



MACHINE LEARNING

WHEN PRIMARY RESEARCH BECOMES SECONDARY

NOVEMBER 2019



COMPETITIVE EDGE:
Disruption 2019
by Design 

SOME HISTORICAL BACKGROUND

THE COMPUTER AS A GENIUS!

THE COMPUTER AS A CALCULATOR

- Numbers
- Mathematical Logic
- Text?

3.14159 \$46.28 -1,007.8

IF _____ THEN _____ ELSE _____

ARTIFICIAL INTELLIGENCE /
MACHINE LEARNING

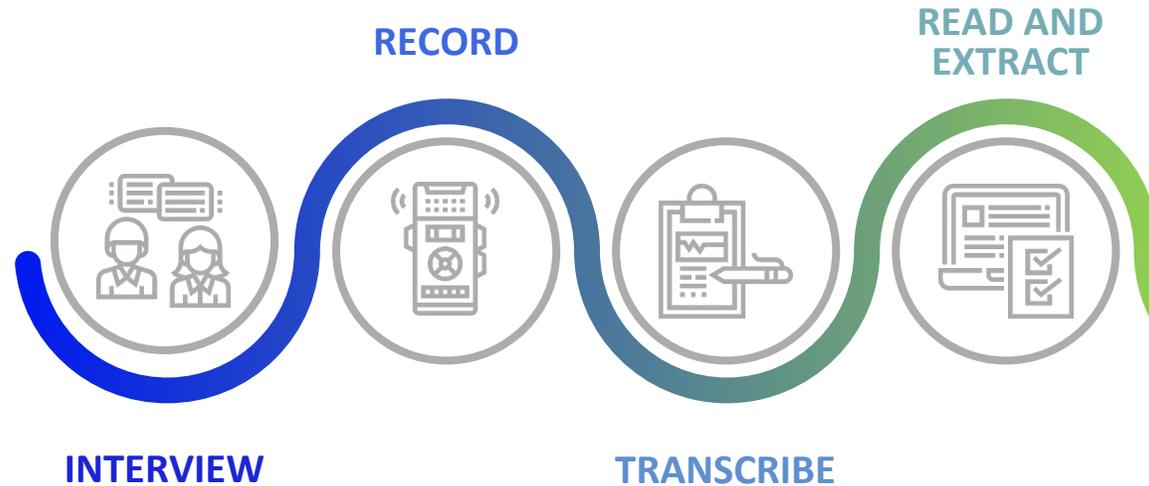
THE ARTICLE THAT CREATED THE FIELD

THE VOICE OF THE CUSTOMER

Abbie Griffin and John R. Hauser
(Marketing Science: Winter 1993)

THE VOC PROCESS

PHASE 1 WANTS AND NEEDS IDENTIFICATION



**CAN WE USE ARTIFICIAL INTELLIGENCE / MACHINE LEARNING TO
AUTOMATE THIS TASK?**

YES!

NOT JUST FOR INTERVIEW TRANSCRIPTS,
BUT FOR ANY KIND OF TEXTUAL MATERIAL.

NOT JUST NEEDS, INSIGHTS.

IT'S HARDER THAN EVER TO FIND TRULY NEW INSIGHTS



**Research budgets
are smaller**



**Need to dig deep to
find new insights**



**Traditional research
can be expensive and
time consuming**



THE GOOD NEWS

Can identify game-changing insights
without collecting primary research data



YOU MAY BE SITTING ON A GOLD MINE OF CUSTOMER INSIGHT



3 BILLION +
ACTIVE SOCIAL MEDIA
USERS



2 HOURS +
SPENT ON SOCIAL
MEDIA PER DAY (ON
AVERAGE)



100,000+
ONLINE FORUMS



60 MILLION +
HAVE POSTED REVIEWS
ONLINE ABOUT
PRODUCTS AND
SERVICES



265 BILLION
CUSTOMER SERVICE
CALLS EVERY YEAR



11
CUSTOMER SERVICE
INTERACTIONS PER
YEAR



CHALLENGE

HOW DO WE MAKE
SENSE OF IT ALL?



AI PRODUCED FASTER, BETTER INSIGHTS

MACHINE LEARNING MADE IT POSSIBLE TO MORE QUICKLY FIND INSIGHTS THAT MATTER



FASTER

Processing power



BETTER

Overcomes human bias



CHEAPER

UGC is virtually free



COMPLETE

Comments from thousands



EASIER

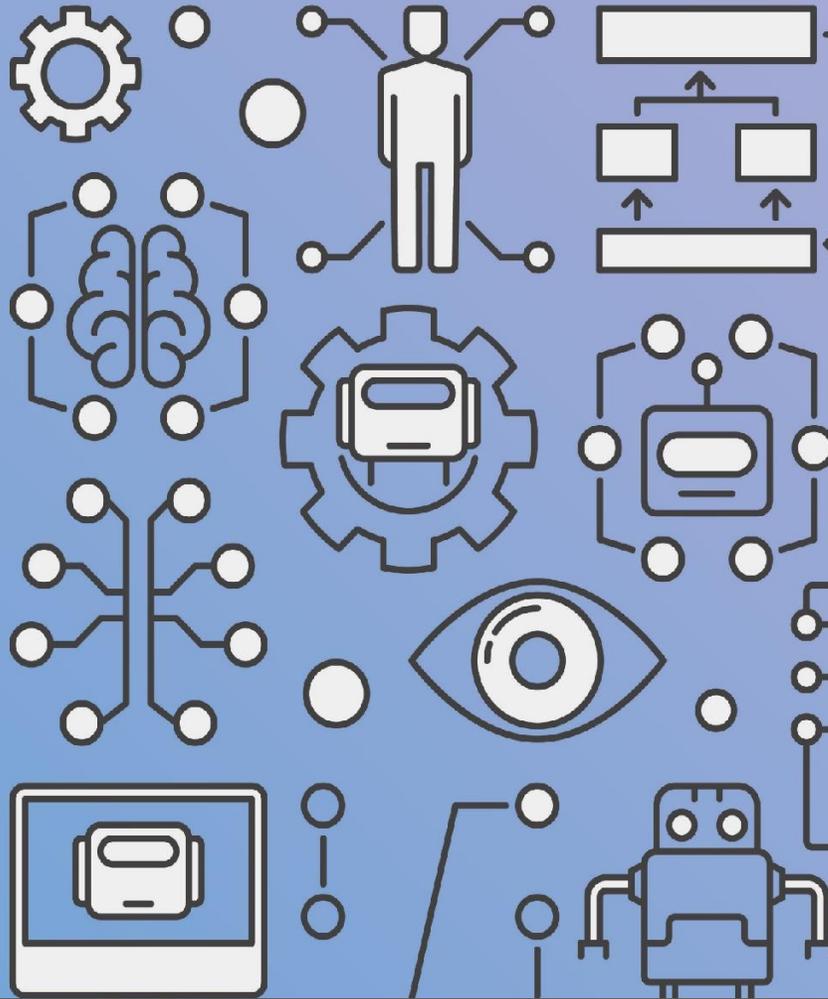
Machine does the heavy lifting



RELEVANT

Insights at the moment of truth





RESEARCHERS AT MIT PARTNERED WITH AMS TO BUILD ON THE LATEST DEVELOPMENTS IN MARKETING SCIENCE

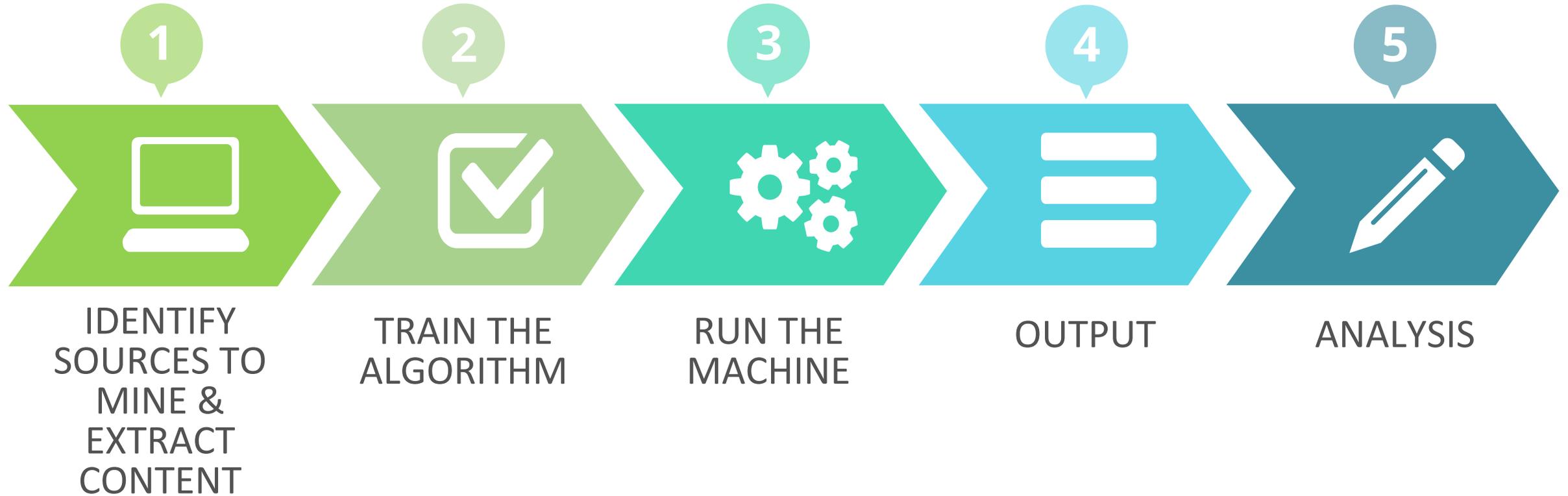
1. Insights identified were **comparable in both number and quality** to traditional methods
2. Compared to analyzing a random sample of UGC, **machine learning yielded better insights**
3. Were able to **identify important, infrequently mentioned** insights that were less likely to surface with traditional methods

SOPHISTICATED ALGORITHM TO
REDUCE A MASSIVE DATABASE
THROUGH THE USE OF A
CONVOLUTIONAL NEURAL NETWORK

“IDENTIFYING CUSTOMER NEEDS FROM USER-GENERATED CONTENT”

*SSRN 2917 Artem Timoshenko & John Hauser, *Journal of Marketing Science*, January 2019

MACHINE LEARNING ROADMAP



WHAT IS NEEDED TO MAKE MACHINE LEARNING WORK

2K

HIGH QUANTITY

2,000+ sentences

SUBSTANTIVE SUBMISSIONS

At least 7 words per entry



TEXT-BASED DATA

Not in pictures, charts, or other graphics

RICH, INFORMATIVE CONTENT

Attributes, needs, problems, opinions and solutions



APPLICABLE ACROSS ALL TYPES OF TEXTUAL DATA SOURCES

USER GENERATED CONTENT

- PRODUCT REVIEWS
- ONLINE DISCUSSION FORUMS
- ONLINE COMMUNITIES
- BLOGS

PROPRIETARY DATA

- CALL CENTER TRANSCRIPTS OR NOTES
- ONLINE CHAT DATA
- OPEN-ENDED SURVEY DATA



SENTIMENT ANALYSIS AND FREQUENCY OF MENTION ADDS POWER

SENTIMENT ANALYSIS

- Map and compare performance across brands, product skus or customer segments

FREQUENCY OF MENTION

- Top of mind, moment of truth insights
- Often used as a proxy for importance



HAVE NOW CONDUCTED DOZENS OF SUCCESSFUL APPLICATIONS

- UNCOVERING THE UNIVERSE OF NEEDS FOR INNOVATION
- IDENTIFYING ADJACENCIES
- DISCOVERING INSIGHTS ABOUT COMPETITORS
- TRACKING MARKET TRENDS
- NPS PROGRAM ENHANCEMENT
- DEVELOPING EFFECTIVE CLAIMS
- AS A COMPLEMENT TO TRADITIONAL RESEARCH



CASE STUDY: MACHINE LEARNING FOR B2B

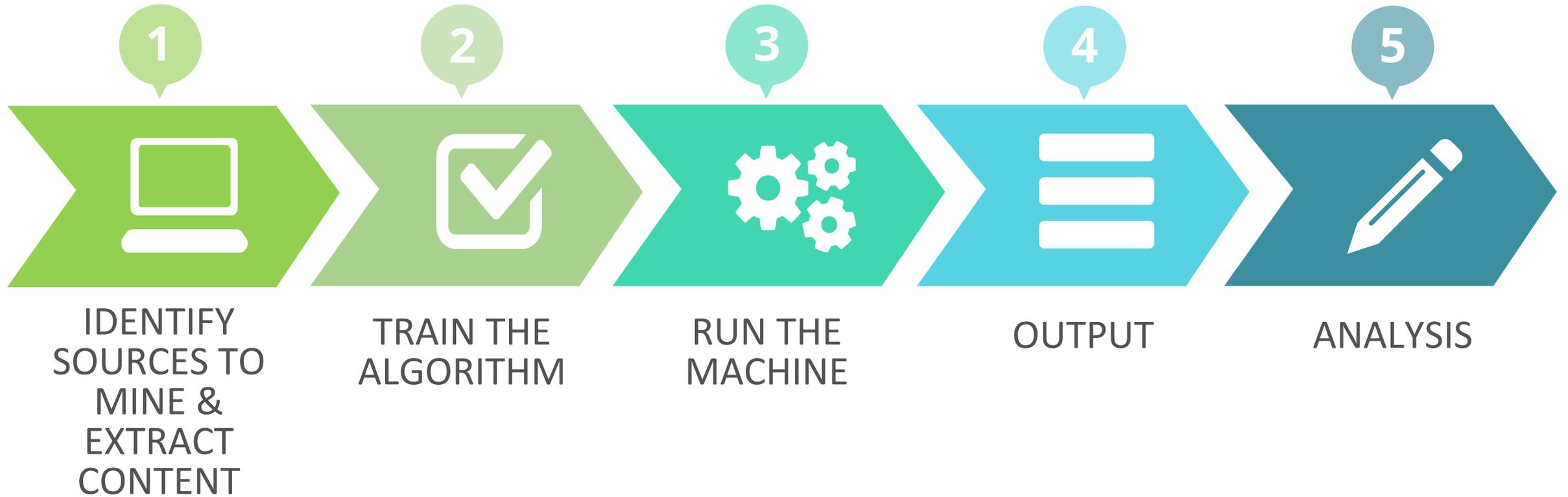


OBJECTIVE:

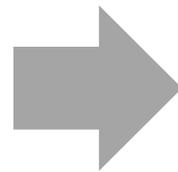
Identify customer needs and insights related to snowplows/spreaders to inform product development and marketing



THE PROCESS



21,000
SENTENCES



117
UNIQUE INSIGHTS



THE PROCESS WORKED EXTREMELY WELL

1

Obtained a detailed and comprehensive database of 107 unique needs

2

Covered numerous facets of the snow removal equipment industry

3

A repeatable process that can be efficiently scaled to dive into additional research questions/areas of interest



THREE OF THE 107 INSIGHTS IDENTIFIED

TOPIC

LIGHTS

INFORMATIVE CONTENT

“The reason I don’t angle it is because I hate having the one side sticking out so far and it will block the headlight at some angles.”

INSIGHT

ABLE TO MAINTAIN FULL VISIBILITY AT ALL TIMES, EVEN WHILE MY PLOW IS ANGLED (I.E., IT WILL NOT BLOCK THE HEADLIGHTS)

TOPIC

SIDEWALKS

INFORMATIVE CONTENT

“The S70 is not the easiest to turn from one 48-inch walk to another 48-inch walk that is perpendicular.”

INSIGHT

A SIDEWALK PLOW THAT IS EASY TO TURN (I.E., FROM ONE PERPENDICULAR SIDEWALK TO ANOTHER)

TOPIC

SPREADER

INFORMATIVE CONTENT

“The top box keeps my tools safe and dry - do they still have plastic wheels? Good spreader but wheels keep cracking.”

INSIGHT

ASSURED THE WHEELS ON MY SPREADER ARE DURABLE (I.E., WILL NOT CRACK)



PRODUCED GAME CHANGING INSIGHTS THAT WERE NEW TO INDUSTRY EXPERTS



Able to maintain full visibility at all times, even while my plow is angled (i.e., it will not block the headlights)



A sidewalk plow that is easy to turn (i.e., from one perpendicular sidewalk to another)



Assured I have de-icing material for all different types of road (i.e., gravel, paving, etc.)



Sand that will not strip away paint when applied (e.g., parking lines, etc.)

Algorithm identifies insights that are infrequently mentioned, but highly important



KEY TAKEAWAYS FROM THE MACHINE LEARNING PROCESS



MIX OF KNOWN /NEW RESULTS

- We got a mix of known and new result for product characteristics
- Known results increased confidence in validity of the process
- Unknown results increased confidence in the value of the process



COST & TIME EFFECTIVE

- Very cost and time effective
- Rapid results
- Cost reasonable relative to other research processes



RESULTS WERE OBJECTIVE

- Results were objective
- Found that the machine was as advertised – results not agenda driven



VERIFIED THAT AI CAN BE USED TO GATHER BETTER, MORE COMPREHENSIVE INSIGHTS, FASTER AND CHEAPER



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COMPETITIVE EDGE: **2019**
Disruption
by **Design** 

MACHINE LEARNING FOR INNOVATION

If you want to learn more, download our machine
learning guide:

info.ams-insights.com/machine-learning-guide

CONTACT US TO CONDUCT A
COMPLIMENTARY DATA ASSESSMENT
EXCLUSIVELY FOR PDMA CONFERENCE
ATTENDEES