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LLM-Powered Agents for B2B Sales Pipeline



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BUSINESS PROBLEM FRAMING

BCG has found that more than 70% of sales leaders plan to invest in GenAI. Likewise, Salesforce has found that almost 70% of tech leaders have prioritized GenAI over the next 18 months - BCG Analyst Reports, 2024

Top potential benefit of generative AI (gen AI) in B2B selling, % of commercial leaders¹ that have fully implemented gen AI in B2B buying and selling (n = 320)



Source: McKinsey Global B2B Pulse Survey 2024

However, enterprises struggle with inefficiencies in lead qualification, demo scheduling, and follow-ups. While AI-driven sales solutions offer efficiency gains, businesses face challenges in data privacy, decision transparency, and balancing automation with human oversight. To address this, the company aims to develop an AI-driven sales simulation framework to assess automation levels and optimize the balance between AI and human intervention. This solution will enhance internal sales processes while serving as a scalable model for enterprises seeking responsible AI integration.

ANALYTICS PROBLEM FRAMING

The goal of our analysis, is to evaluate how AI-powered sales agents compare to human-led processes across key sales pipeline stages and determine the optimal balance between automation and human involvement. Comparison is done by simulating the pipeline stages and comparing to industry benchmarks for B2B sales pipelines.

CHALLENGES



APPROACH

Performance Benchmarking

Risk Assessment

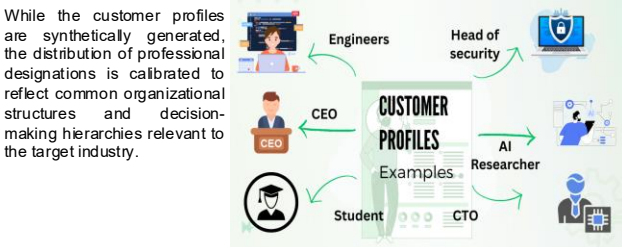
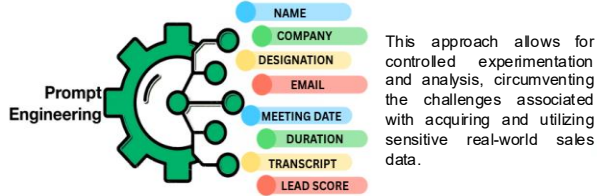
Simulation Testing

Efficiency Metrics

Scalability and Adoption

SIMULATING SALES PROCESS (DATA)

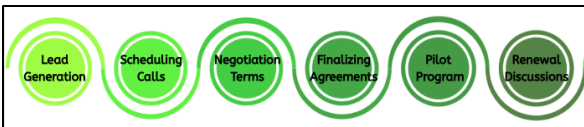
The efficacy of the proposed LLM-driven sales agent hinges on the availability of a robust and representative dataset for simulation, evaluation, and iterative refinement. To address this need, we constructed a synthetic dataset meticulously designed to mirror the complexities and nuances of real-world enterprise sales interactions.



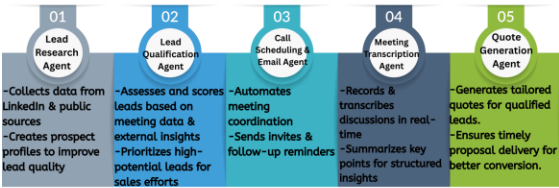
METHODOLOGY

Our strategy was to first understand the current sales pipeline and identify key stages where AI-driven automation could enhance efficiency. By analyzing the end-to-end sales workflow, we designed a system where each critical phase is handled by a dedicated AI agent, ensuring a seamless and intelligent sales process.

CURRENT SALES PIPELINE

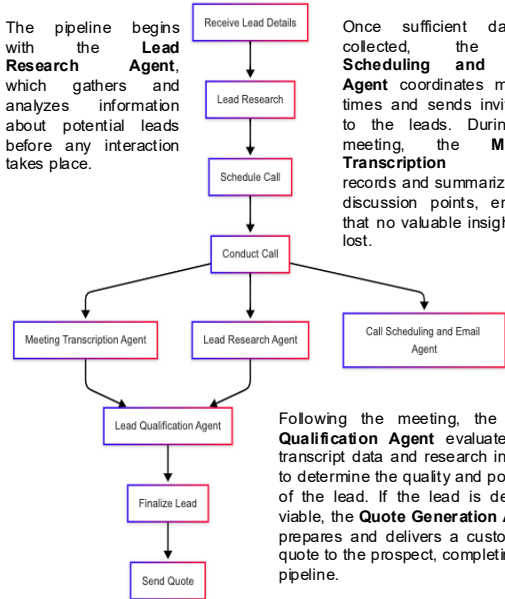


The AI sales pipeline is structured around five distinct stages, each designed to automate a specific stage of the sales process:



MODEL BUILDING

The pipeline begins with the **Lead Research Agent**, which gathers and analyzes information about potential leads before any interaction takes place. Once sufficient data is collected, the **Call Scheduling and Email Agent** coordinates meeting times and sends invitations to the leads. During the meeting, the **Meeting Transcription Agent** records and summarizes key discussion points, ensuring that no valuable insights are lost.



Following the meeting, the **Lead Qualification Agent** evaluates the transcript data and research insights to determine the quality and potential of the lead. If the lead is deemed viable, the **Quote Generation Agent** prepares and delivers a customized quote to the prospect, completing the pipeline.

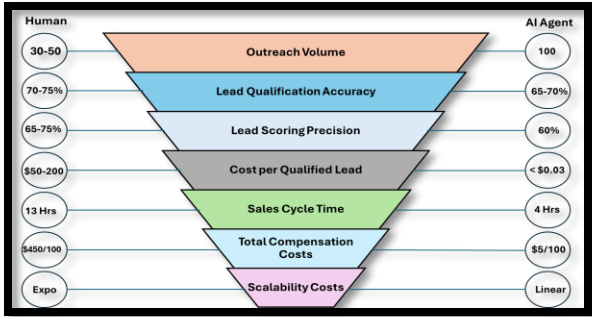
This AI-driven approach enables automation, improves accuracy in lead assessment, and enhances the decision-making process for sales teams. By strategically integrating AI at each stage, we ensure a streamlined, data-driven, and efficient sales pipeline.

PERFORMANCE BENCHMARKING RESULTS (Deployment and Life Cycle Management)

Using synthetic data as input for our agentic workflow we created a realistic testing environment to compare our AI-driven approach with traditional, human-led sales methods.

We observed the following impact:

- Outreach Volume** : AI agents engaged with 2-3x more leads than human teams.
- Lead Qualification Accuracy** : AI achieved competitive accuracy, with faster lead identification.
- Lead Scoring Precision** : AI effectively prioritized leads using large datasets.
- Cost per Qualified Lead** : Significant cost savings through automated tasks.
- Sales Cycle Time** : AI reduced cycle time by over 65%.
- Total Compensation Costs** : AI lowered operational expenses.
- Scalability Costs** : AI scaled predictably, unlike costly human expansion.



CONCLUSIONS

This study shows how AI-driven agents can enhance B2B sales pipelines by automating tasks like lead research, qualification, scheduling, and proposal generation—boosting efficiency, cutting costs, and expanding outreach. While AI outperforms human-led processes in speed and workload reduction, it lacks the human touch needed for complex negotiations and relationship building. As AI adoption grows, businesses must balance automation with human expertise and address potential biases to build scalable and ethical sales systems.

ACKNOWLEDGEMENTS

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