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Chatbots and Gen-Al: Redefining the Human-Machine Interaction

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7-8th **Dec** 2023

INTO THE UNKNOWN: CHARTING THE FUTURE AGENDA











Chatbot & Business Operations

Customer Service

Decrease in customer service handling

Productivity

64% Increase in CS agent productivity

Sales

Increase in sales conversion



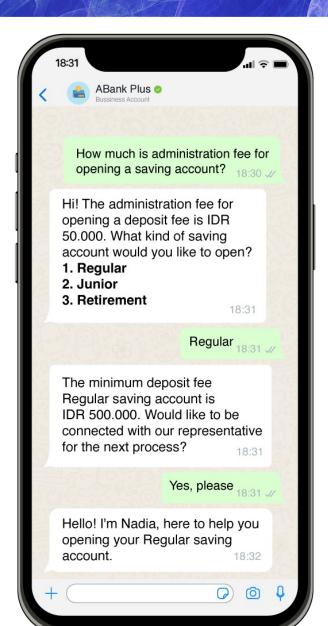




Chatbot in Customer Service

Use Cases

- Answering customer inquiries
- Assisting in sales process



Benefits:

- Quick response time
- Quick escalation to live agent,
 if necessary
- Reduced ticket numbers



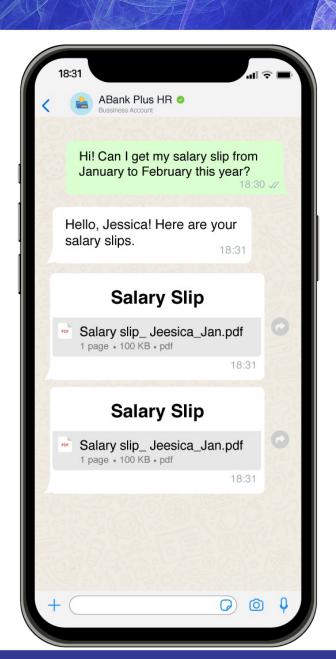




Chatbot in HR

Use Cases

- Company policy inquiries
- Leave of Absence & Reimbursement submission
- Company wide announcement



Benefits:

- Improved HR productivity
- Accelerate Informationspecific Request
- Expeditious information dissemination



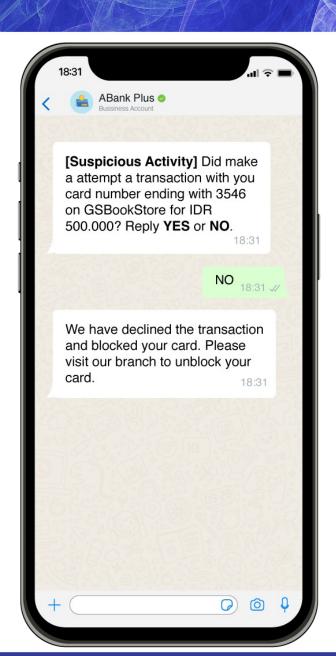




Chatbot in Cybersecurity

Use Cases

- Suspicious transaction notice
- Automated credit card block



Benefits:

- Fraud prevention
- Immediate Notice







The Evolution of Chatbot



Rules-Based Chatbot

A Chatbot with very basic functionality. It provides scripted answers based on the key phrases.

NLP-Based Chatbot

Supported with a Natural Language Processing algorithm which understands an intent from a conversation.

Generative Al-Powered Chatbot

Generative AI gives the ability to provide wider variety of language styles which will generate more human-like answers.



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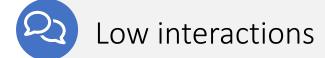
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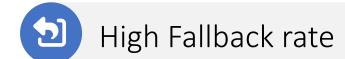


Challenges of the Current Chatbot

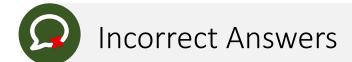
For Businesses

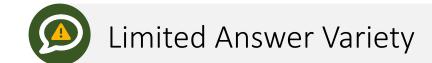
For Customers

















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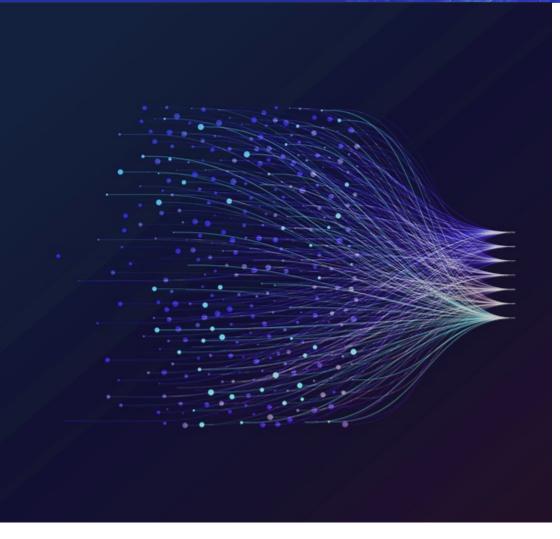
Generative Al Implementation in Business



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Generative Artificial Intelligence

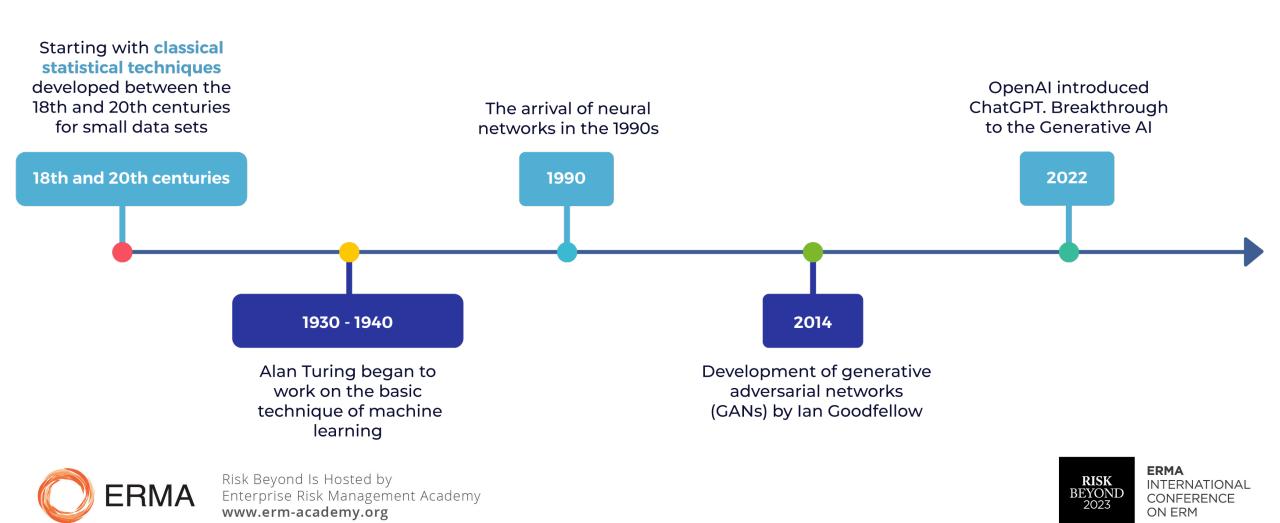
Generative AI refers to deep-learning models that can generate high-quality text, images, and other content based on the data they were trained on.





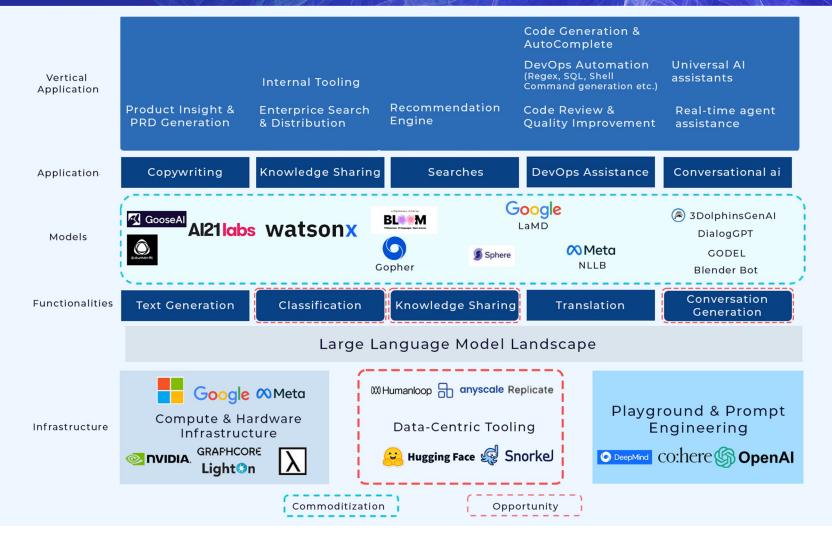


The Journey of Artificial Intelligence



Into the Unknown: Charting the Future Agenda

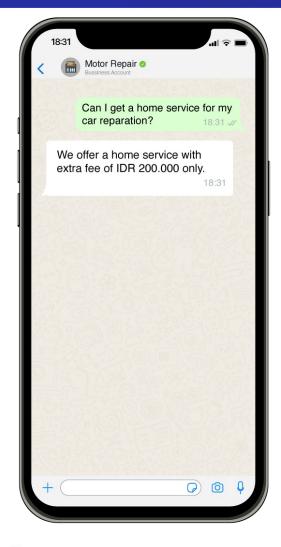








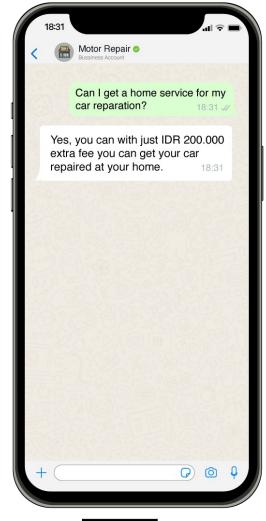




Non Gen Al Chatbot vs Gen Al Chatbot

- "Fixed" answer
- Sounds robotic

- Contextual Answer
- More human-like reply









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Generative Al Ethical Considerations



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Generative Al Ethical Considerations

Generative AI ethical consideration deals with the ethics in how it gathers the data and how ethical the generated answer is.



Harmful Contents



Copyright and Legal Exposure



Data Privacy Violation







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Overcoming Generative Al Ethical Challenges for Business



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Explainable Al (XAI)

Explainable artificial intelligence (XAI) is a set of processes and methods that allows human users to comprehend and trust the results and output created by machine learning algorithms.

Explainable AI covers the main question:

"How does the AI come into the conclusion?"

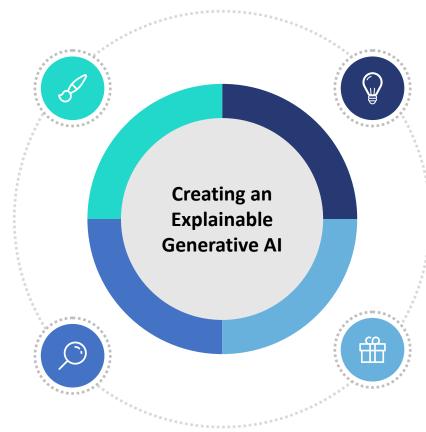






Define Chatbot Scope of Limit

Limiting the scope of answer by limiting the source of knowledge.



Model Risk Management

Employ techniques and practices that will identify, measure and mitigate model risks i.e. the possibility of model error or wrongful model usage

Continuous Supervision and Feedback

The ongoing processes of monitoring, guiding, and providing input on an individual's or a system's performance or behavior

Human-in-the loop approach

A blend of supervised machine learning and active learning where humans are involved in both the training and testing stage of building an algorithm.



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Generative Al Implementation





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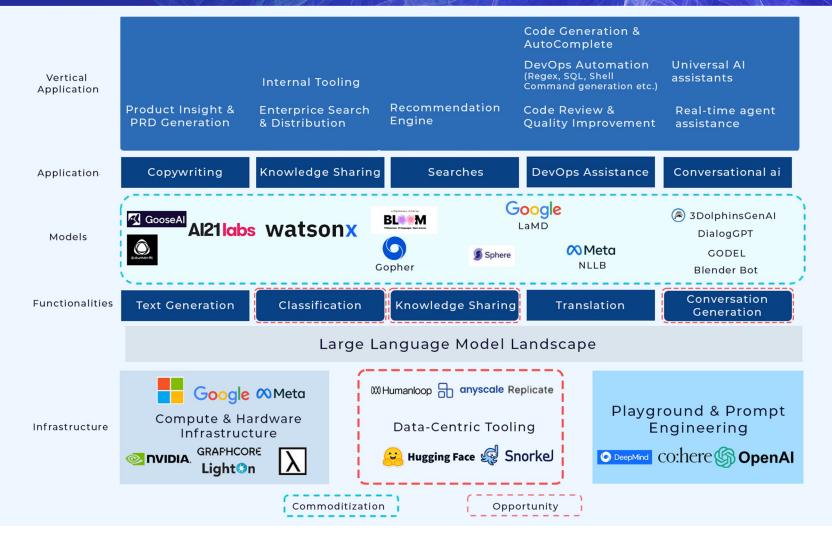






Into the Unknown: Charting the Future Agenda











Generative Al Building Block

Semantic Search + Generative Text

We are using RAG technique to augment chatbot and co-pilot feature based on close loop information

RAG (Retrieval Augmented Generative) is a technique to retrieve data from outside a foundation model to augment the prompts by injecting the relevant retrieved data into the context



Conversational UI

Chatbot, Customer Service, Sales, and Employee



Retrieval Augmented Generative

Semantic Search, Prompt Engineering



ChatGPT, Vertex AI & Others

Foundation Model (LLM Model)

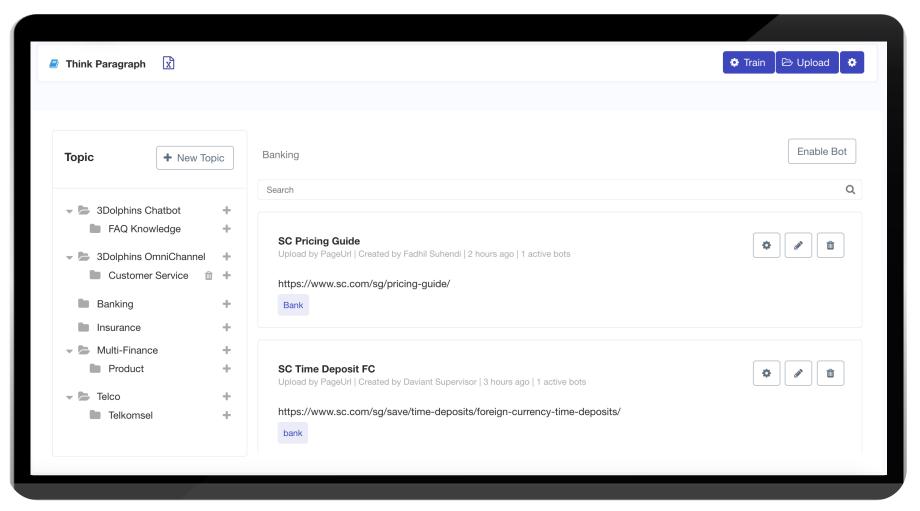






Generative Information

- ★ Easily organize information by topic.
- ★ Support web content, pdf, and text.
- ★ Flexible assignment of information to particular chatbot.



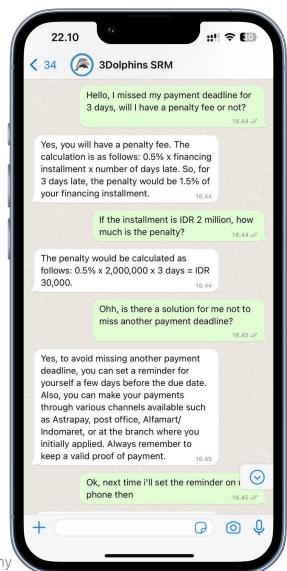


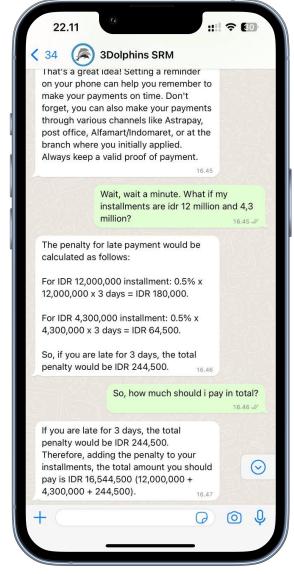




Generative Al Chatbot

Produce payment mechanism answer based on customer inquiry with coherent explanation





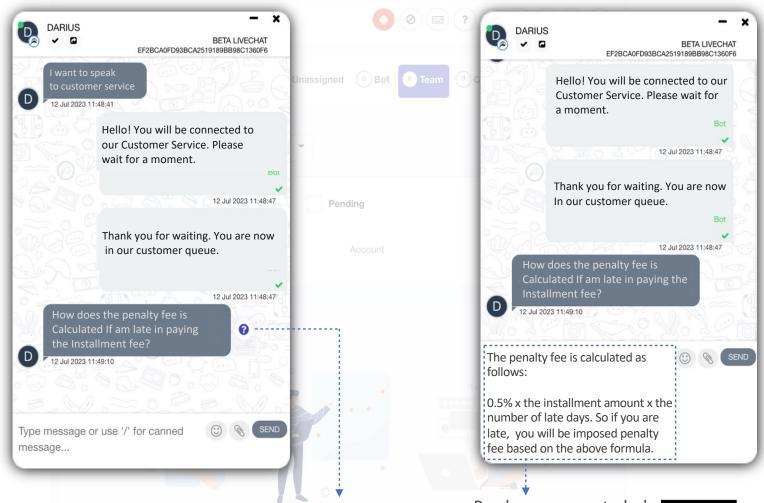


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Customer Service Co-Pilot

As a co-pilot for Customer Service Agent to Answer Customer Inquiries





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Produce answer to help customer inquiry

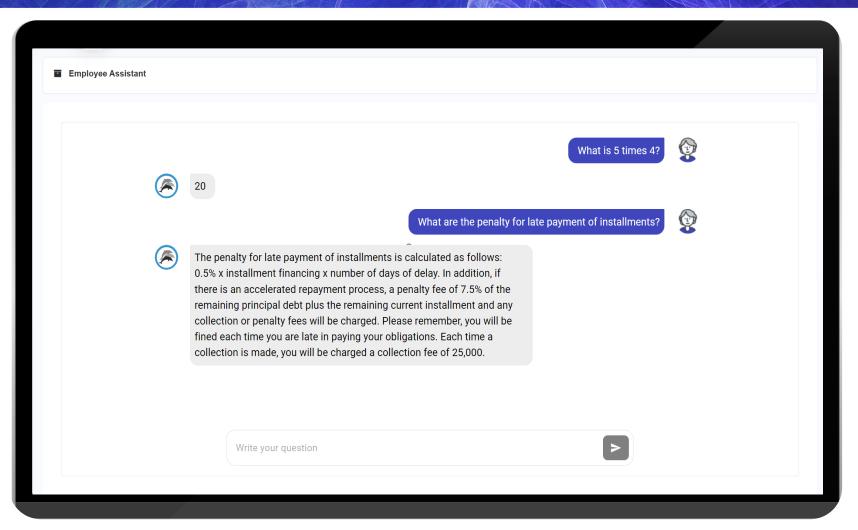


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Employee Assistant

Transform professional work to access untapped information





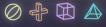




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Generative Al Chatbot Demo



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Generative Al Chatbot Demo

Produce payment mechanism answer based on customer inquiry with coherent explanation









Generative Al Chatbot Demo







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Transform professional work to access untapped information

