

A Case Study in AI-Augmented Cold Outreach

AI + Human Approach is More Efficient than AI-Only Approach for Acquiring Customers

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DOI: <https://doi.org/10.66241/whf5v>



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Abstract

In this case study, we explore the impact of integrating artificial intelligence (AI) with human efforts in the context of cold outreach for lead generation. Our client, facing rising costs and decreasing productivity, conducted a three-armed trial to compare traditional manual processes, fully automated AI-based processes, and a hybrid approach combining both AI and human inputs. The results demonstrated that the hybrid approach significantly outperformed both the manual and fully automated methods, achieving a remarkable \$141.21 cost per booked appointment. This study highlights the synergy between AI's data processing capabilities and the personalized touch of human interaction, leading to higher engagement and conversion rates. Our findings suggest that leveraging AI to handle routine tasks while allowing humans to focus on high-value activities can optimize lead generation efforts, reduce costs, and improve overall efficiency. This study provides valuable insights into the future potential of AI-human collaboration in enhancing business processes,

with implications for competitive advantage and workforce dynamics in the AI-driven era.

Challenge

Our client, who offers sales development services to SaaS companies and private equity firms, was struggling with increased costs and decreasing productivity in their lead generation services. They had not yet attempted to implement any AI tools, and decided to conduct a three-armed trial to compare their current process with AI-based processes.

To plan the trial, they analyzed their current process and determined that three primary factors were driving their higher costs and lower productivity:

1. **Searching cost:** Sales representatives were spending 2 hours a day of their time “prospecting”, that is, conducting research to identify which target companies they should try to contact. This is consistent with a survey from Hubspot, which found that sales reps spend up to 30% of their day on prospecting and research tasks.¹
2. **Personalization cost:** Sales representatives needed to take time to manually personalize their messaging in order to stand out from the crowd of other similar communications their targets receive on a daily basis.
3. **Labor cost:** This is the actual labor time spent by sales representatives on the phone and responding to emails. This should be optimized as much as possible to communicate with high-probability leads.

Research that looks more broadly at lead generation and appointment setting puts the average cost of a first meeting at over \$600 in the United States.² For some products, it can be in the high thousands or even tens of thousands of dollars. Reducing this cost represents an opportunity for competitive advantage.

Definition of the Solution

AI is incredibly efficient at analyzing data, ordering data, and generating content. These tasks represent two of the three drivers of high lead costs mentioned above. By using AI to identify prospects that fit the criteria and personalizing

some of the messaging, reps can focus more of their time on tasks that can't be automated, such as personalized calls, handwritten letters, or LinkedIn conversations.

Our client reached out to our team at SellWithOtto since we have a long track record of running these types of automated campaigns without humans in the loop. As a result, our clients averaged \$250 a meeting compared to over \$600 for the average business. In this case study, we show how we were able to reduce this even further with specific training of the AI model on past sales conversations, and by pairing AI with humans effectively.

For the trial, we worked with our client to create three arms for comparison. The first was the "business as usual", fully manual arm. The second was our standard, fully-automated AI-based arm. And the third was a new, experimental "hybrid approach," where the AI was responsible for identifying new prospects for the campaigns, and personalizing and sending email messages to prospects. The sales development representatives (SDRs) would then incorporate the data sourced by the AI into their call scripts to better personalize their calls to the prospects.

Expected Results

Anticipating Efficiency Gains

We expected that the collaborative efforts of humans + AI would significantly improve lead generation efficiency. Specifically, we anticipated reduced costs per booked appointment, increased connection rates on calls, and higher meeting-held rates, all contributing to enhanced overall performance.

Description of Implementation

A Three-Month Experiment

Our implementation involved a rigorous three-month experiment in partnership with our client. We divided the experiment into three groups with 2,000 people each: human professionals with AI assistance, human professionals operating solo, and AI autonomously generating leads. Detailed data collection and analysis were integral to the process.

Our targets for the campaign were sales development leaders at B2B software companies with \$5 - \$50M in revenue.

Actual Results

The Power of Synergy

The results exceeded our expectations.

- **Human Alone:** Achieved a commendable \$350 cost per booked appointment.
- **AI Alone:** Yielded a respectable \$250 cost per booked appointment.
- **Human + AI:** Surpassed all expectations, with a remarkable \$141 cost per booked appointment.

While it may seem counterintuitive that AI alone resulted in a higher cost per booked appointment, this can be attributed to the much lower response rates that AI generated when working alone. AI + human callers connected on 3X as many calls and had a 20% improvement in meeting hold rate, (the number of people who show up to the meeting).

Quantifiable Return on Investment (ROI)

The ROI of the solution was striking; not only were we able to lower costs over the human solution, but also the human + machine team was more efficient. By combining the personalized touch of the human caller and alleviating some of the inefficiencies of their job we were able to focus the SDR's time on value-accretive tasks. Perhaps most importantly of all, the SDRs enjoyed the process; since their compensation structures are based on per-meeting bonuses, the more efficiently they can secure meetings, the more money they make in return.

Why was human + AI the most effective?

This question was posed to us by our client and the SDRs we worked with. After speaking with some of the prospects and looking at the data, we were able to understand why the combination of human and AI was so powerful. When running generic campaigns, SDRs weren't grabbing the attention of the customer with any personalization—they were so focused on adding a human touch via the phone that

they didn't have time for anything else. In contrast, the AI-only test group was getting high engagement because the recipients appreciated the personalization aspect of the outreach, but there wasn't a human touch over the phone - which lowered conversions.

The best performer was the combination of personalized messages with the human touch of audio, which took the best performing parts of different test cells (humans calling + AI personalization). Using the AI personalization the SDRs even started tailoring their telephone pitches to the audience, improving conversions even more.

Future Potential

Automated appointment setting: Currently humans are required to be in the loop to book the meeting on emails and linkedin outreaches. Applying sentiment analysis and natural language processing (NLP) to responses could allow us to track whether replies are positive or negative. We could then use generative AI to create automated replies to book meetings with the positive prospects, thereby increasing the booking rate of positive replies.

Predictive Lead Scoring: By leveraging machine learning algorithms to analyze historical data on sales successes and failures, AI can predict the likelihood that a lead will convert into a customer. This involves examining numerous factors such as demographic information, interaction history, and behavioral patterns. With predictive lead scoring, sales teams can prioritize their efforts more effectively, focusing on leads that are most likely to close, thus optimizing their time and resources.

Enhanced Lead Nurturing Programs: AI can also play a significant role in automating and refining lead nurturing processes. By analyzing the behavior and engagement levels of leads after a first meeting, AI can help tailor the content and timing of follow-up communications to match the unique preferences of each prospect. This approach not only improves the relevance of the communications sent to potential customers but also increases the chances of maintaining their interest throughout the sales funnel.

Conclusion:

Human + AI: Pioneering the Future of Lead Generation

In conclusion, our comprehensive study has not only validated the viability of human + AI collaboration in lead generation but has also showcased its potential to revolutionize various business processes. There is great concern among workers that generative AI will lead to disastrous job losses among knowledge workers. A recent UK poll found that 32% of workers are nervous about the potential for AI to replace their jobs.³ As we navigate the evolving landscape of AI and human interaction, our experience in this study is a hopeful data point for the argument that synergy between people and machines is more effective than machines replacing people.

Notes

1. [How Much Time Do Your Sales Reps Spend Selling? Probably Not Enough \(salesgig.com\)](#).
2. [Pavilion State of Sales Development Survey 2022](#).
3. [‘One in three workers fear AI could take their jobs’ | Evening Standard](#).

About the Author



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Sam Koch is Senior Vice President of Product and AI at FeedbackNow International, where he leads product strategy and the development of AI capabilities that translate customer and operational feedback into actionable business insights. He is also a co-founder and board member of Otto, an AI-driven platform for sales outreach, reflecting his sustained focus on deploying machine learning to improve go-to-market effectiveness and customer engagement. Koch's interests center on applied artificial intelligence for customer-experience analytics, scalable workflow automation, and the responsible integration of AI into product ecosystems. He holds an MBA from Harvard Business School and a BA in Economics from Brown University, combining formal training in strategy and markets with hands-on leadership in AI product development.

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