



*Your
Knowledge
Partner™*

Enterprise Dialog Analysis™

*Convert unmanageable corporate
data into true sources of value*

Why *1* EDA?

Unstructured Data is Growing

- Proliferation of communication channels
- Growing number of available data sources
- Experts say 70-90% of valuable business data is in unstructured form
- Unstructured data in a company is growing at 15-25% pa

Unstructured

- Emails
- Operator notes
- Text documents
- “Comments” fields
- Web pages

Structured

- Transactional data
- SQL queries
- MDDB tables
- Other databases

Shortcomings of Data Mining

- Most dialogs are conducted in natural language
- Traditional data mining has targeted structured data
 - Limited number of DM tools with linguistic capabilities
 - Data warehouses store structured data
 - Lack of suitable visualization techniques
- Companies are collecting more information than they can process



Dialog information has been out of reach for analytical purposes

Novel Source of Knowledge

- Dialogs might touch into anything that the customers, partners or employees find important
- Freeform text collected from dialogs holds a great potential for improving operations
- Qualitative and Quantitative information can contribute to a new understanding of business related issues

Utilize all your information and discover patterns and trends from external and internal dialogs

2 Areas of application

Areas of Applications

Where can dialog Analysis be done?

- **Customer Emails**
- **“Comments” fields**
- **Employee surveys**
- **Customer surveys**
- **Call center notes**
- **Newsgroups**
- **Electronic message boards, etc.**

1: Customer Emails

- What type of concerns your customers have
- How these concerns relate to different products and services
- How do they relate to specific departments
- Identify ways to mitigate and handle those concerns more efficiently

Analyze incoming customer emails and get knowledge about the concerns of your customers

2: “Comments” Fields

- Get full benefit from survey by using a streamlined solution for extracting knowledge from comments
- Improve understanding of behavior and relationships by combining quantitative and qualitative information
- Extract quantifiable data from user “comments” and improve decision models

Companies ask for comments from customers, but lack a powerful tool to process and analyze them

3: Employee surveys

- Uncover trends in key performance factors like attitude, job satisfaction and perception
- Find out what problems employees face in execution of their job
- Link this qualitative information with company performance measures to find trends and patterns

Get closer to your employees to reveal factors that influence key business drivers

Case Study

- The United Mutual Research Center analyzes a huge amount of natural language call center claim records.
- Objective was to identify and correlate occupational trauma hazards with accidents and injuries
- All call center data processing was done manually and was an extremely labor-intensive process.
- An integrated solution using text mining with PolyAnalyst 4.5 was developed to automate the analysis process.

>> Results on next slide

United Mutual researchers can automatically determine the main occupational trauma hazards for different groups of insured

Case study - Results

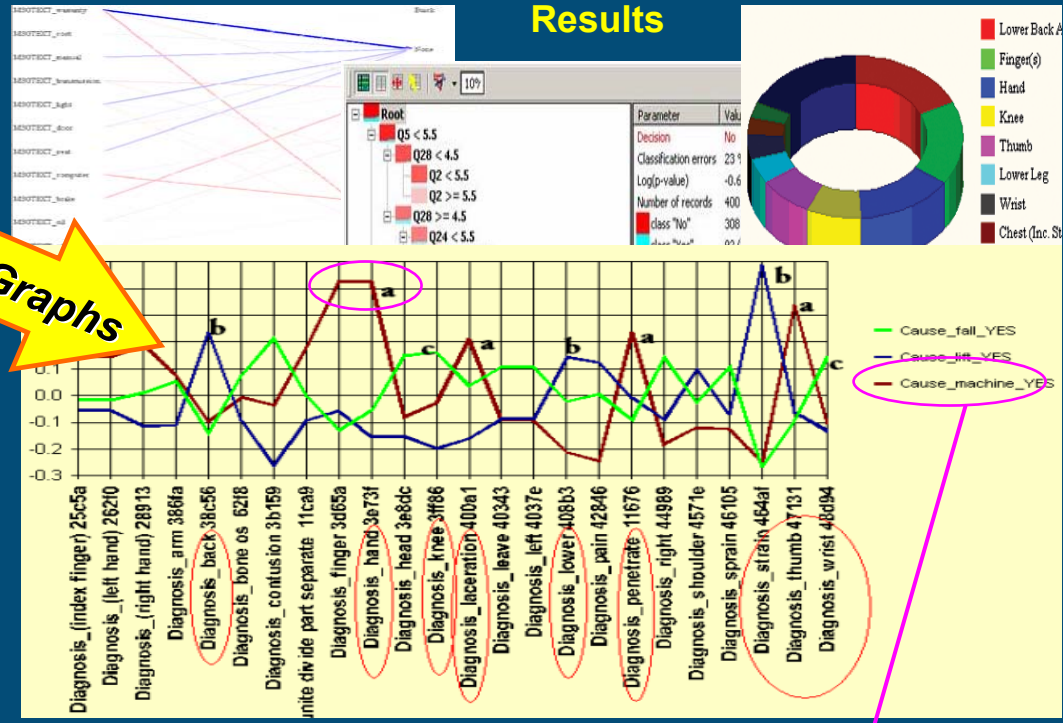
Unstructured call center data converted into important knowledge

Unstructured data

Cause
 EE WAS LIFTING A SNOW THROWER IN WAREHOUSE WHEN HE FELT A STRAIN IN HIS L
 POUNDING IN WHEEL STUDS AND HIT HIS FOREARM WITH HAMMER
 EE WAS CUTTING ONIONS ON THE SLICER AND HE CUT OFF THE TIP OF HIS RIGHT THUM
 EMPLOYEE WAS TRYING TO CHECK A MACHINE NOT WORKING PROPERLY WHEN HIS HA
 HE WAS IN FLIGHT WHEN THE PLANE HIT TURBULENCE, CAUSING THE BEVERAGE CART
 PULLING EMPTY CASES OF BEER UP RAMP OF PLANE. HE FELT PAIN AND TIGHTENING FEET
 EE STOPPED MACHINE TO FIX LOAD WHEN HE WAS ON THE PALLET AND LOST H
 EE UNLOADING AN ORDER. HIS FOOT BECAME PAINFUL FROM MACHINE. LOST
 EE WAS IN SHOE STOCK ROOM REACHING FOR A SHOE FROM MACHINE. LOST
 PUSHING WIRE UP THROUGH CABLE TRAY IN THE CEILING. CAUSING THE
 FACE LACERATION BY MACHINERY
 EE ALLEGES USING THE SLICER CUT IS RT HAND INDEX FINGER
 HOT WATER FROM DISH MACHINE SPLASHED HERBERT ON THE BACK
 FILLING MACHINE WHEN SOMEONE OPENED HALL DOOR FAST INTO "MIDDLE"
 EE WAS IN WAREHOUSE WHEN SHE TRIPPED OVER A FOUR WHEEL CART THAT WAS
 WHILE WALKING OUTSIDE A CARGO RAMP THE EE TWISTED HIS RIGHT FOOT ON A PEIC
 WHILE PUSHING BOXES THRU ISLE, BUMPED MACHINE CAUSING HIM TO FALL OVER 15
 WORKING ON AT'S 1200 CHECKING JAM, PRESSED AIR BUTTON, LEANED ON MACHINE, S
 SLIPPED WHILE MOVING PALLET OF FIXTURES W/TWO WHEEL DOLLY.
 EMPLOYEE WAS DRIVING TUG IN BAG ROOM AND HIT A CURB, WHEEL TURNED INJURIN
 EMPLOYEE WAS LIFTING A PIECE OF MACHINERY INTO CUSTOMERS CAR AND PULLED A
 STANDING DUAL WHEELS BACK A SET OF DUALS TO PUT RACES IN UP AFTER PUTTING
 EE ALLEGES HE SHUT LATHE MACHINE OFF, HOWEVER THE MACHINE WAS STILL SPIN
 FELL DOWN WET RAMP WHILE WHEELING CASES OF WINE INTO STORE BASEMENT.
 EMPLOYEE WAS WORKING ON A RAMP WHEN A TOW BAR STRUCK THE EE IN THE KNEE
 OPERATING FORK TRUCK CONSTANTLY REACHING RT ARM TO OPERATE CONTROL LEV
 EMPLOYEE ALLEGES THAT WHILE CLIMBING INTO MACHINE HE INJURED HIS BACK.
 EE STRUCK THUMB WITH HAMMER.
 CAUGHT THUMB ON ARM OF MACHINE AS IT CAME DOWN TO GRAB YARN
 WAS TIGHTENING DOWN A CHAIN WITH BINDER, BINDER BROKE IN 1/2 CAUSE HIT ARM
 WAYNE WAS PLOWING WALKWAY OF SNOW WHEN HE SLIPPED ON HIS SIDE AND GOT
 HAD SLEDGE HAMMER OVER SHOULDER, TRIPPED OVER PALLET, FELL CAUSING HAMM
 OPERATOR ERROR. EE USED WRONG SIZE FLANGES ON SIDE GRINDER AND FLANGES
 EE CUT HER HAND ON A SHARP PIECE OF METAL ON MACHINERY
 HAND WAS CAUGHT BETWEEN MACHINE PART. ROLLSTOCK AS IT TIGHTENED AGAIN
 WAS CALLED TO PUT ON THE VACUUM AS HE WALKED ON THE RAMP HE LOST HIS FOO
 PULLING PARTS FROM DEWEBBING MACHINE, FINGER WAS PINCHED.
 EE STATED HE WAS BEHIND LOOM 557 WHEN HE WAS TRYING TO PUSH A BUGGY AND
 WHILE WORKING ON A LOOM EE FELT PAIN IN HIS LOWER BACK.

From Text to Graphs

Comprehensive Results



What knowledge was discovered from above text?

Hands / finger injuries were more prevalent in incidents involving machines

- ✓ Emphasize on use of Protection equipment
- ✓ Set appropriate insurance premium for this type of customers

3 Get started

How to Get Started

- Megaputer Intelligence offers solutions that are especially tuned to Enterprise Dialog Analysis
 - ✓ Solutions powered by PolyAnalyst
 - ✓ Interfaces with most popular databases
 - ✓ Pilot projects can be arranged to demonstrate the technology
- Request How-To tutorials and real-life case examples
- An experienced research team can help with customized solutions for your specific needs



Megaputer Intelligence offers a structured methodology to get you started with Enterprise Dialog Analysis

Summary

- A majority of your data is in unstructured form
Emails, documents, reports, surveys
- Traditional data mining solutions have only dealt with structured data
- Freeform dialog text can be a novel source of knowledge
- Our powerful solution for Enterprise Dialog Analysis will enable you convert unmanageable corporate data into true sources of value

*Low Cost Solution - Fast Implementation
Very High ROI !*

Who do I contact?

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