

AUGUST 19, 2021



Natural Language Processing In Finance

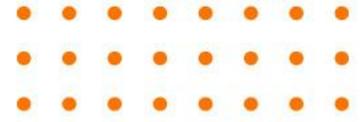


Bill Sarda

Director, Solution Engineering

HighRadius



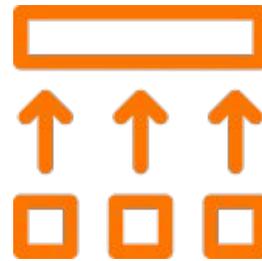


What Is Natural Language Processing (NLP)?

Branch of artificial intelligence that is concerned with the interactions between an intelligent system and human languages.



Intent
Identification



Entity
Identification

What is the **number** of **open invoices** for **Revive Pharmaceuticals**?





Meet Freeda: NLP Powered Digital Assistant From HighRadius

Backed by Rivana- Our AI Engine

The Brain



Artificial Intelligence for high-impact decision making across HighRadius cloud solutions

- Leverages the power of Machine Learning to
 - Take accurate decisions
 - Discover Insights
 - Improve Productivity
 - Forecast accurately

The Digital Assistant



Sits at the core of HighRadius Integrated Receivables platform and HighRadius Treasury Management Applications

- Leverages Natural Language Processing algorithms to
 - Understand the language
 - Process the language
 - Realize the intent
 - Provide personalized response and information





NLP Enables Freedom From Clunky A/R Software

20%

of an A/R manager's time is lost in finding the reports to monitor team performance

33%

A/R staff productivity is lost while simply looking for customer related data and invoice information

AI-powered Freeda leveraging NLP can:

- 01 Extract quick customer information
- 02 Analyze data real-time
- 03 Predict future customer behavior





How is NLP Creating Value For Finance Today?



Improved User Experience



Customer Interaction Transcription



Intelligent Suggestions



Intent Analysis





How is NLP Creating Value For Finance Today?



Improved User Experience



Customer Interaction Transcription



Intelligent Suggestions



Intent Analysis

A Collector's Daily Workboard With Freeda

Autonomous Receivables

Freeda 



← My Daily Workboard

Live Call Worklist



27

Total Calls to make



1 hr 55min.

Estimated Call Duration



1.5 Million

Total Amount Past Due (\$)

Standardized Correspondence

4

Past Due Reminders

3

Dunning Notices

2

Blocked Order Notices



You could call accounts I have identified as critical, send some a few automated email correspondence, review new credit applications, or the latest credit risk updates.

Let's get started with the calls first. 

New Credit Application Review



 Auto Reviewed  Pending

Credit Risk Alerts

1

Rating Downgrades

3

Public Financial Updates

5

Blocked Notices



A Collector's Call Workboard With Freeda

Autonomous Receivables

Freeda 

← Call Workboard

TO CALL LIST(27)

FINISHED CALL LIST (0)

0 / 27
Total Customers Called

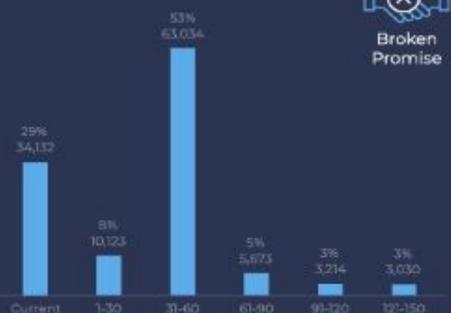
0hr 0min. / ~2hrs
Total Time Spent on Call

0 / \$1.5M
Total Past Due Touched

Permalink

1

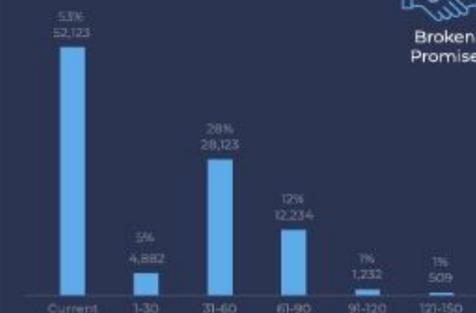
Broken Promise



Burmam Inc

0

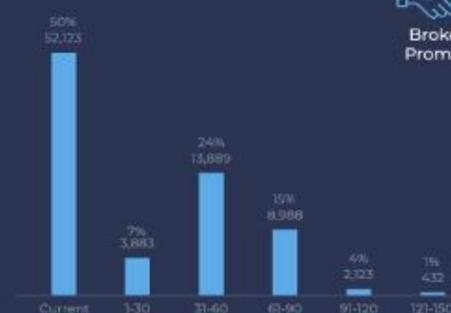
Broken Promise



Stella Transp

0

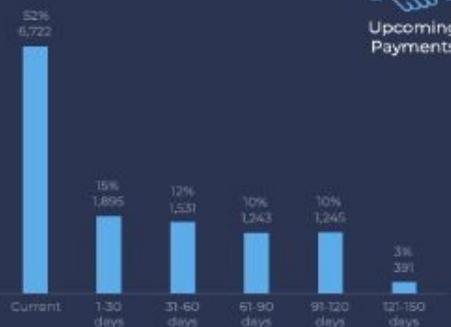
Broken Promise



Paulson Rubber

2

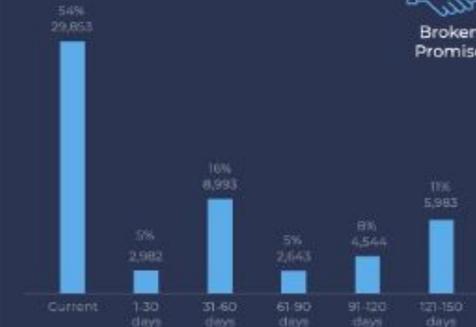
Upcoming Payments



Beatrick IDO

0

Broken Promise



+22
more accounts



For instance, Permalink has 1 broken payment commitment for \$68,000 and has more than 50% of their A/R balance past-due by more than 30 days. Would you like to start with them?

Absolutely!





How is NLP Creating Value For Finance Today?



Improved User
Experience



**Customer Interaction
Transcription**



Intelligent
Suggestions



Intent
Analysis

Live Call Transcription

Autonomous Receivables

Freeda 

← Permalink

 Connected to
Jeremy Jones (123-456-7890)  

1 (\$68k) Broken P2P 38 (\$119k) All Invoices 3 (\$6k) >90 Days Past Due 3 (\$6k) 61-90 Days Past Due 4 31-60 Days Past Due

- Select All
- 31-60 Days Past Due (\$63k - 4 Invoices)

Invoice Number	Amount	Broken P2P	Upcoming P2P	Predicted Delinquent	Open Dispute	
<input type="radio"/> 2349123	\$14,192	x	x	x	x	
<input type="radio"/> 1249012	\$12,231	x	x	x	x	
<input type="radio"/> 1241231	\$14,380	x	x	x	x	
<input type="radio"/> 1983341	\$22,231	x	x	x	x	

- 61-90 Days Past Due (\$11k - 4 Invoices)

<input type="radio"/> 1123341	\$5,673	x	x	x	x	
<input type="radio"/> 9991231	\$3,214	x	x	x	x	

LIVE CALL TRANSCRIPT



Hi Samantha. Really sorry about that. My manager has been out sick the last few weeks and he missed approving your payment. You will have to **wait till the first week of March** for him to get back.

over 30 days past due. And I might have to escalate. Your credit utilization is already at 85% and new incoming orders are likely to get blocked.





How is NLP Creating Value For Finance Today?

01

Improved User Experience

02

Customer Interaction Transcription

03

Intelligent Suggestions

04

Intent Analysis

Creation of suggested actions from the captured notes

Autonomous Receivables

Freeda 

 Jeremy Jones
Call duration: 1min, 17sec

SUGGESTED ACTIONS

Create **P2P** of \$28,572  with committed date of Feb 26, 2019 



Create **Reminder** to call Jeremy Jones  on Feb 26, 2019 



+CREATE NEW ACTION

Call Notes Saved

Correspondence History Updated with Summary

as a great first call to
the day with. I have
captured the key
items from the call. I
ate a payment
tment and set a
ler for you to follow-up
Jeremy. Are you good
ese?

Please save these.



Notifications enabled for additional tasks done by the system

Autonomous Receivables

Freeda 

Jeremy Jones
Call duration: 1min, 17sec

SUGGESTED ACTIONS

Create P2P of \$28,572  with committed date of Feb 26, 2019 		
Create Reminder to call Jeremy Jones  on Feb 26, 2019 		

 That was a great first call to start the day with. I have already captured the key action items from the call. I will create a payment commitment and set a reminder for you to follow-up with Jeremy. Are you good with these?

OTHER NOTIFICATIONS

Call Notes Saved

Correspondence History Updated with Summary



Follow up items and recommendations for analysts to approve

Autonomous Receivables

Freeda

SEND SUMMARY EMAIL

To

Pending Payments for Pentacorp

Hi Jeremy,

Thank you for your time on the call today.
Here is the summary from our conversation:

- I have received a payment commitment for Tuesday, **February 26, 2019** for 2 Invoices (attached) worth **\$28,572**.
- I will **Follow-up** with you on **Wednesday, February 27** in case the payment doesn't come through.

Please reach out to me should you have any questions.
We appreciate your business.

Regards,
Samantha Bartlett
Senior Collector | Customer Finance | Pentacorp
Office : 982-123-1234

Invoice Attachments

Send

rafted a
for you to
by using an
te from the
o attached
y need to refer
if you are
mail and I will

se send
this.



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01

Improved User Experience

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Intent Analysis

Example: Email Inbox In HighRadius Collections Cloud



ABCPRODUCTS

Bill Sarda



- Home
- Cash Application
- Credit
- EIPP
- Deductions
- Collections**
- Analytics
- Document Indexing
- Exports

- Worklist
- Search Customer
- P2P
- Email Inbox**
- Portal Updates
- Invoices
- Disputes
- Bulk Upload
- Payments
- Correspondence

Select filter to search... Advanced Search

Conversation Mode Off Refresh

Subject	From	To	Date & Time	Customer Name	Email Intent (AI) ↓	Email Status
Re: First Past due Reminder	jessica.scott@core-m...	laura.edwards@abc.com	01/06/2020 05:29:...	Core-Mark	Email Invoice Copy	Read
Re: Second Past due Reminder	kenneth.robinson@m...	laura.edwards@abc.com	01/04/2020 14:42:51	MACYS	Create P2P,Email Invoi...	Read
Re: Account statement	kimberly.turner@aldi...	laura.edwards@abc.com	01/26/2020 19:11:03	ALDI INC	Create P2P,Create Foll...	Read
Re: Account statement	joseph.willson@bjwho...	laura.edwards@abc.com	08/12/2021 18:43:31	BJ WHOLES...	Create P2P	Read
Re: First Past due Reminder	donal.harris@rite-aid...	laura.edwards@abc.com	01/17/2020 09:27:44	Rite-aid	Create P2P	Read
Re: Account statement	patricia.young@safe...	laura.edwards@abc.com	01/12/2020 11:52:22	SAFEWAY	Create P2P	Read
(Out of Office) Re: Second Past Due Reminder	andrew.martinez@kro...	laura.edwards@abc.com	01/04/2020 00:25:...	KROGER	Create Follow-Up	Read

Example: Email Inbox In HighRadius Collections Cloud

The screenshot displays the HighRadius Collections Cloud interface. A modal window titled "Email Conversation Details" is open, showing an email from joseph.willson@bjwholesale.com to laura.edwards@abc.com. The email subject is "Re: First Past Due Reminder". The email body contains a payment release notice for \$5,230.00, expected to be posted on 20/08/2021. Below the email body, a "P2P Suggested" banner is visible, indicating a committed amount of 5,230.00 for 08/20/2021. The interface also shows a sidebar with navigation options like Home, Worklist, and Select filter to see, and a top navigation bar with the user name Bill Sarda.

highradius ABCPRODUCTS Bill Sarda

Email Conversation Details

From: joseph.willson@bjwholesale.com
To: laura.edwards@abc.com
Cc:
Date: 2021-08-12 18:43:31
Subject: Re: First Past Due Reminder
Attachments:

Dear Vendor,

We have released payments for **\$5,230.00**. Funds are expected to be posted to your account on 20/08/2021. If you have any questions please let us know

Regards,
BJ WHOLESALE | Accounts Payable

Notice: The information contained in this transmission and any attachments is confidential and is for the use of the intended recipient(s) only. If you have received in error, please notify the sender and delete it. If you are not the intended recipient, you must not use, disclose or distribute this email without the author's prior permission.

P2P Suggested: Committed Amt. :: 5,230.00 | Committed For: 08/20/2021

P2P Task

Reply Reply All Forward



Future Of Finance With Natural Language Processing

Freeda Could Be Your Trusted Colleague

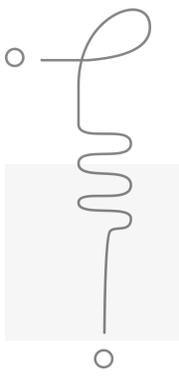
01 I will be able to suggest real-time questions that you can ask your customer on calls

02 I will be able to provide suggestions on how to answer customer questions

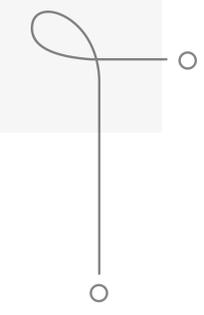
03 I will be able to predict the probable questions that your customer might ask

04 I will be able to identify the intent of the customer using sentiment analysis





Thank you!



NEXT SESSIONS

DXP

O2C

DXP's Collections and Cash Transformation: Implementation Roadmap and Best Practices

10:10 AM CT | *Main Stage*


REDBRIDGE
ANALYTICS

TREASURY

Drowning in Treasury Data? How to Swim Your Way out of the Data Pool

10:10 AM CT | *The Cantina*

RADIANCE ON THE ROAD

HOUSTON

HOUSTON • NYC • CHICAGO
ATLANTA • SAN FRANCISCO • SAN DIEGO