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The Impact of AI Text Analytics:
Listening to the Voice of the Customer

Business Benefits
Enabled by Luminoso Technologies

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Luminoso Technologies is a leading artificial intelligence (AI) and natural language understanding (NLU) company that enables companies to rapidly discover value in their unstructured data. Luminoso's award-winning software accurately analyzes text-based data for any industry without lengthy setup time or training natively in 13 languages, including Chinese, Korean, Japanese, and Arabic. The company is privately held and headquartered in Cambridge, MA.

www.luminoso.com
Bring to Light What Your Customers are Saying

Put simply, customers today want their valuable thoughts on products and services to be heard, not screamed into the infinite abyss.

Customers want immediate attention. They want brands to interact with them in their own language across the many unstructured channels they already use. The same channels they use to rate and review products, make videos, type emails, fill out surveys, post on social media, report defects, and call customer support. But somehow, many companies are still trying to ingest this flood of data manually.

The problem is that traditional methods of understanding customers just aren't cutting it anymore. Between the sheer spike in volume and the expense required for companies to process and respond to customer feedback every day, businesses are in need of a modern solution.

In fact, the effect has been so drastic, that poor customer satisfaction cost businesses $1.6 trillion last year alone. [1]

Modern Solutions

Listening to the voice of your customer doesn't have to feel like sifting for gold in a flowing riverbed.

The best AI text analytics technology uses common sense natural language understanding to adapt automatically to domain-specific datasets. That way, as the lingo in your data evolves, the AI evolves with it. This is achieved without the need for human intervention as well, leaving you with meaningful insights in minutes, not months.

These solutions also make researching the Voice of the Customer affordable and efficient, empowering global companies to discover and curb actions that result in customer dissatisfaction. They can then develop more relevant products, enable more accurate contact center routing, and increase net margin by improving customer satisfaction and product deployment speed. There's also an element of cost reduction in being able to automate research and fix defects even faster.

This paper quantifies the benefits of an AI text analytics platform that enables enterprises to listen to and understand the voice of their customers. It assumes a composite company comprised of an average of the Fortune 500, working with at least 100,000 data points.

It examined five main benefits:

- Savings from Automating Customer Research
- Reduce Product Time to Market
- Increased Net Profit from Increased NPS
- Fix Bugs Faster
- Apologize Less

Automating Customer Research with AI

For decades, marketing departments and external consultants have been paid to conduct market research. They hold focus groups, speak with customers, read through surveys, research existing sources of data, and aggregate their insights to help guide large enterprises to make the right changes to products, services, or infrastructure.

The core issue is that these projects, when conducted internally, can last up to three months, and when they're completed by outside consultants, can last up to six months. Not only are these projects slow and expensive, they lack dynamic insights to rapidly diagnose issues as they arise and compel action to repair them. Typically, by the time these studies are complete, the customer has already changed enough to skew the results.

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What Luminoso found is that companies that use AI analytics software in place of internal market researchers save and reallocate valuable man hours away from analyzing and toward action planning. Assuming an individual can speed through 30 data points an hour, AI text analytics technology saves businesses over 3,000 hours annually, or nearly $90,000, needed to do the same research manually.

If the composite company were to hire external consultants to conduct the same research, the cost savings, around $330,000, would be even higher. The saved marketing team's valuable time can then be reallocated to more value-driving tasks instead.

Table 1 – Savings from Automating Customer Research

Ref	Metric	Calculation	Year 1	Year 2	Year 3
A1	Number of Data Points	Assumption	100000	100000	100000
A2	Data Points Processed Each Hour	Assumption	30	30	30
A3	Annual Researcher Salary	Assumption	$49,620	$50,918	$51,937
A4	Annual Hours Worked	40 hr * 48 Wks	1920	1920	1920
A5	Hours Needed to Process Data	A1 / A2	3333	3333	3333
At	**Savings from Automating Customer Research**	(A3 / A4) * A5	**$86,667**	**$88,400**	**$90,168**

Using AI text analytics technology to automate an enormous quantity of unstructured data has other benefits as well.

By completing research in minutes, not months, companies stand to release their innovative productsto customers sooner. Businesses with earlier releases benefit from beating their competitors to market, retaining customer mindshare, and aligning products more closely to current customer preferences. The result is additional net profit from the product being on the shelves or in the app store sooner.

A Fortune 500 composite company that automates its research with AI text analytics accelerates the research, and hence launch, of its product by nearly five months. Assuming the company were to sell 1,000,000 products annually at $200 each, at a 25% net margin, the annual time value of the AI insights would be over $19 million. Even if only 100,000 copies of the product sold at $100, the company would still earn a net profit of nearly $1 million due to the accelerated launch.

Table 2 – Reduce Product Time to Market

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
B1	Research Hours Saved	A5	3,333	3,333	3,333
B2	Personnel Used for Research	Assumption	3	3	3
B3	Hours Saved	B1 / B2	1,111	1,111	1,111
B4	Research Days Saved	B3 / 8	139	139	139
B5	Anticipated Annual Volume of Product	Assumption	1,000,000	1,000,000	1,000,000
B6	Product Price	Assumption	200	200	200
B7	Net Margin	Assumption	25%	25%	25%
B8	Net Margin / Product	B6 * B7	50	50	50
Bt	Additional Profit from Reduced Time to Market	B8 * B5 * (B4/365)	$19,025,875	$19,025,875	$19,025,875

Another layer of the value that AI text analytics provides is in understanding the Voice of the Customer to equip the business with the information necessary to catch and patch problems before they hatch. As detractors turn into promoters, Net Promoter Score (NPS) increases. More promoters lead to more referrals, and a greater word-of-mouth reduces the cost of customer acquisition.

As these detractors become promoters, they buy more products more frequently and churn less often. In other words, increasing NPS expands the company's net profits. A business stands to gain over $15 million in increased net profit from a three-year program that improves NPS from 0.25 points in Year One to 0.75 points in Year Three.

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Table 3 – Increased Net Profit from Increased NPS

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
C1	Annual Revenue	F 500 Avg	$55,400,000,000	$56,508,000,000	$57,638,160,000
C2	Net Margin	Assumption	25%	25%	25%
C3	Net Profit	C1 * C2	$13,850,000,000	$14,127,000,000	$14,409,540,000
C4	1 NPS Increase in Incremental Increase in Revenue as %	Assumption	0.143%	0.143%	0.143%
C5	Increased NPS	Assumption	0.25	0.5	0.75
C6	Incremental Increase in Revenue	C4 * C5 * C1	$19,785,714	$40,362,857	$61,755,171
Ct	Incremental Increase in Margin	C2 * C6	$4,946,429	$10,090,714	$15,438,793

When customers report problems with existing products, the issue is often that both humans and algorithms have difficulty identifying the unique points of feedback. This is exacerbated by the domain-specific language used in the data. But for solutions that can process unstructured data rapidly using common sense, engineers can suddenly identify, triage, and fix defects far sooner than unaugmented human eyes could.

While this leads to several qualitative benefits – increased customer satisfaction from fewer defects, increased time spent on products due to a pain-free experience, and greater retention due to higher product quality – the immediate quantifiable benefit is saving valuable time for software engineers. Assuming that 20 hours are saved per defect and the company repairs 150 defects annually, the company stands to save over $160,000 annually in software engineering salaries. And, more importantly, it can reallocate those valuable 3,000 saved hours toward other, more revenue-generating tasks.

Table 4 – Fix Defects Faster

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
D1	Hours Saved Pinpointing, Triaging, and Fixing a Defect	F 500 Avg	20	20	20
D2	Annual Defects	Assumption	150	150	150
D3	Hours Saved Annually	D1 * D2	3000	3000	3000
D4	Annual Salary of Software Engineer (fully loaded):	Assumption	$104,300	$106,386	$108,514
D5	Annual Salary Increase	Assumption		2%	2%
D6	Annual Hours Worked	40 Hrs * 48 Wks	1920	1920	1920
D7	Software Engineer Hourly Salary	D4 / D6	54	55	57
Dt	Total Savings from Fixing Defects Faster:	D3 * D7	$162,969	$166,228	$169,553

Often customers, especially in relation to apps, write to companies to report problems with existing products. Identifying these unique points of feedback is difficult for humans; understanding the specific language is difficult for many algorithms. Yet technology that can process unstructured data rapidly using common sense AI enable software engineers to identify, triage, and fix defects far sooner than unaugmented human eyes could.

By accelerating defect fix timelines, a company shrinks the gap between when customers file complaints and when they see a resolution. As a result, these customers generate fewer tickets, saving time for customer service agents in contact centers. For an average Fortune 500 employing customer service agents who cost roughly $1/minute for call times and wrap up, the savings are approximately $72,000 a year from a reduction in need of 4,500 customer service man hours.

Table 5 – Reduction in Contact Center Volume

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
E1	Duration of Defect (Hours)	F 500 Avg	120	120	120
E2	Number of Defects Annually	Assumption	150	150	150
E3	Annual Hours of Defect Life	E1*E2	18,000	18,000	18,000
E4	Hourly Tickets Generated by Defect	Assumption	15	15	15
E5	Number of Tickets Annually Generated from Defect	E3*E4	270,000	270,000	270,000
E6	Hours Saved Pinpointing and Fixing a Defect	Assumption	20	20	20
E7	Annual Defect Life Hours Reduced	E3*E6	3,000	3,000	3,000
E8	Annual Tickets Reduced	E4*E7	45,000	45,000	45,000
E9	Average Agent Minutes/Ticket	Assumption	5	5	5
E10	Agent Minutes Saved	E8*E9	222,500	222,500	222,500
E11	Average Agent Cost / Minute	Assumption	$1	$1	$1
Et	**Annual Cost Savings**	E10*E11	**$225,000**	**$225,000**	**$225,000**

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Table 6 – Aggregate Benefits from AI Text Analytics to VoC

Benefits	Year 1	Year 2	Year 3	Total	Present Value
Savings from Automating Customer Research	$86,667	$88,400	$90,168	$265,235	$219,590
Reduce Product Time to Market	$19,025,875	$19,025,875	$19,025,875	$57,077,626	$47,314,536
Increased Net Profit from Increased NPS	$4,946,429	$10,090,714	$15,438,793	$30,475,936	$24,435,580
Fix Defects Faster	$162,969	$166,228	$169,553	$498,750	$412,920
Reduction in Contact Center volume	$225,000	$225,000	$225,000	$675,000	$559,542
Total	**$24,446,940**	**$29,596,217**	**$34,949,389**	**$88,992,547**	**$72,942,168**

The combined benefits of AI text analytics technology for businesses interested in truly listening to the voice of their customers is quite staggering. In spite of the somewhat modest assumptions seen in the tables throughout this report, the cost savings over the course of 3 years make AI text analytics technology well worth the investment.

About Luminoso:

The customer experience is today's battleground for organizations competing to win and retain loyal consumers. Product, sales, and marketing teams know that to improve the customer experience, they must scrutinize customer feedback. But customer experience professionals and data scientists, overwhelmed by customer communications, can only skim or sample this data when looking for insights.

Luminoso's customer analytics solution is the fastest way to listen to your customers so you can improve the customer experience. Within minutes, it digests tens of thousands of customer text communications, like support tickets, open-ended survey responses, or reviews, so you can learn from the constantly arriving feedback that might otherwise go unread.

Luminoso's customer analytics solution understands and quantifies customer feedback at scale, so you can improve the customer experience. Unlike other analytics technologies, which require months of expensive tuning and massive data collection efforts, it works in minutes.

To learn more, schedule a demo or contact us today!