

# Hey ... How Can We Help You?

## AI for a Better Customer Support Experience

December 9<sup>th</sup>, 2019

MSBA 6330 & 6320

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# Just In Case



## Credit Card Fraud

Nearly 1 in 3 consumers globally have been victimized in the past five years (Seidler, 2018)



# What is Your Problem?



Finance



Tech Support



Insurance

and more ...

# What is Your Problem? (cont.)



Wait Times



Difficult to Pinpoint  
Messaging Problems



Little to No Customer  
Emotion Metrics



Available Agent Time

# A Case for AI (Benefits)

Benefits are universal across industry and include:



Customer Engagement During Wait Times



Support Management With Metrics on Customers Emotions



Improve Customer Experience by Adjusting Things Said or Unsaid Which Increased Negative Emotions



Reduce Human Agent Time Spent on Data Collection and Authentication



AI Adapts Its Messaging to Match the Customers Emotional Needs



# A Case for AI from Stakeholders Perspectives

Feeling of their time as  
valuable and quicker  
resolutions to their  
problems



**The Customer**

AI can adapt prepare the  
agent for the problem  
prior to them picking up  
the phone



**The Agent**

AI outputs emotional  
insight metrics to  
evaluate the customer  
support center on its  
customer experience  
performance



**The Manager**

# What Sets Us Apart?

	Automated Authentication	Automated Question Answering	Adaptive Messaging	Emotional Metrics
Us	✓	✓	✓	✓
Them	✓	✓	✗	✗

How Did  
We Do It?

# AI Customer Support Pipeline



# AI On the Call



# AI After the Call



# What is The Cost?



- Average Customer Support Call Duration is 6 minutes.
- A Bulk of the Cost Comes from Two Amazon Services:
  - \$0.11 in Amazon Connect / per call
  - \$0.12 in Amazon Lex / per call
  - \$0.01 in All Other Amazon Service / per call  
(DynamoDB, EC2, Lambda, SQS, and S3)
- Grand Total of **\$0.24** / per call
- With the Average Minnesota Customer Support Wage per Minute ~\$0.23, this system is More Than Affordable Considering the Time Savings.

# Power With Voice



- Customer Support Is an Important Element to the Brand Across Many Industries
- Our Voice is Adaptive, Learning, and Providing New Ways to Interact and Understand Your Customers' Support Experience
- All by Using Existing AWS Frameworks and Our Custom Lambda Codes
- And With Agent Time Savings Costs You No More than Current Operations

# THANKS!

Do you have any questions?

Check Out Our Website at  
<https://ranjanvd.wixsite.com/mysite>

Or Our GitHub Page at  
<https://github.umn.edu/DHULI010/msbafalltrends>

CREDITS: This presentation template was created by **Slidesgo**, including icons by **Flaticon**, and infographics & images by **Freepik**.

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# Bibliography

## Resources:

Fraud Rates in the US: <https://losspreventionmedia.com/credit-card-fraud-statistics-and-insights/>

Industry Call Center Facts: <https://www.callcentrehelper.com/industry-standards-metrics-125584.htm>

Pricing Facts and Sources: They can be seen in the price model appendix word document for further detail

## Images Sourced From:

Credit Card Fraud: <https://www.paymentsjournal.com/credit-card-fraud-stories-cant-make-stuff-up/>

Amazon Logos: <https://aws.amazon.com/architecture/icons/>

Slide Imagery and Template: <https://slidesgo.com/>

# Appendix

CREDITS: This presentation template was created by **Slidesgo**, including icons by **Flaticon**, and infographics & images by **Freepik**.

# Pricing Model

[Industry Call Center Standards \(link\)](#)  
[File Size Calculator \(link\)](#)  
[Average Audio Sampling Rate per Phone Call \(link\)](#)  
[Average Call Center Representative Hourly Pay \(link\)](#)

Trends Marketplace Team 2

Effective December 15<sup>th</sup>, 2019

## AWS Price Estimate

Conditions	Rate
Calls per Pricing Interval	1000
Average Dialogues (per Minute)	5
Average Call Duration	6 minutes <sup>1</sup>
Average Call Storage Size (per Minute)	~0.0005 GB <sup>23</sup>

### Assumptions:

- No data transfers outside of storage region (\$0.00 for S3 transfers in same region).
- Order, customer information, or other pre-existing data used during the call is assumed to have no additional storage cost in the model of call prices because the data has a different business-related purpose non-originating from the call.

Amazon Service	Rate	Quantity	Total
Amazon Connect	\$0.018 per minute	6 mins X 1000 calls	\$108.00
Amazon DynamoDB	\$0.25 per million reads	1000 calls X 2 reads	\$0.0005
Amazon EC2 (a1.2xlarge)	\$0.00215 per minute	6 mins X 1000 calls	\$12.90
Amazon Lambda	\$0.000125 per minute	6 mins X 1000 calls	\$0.75
Amazon Lex	\$0.004 per speech request	1000 calls X 6 mins X 5 dialogue	\$120.00
Amazon Simple Queue Service	\$0.09 per GB	0.0005 GB X 6 mins X 1000 calls	\$0.27
Amazon S3	\$0.023 per GB	0.0005 GB X 6 mins X 1000 calls	\$0.07
			<b>\$241.99 (per 1000 calls)</b>

Feel free to adjust the numbers to your average customer support call duration and your expected number of dialogues (customer or agent uninterrupted statements) per minute. Given the above pricing model it is assumed each call will cost the business roughly \$0.24 per call. This returns a reduced agent time per call, managerial call center insights, and a more intuitive customer experience.

The cost is beyond competitive with the mean hourly call agents rate of ~\$0.23<sup>4</sup> in Minnesota. The automated portion of the call saves your agents from spending precious time querying generic information of the customer and their problem (claim #'s, order details, customer summaries, etc.). This liberates agents to respond to the problem and free skilled agents time to process more calls with less interactions with the computer increasing agent efficiency per minute.

<sup>1</sup> [Industry Call Center Standards \(link\)](#)

<sup>2</sup> [File Size Calculator \(link\)](#)

<sup>3</sup> [Average Audio Sampling Rate per Phone Call \(link\)](#)

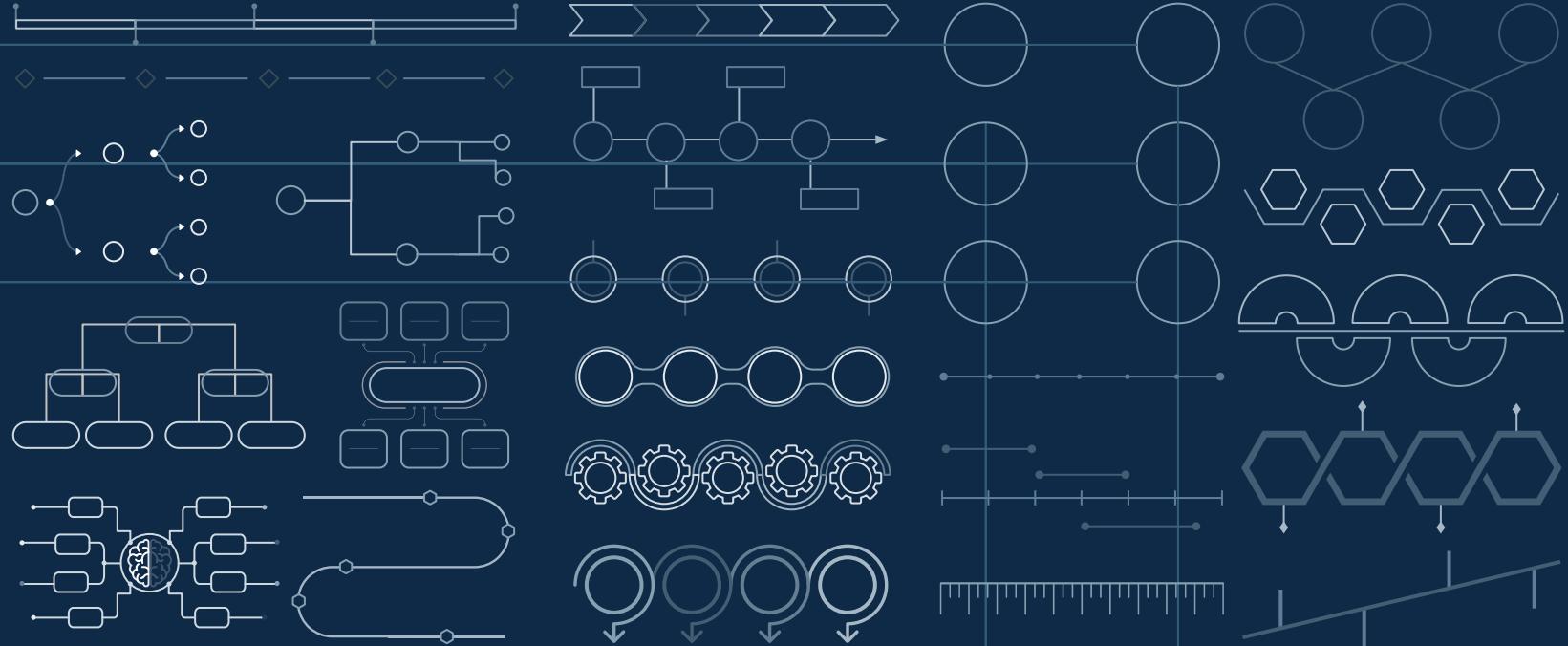
<sup>4</sup> [Average Call Center Representative Hourly Pay \(link\)](#)

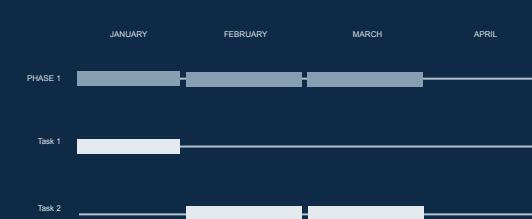
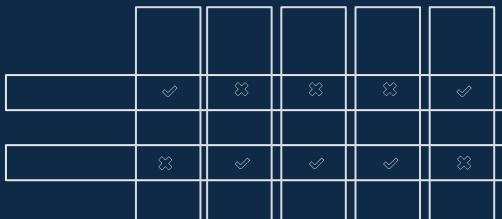
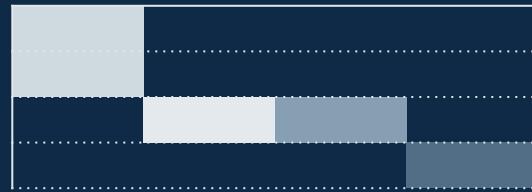
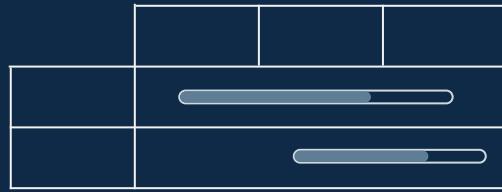
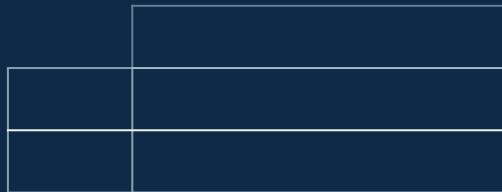
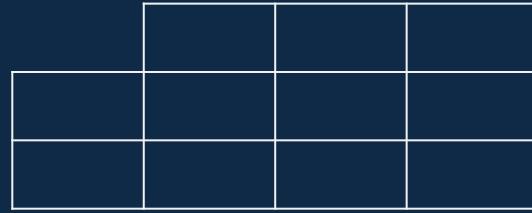
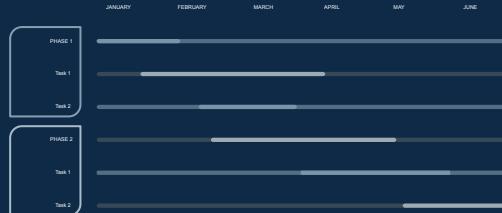
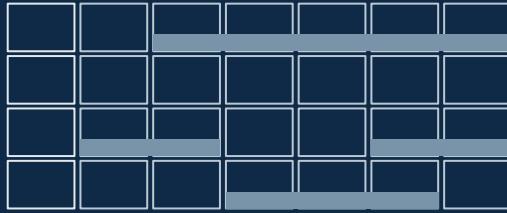
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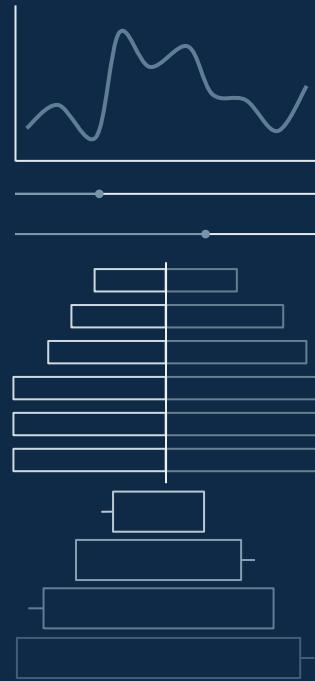
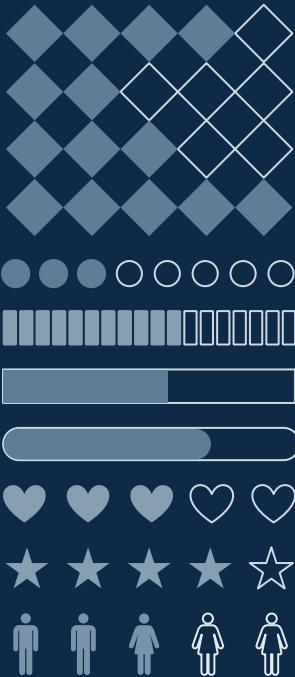
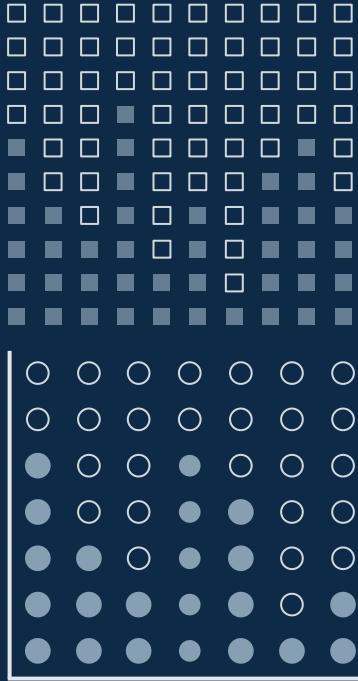












# ...and our sets of editable icons

You can resize these icons, keeping the quality.

You can change the stroke and fill color; just select the icon and click on the paint bucket/pen.

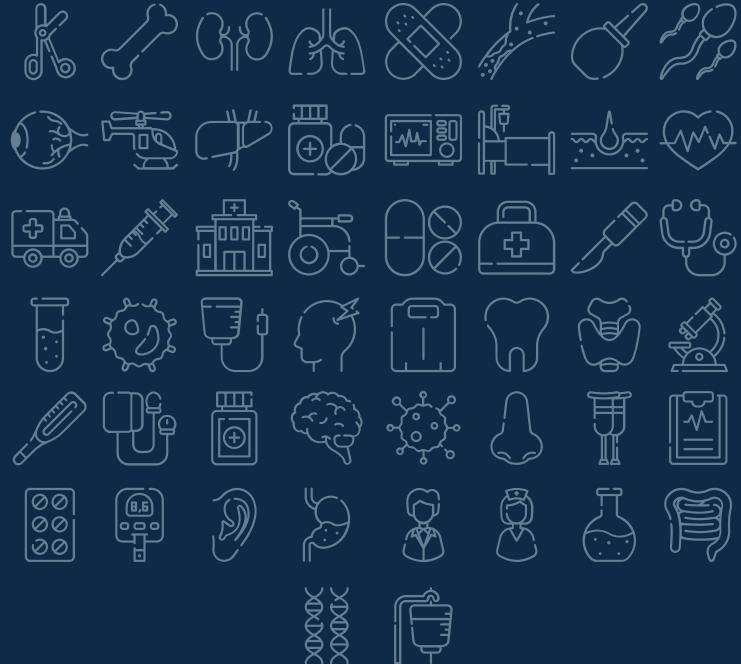
In Google Slides, you can also use Flaticon's extension, allowing you to customize and add even more icons.



## Educational Icons



## Medical Icons



## Business Icons



## Teamwork Icons



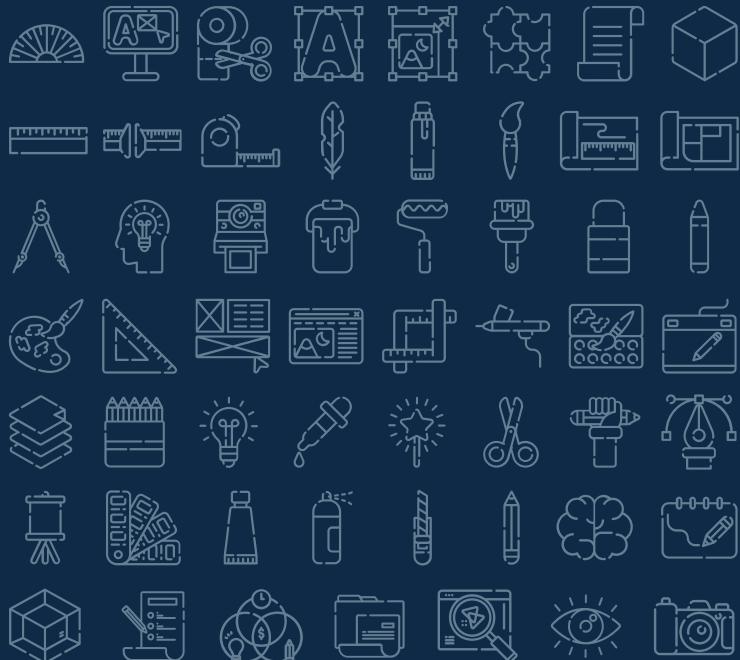
## Help & Support Icons



# Avatar Icons



## Creative Process Icons



## Performing Arts Icons



# Nature Icons



# SEO & Marketing Icons

