilldown (language, location, hashtag)

➔ Goal: Reduction of big data to manageable amounts

Social Media Analysis (2) – Application



<http://twiction.lingrep.com>

The screenshot shows the TWiction Monitor100 web application. The browser address bar displays `twiction.lingrep.com/monitor/100`. The page header includes the TWiction finance logo and navigation icons. The main content area is titled "Monitors > Monitor 100" and features a "LIVE - Airlines Customer Satisfaction" monitor. This monitor displays a table of customer satisfaction data for the United States and Germany, with columns for Orientation, Viewers, Activity, and Actions. Below the table, there are two charts: "Last Hour Tweets" (a bar chart) and "Last 20 Customer Satisfaction" (a line chart).

Orientation	Viewers	Activity	Actions		
Customer Satisfaction	1	25218 85.44/min			
		13937 47.21/min			
2015/11/18 12:13:41 (4h 55:04)	2015/11/18 16:35:59 (32:46)	2015/11/18 17:04:52 (03:53)	2015/11/18 17:08:35 (00:10)	2015/11/18 17:08:45	2015/11/18 16:35:59 - 2015/11/18 17:08:45 (32:46)
		163 0.55/min			
2015/11/18 12:13:42 (4h 49:46)	2015/11/18 12:13:42 (4h 49:46)	2015/11/18 12:13:42 (4h 49:46)	2015/11/18 12:13:42 (4h 49:46)	2015/11/18 17:03:28	2015/11/18 12:13:42 - 2015/11/18 17:03:28 (4h 49:46)
All	Last 1000	Last 100	Last 10	Activity	Actions

Last Hour Tweets

Last 20 Customer Satisfaction



- Customer Satisfaction Measurement
 - Domain and Viewpoint specific

- LingRep based on Linguistics
 - Customizable, fault tolerant, fast
 - Simple to integrate (REST)
 - Proven technology
 - Social Media Analysis
 - Financial Tracking & Trading
 - Risk Assessment

- Opens up many possibilities

- Visit <http://lingrep.com>

Thank you!



Marcus Hassler

Founder, CTO

econob GmbH

A-9020 Klagenfurt, Lakeside B01a

+43 660 4890 448

marcus.hassler@econob.com

www.econob.com