

Build vs. Buy in Technical Customer Support:

Evaluating Third-Party Solutions in the Age of AI

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As AI solutions proliferate, enterprise companies increasingly are exploring strategies to implement AI for their own organizations. AI has democratized the idea of Build Your Own, more than any other time. The general mindset for B2B technology companies is, "I can build this." In the current world, with AI native technology coming strong, it's an even more compelling argument within corporate IT. Co-pilots offered by hyperscale organizations have created their own AI native tools in-house, but they have thousands of employees and billions of dollars at their disposal. We are still in the early stages of utilizing the full potential of the Gen AI innovation cycle, and many companies who lack the resources of large technology companies may need help developing their AI system.

Our observations from the field are that enterprise IT teams are embracing this new technology the same way they always have: through committees. Committees provide many advantages, not the least of which is the benefit of many minds collaborating on the same problem. However, it's all too common for the committee to get stuck in dysfunction, leading to a lack of effective decision-making as they are attacking it from a top-down perspective. This is where AptEdge excels and shines. Our bottom-up approach has led to a breakthrough in the development of AI native solutions purpose-built for customer support.

AptEdge Background

AptEdge is not just another case resolution platform. It is purpose-built for customer support agents, with a team that has been hyper-focused on solving hard problems faced by modern-day support agents. The platform is the result of 7 years of top-notch engineering-driven innovation. Its latest product features, augmented with Gen AI, have revolutionized the way we can respond to the toughest support cases with ease, speed, and accuracy. The AptEdge Case Resolution platform can help support leaders achieve sustainable budget reductions by enabling support teams with the answers to solve customer problems, close the loop on knowledge gaps, align disparate team members with comprehensive insights, and enable customers to independently resolve their problems on their own timelines.

The unique capabilities of AptEdge, which would take years of engineering time and trials and errors to replicate, are presented in this document, along with a playbook for the build approach.

AptEdge History & Journey

Founded in 2017 by industry veterans Aakrit Prasad and Anthony Kilman, AptEdge was born out of their experience running product and customer support for AppDynamics (now part of Cisco). The team noticed that support teams struggle to keep up with the number of issues and escalations caused by continuous product updates as companies scale. There were many support escalations and customer service problems, especially regarding the front line. The struggles were:

- ☐ Repetitive customer questions
- ☐ Knowledge spread among different systems
- ☐ The inability to access it quickly

As a result, agents on the front line would either send customers wrong answers or escalate internally by asking duplicate questions, leading to long response cycles.

How could a system aggregate knowledge that is intelligently connected? The concept of AptEdge was born from these sets of problems. AptEdge has grown to tackle these exact issues for customer support agents. Today, AptEdge counts amongst our customers those organizations prioritizing data security and customer privacy, including Venafi, Lansweeper, and Cisco. AptEdge also has customers managing multiple complex software products, where monthly releases are the norm and customers demand immediate SLAs and efficient service. These include Everbridge, and M.Holland.

AptEdge Flywheel Effect: Creating ROI for Customers

As you can see, our powerful system provides GPT-driven answers for immediate Tier 1 resolution.

This provides several benefits:

- ☐ 35% reduction in customer escalation
- ☐ 30% agent productivity improvement, reducing ticket volume
- ☐ 40% reduction in average case handle time

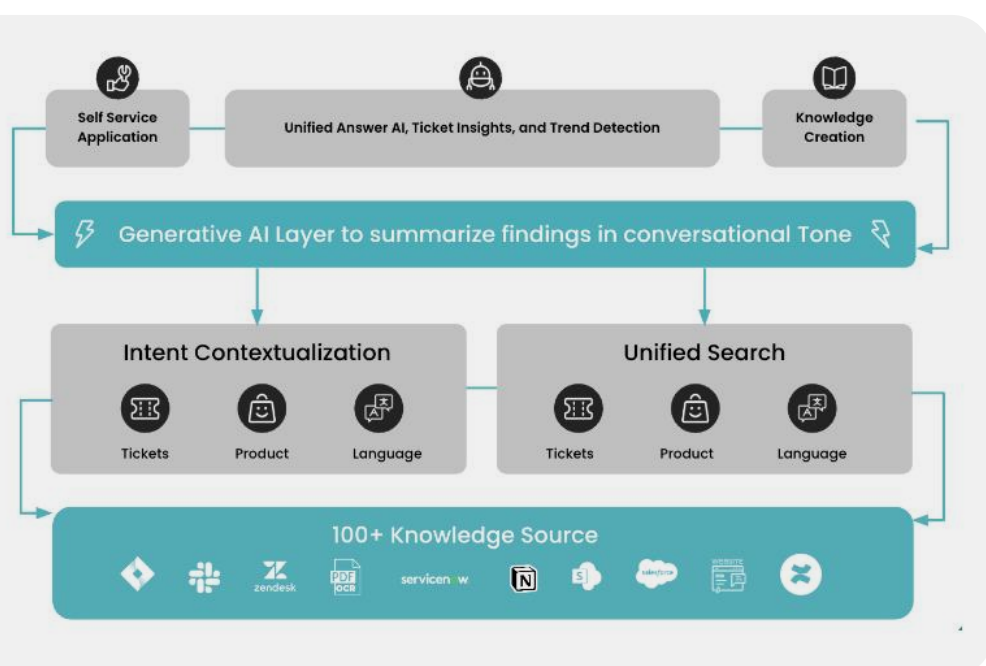
We provide these benefits through multiple layers of both unified search, semantic machine learning models, and generative models focused on tone or language. Our system can sift through hundreds of tickets in a moment and identify common trends among them. Support teams can use this information to group tickets with common issues together, assigning them to the team member most qualified to handle the issue. Product teams and executives can also gain key insights into these trends and use them to improve future performance, furthering your company's growth projections.

But the question remains: What is the cost of building similar in-house systems that could achieve this flywheel effect?

How to build AptEdge, in-house

Below, we will outline the critical layers and capabilities of the platform and their functions. Along the way, we will also provide a blueprint for building these features and the effort required to do so.

AptEdge Platform



Base platform (Cloud Infra, base app): To start building a platform like AptEdge, the dev IT team must first focus on creating a Cloud infrastructure layer to store the metadata. This platform must focus on data collection in a structured, secure back-end environment. The ability of the platform to collect viable data and continuous refinement will be critical factors in its success. The base application layer must also be built next, which will act as an interface to the machine learning layer.

Machine Learning Layer: Once the data has been captured in the back-end base platform, the next step is to build the semantic search layer. You typically need engineers well-versed in machine learning for this. AptEdge has built this layer with sophisticated ML models and NLP algorithms over the years.

Front-end (Web + Single Support App): The power of the AptEdge platform is evident in the front end. Agents get a unified, easy-to-use interface where all relevant knowledge is displayed so they can take quick action. This can be built using an application framework. Constructing this in-house would require a dev team to organize a front-end team with defined product requirements, plus build, test, and deployment cycles.

Analytics: AptEdge has a robust analytics layer that provides agents and their managers a rich, unified view of the state of tickets coming into the system so they can perform critical tasks like trend analysis. The in-house team would need to spin up a build team, define the critical use cases and run it as a separate project: gather requirements, design the features, develop, test, and deploy.

Back-end Search Support: AptEdge refined search engine is a core foundation for the product. The search engine is built and optimized for support, along with models trained to search a corpus of knowledge across connectors and identify the best fit. The in-house build team would need to develop similar smart search features to perform similar searches across data from many repositories.

Connectors: AptEdge has built native connectivity into key enterprise repositories over the years, including Salesforce, Zendesk, Slack, and more. The data collected from the systems are seamlessly and intelligently integrated into a cohesive, relevant view in front of the support agent so they can take effective action. Years of development efforts went into building this connector layer. It has specialized features that allow AptEdge to collect relevant critical data. To build these connectors and features quickly, one option for the build team is to utilize an integration provider platform like Airbyte or Meltano. These frameworks will allow for a rapid build, but the downside will be less control over fine-tuning features. If one of these platforms is not utilized, the build team would need to build native code to access the native APIs of these source systems, map the data into the core back-end data structure, and ensure they stay up to date with the evolving versions of the API.

Total Overall Cost of Ownership (TCO)

Cost and Timeline to build in-house, designed to service a team of at least 100 customer support agents.

**Assumption - Two Principal-level engineers working in parallel on the low end of SF Bay Area salaries*

	Features	Total Engineering Heads	Resource Types	Cost (\$200k/yr per engineer)	Duration
1	Base platform (Cloud Infra, base app)	4	DevOps/Backend	\$275k	4 mos
2	Machine Learning Layer	2	Backend	\$100k	3 mos
2	Frontend (Web + Single Support App)	3	Frontend / Medium	\$100k	1.5 mos
3	Analytics	2	Frontend/Backend / Medium	\$33k	1 mos
4	Backend Support	5	Backend / Senior	\$333k	4 mos
5	Data Source Connector (e.g. Sharepoint, Zendesk, Jira)	8	Backend / Senior	\$800k	6 mos
6	Answer AI	10	AI/Backend / Senior	\$833k	5 mos
7	QA & Release	1	DevOps	\$33k	2 mos
Build Total (approximate)				\$2.5M	~2.2 years
8	Annual maintenance cost	N/A	SRE	\$1.0M	N/A
Grand Total				\$3.5M	

Is Gen AI the Savior for Build Teams? Building In-House Using AI Frameworks

With the advent of Gen AI and the desire for companies to build their in-house “support co-pilot” system, we would like to highlight what that playbook may look like and its inherent dangers.

At AptEdge, our ML/AI layer refines the search terms based on incoming tickets. We use that refined intelligence to drive LLM-powered augmentation of the most relevant data and enrichment, which is compliant with secure, responsible AI. Typical Gen AI dangers like hallucination risk are minimal with this approach. AptEdge (with Answer AI) has taken the approach of very specific support agent use cases, layered in the best approach applicable using the latest Gen AI technology.

Embarking on an in-house AI system will inevitably involve grappling with licensing costs, relevancy, hallucination, privacy, and more. The process of building such a system from the ground up is a significant undertaking, not to mention the ongoing learning curve, maintenance, and the challenge of keeping pace with rapidly evolving technology. These are all factors that AptEdge's ready-made solution can help you navigate.

Conclusion

In any enterprise, the customer support team is the linchpin in delivering a top-notch customer experience. This function is critical for the company's success. By equipping your support team with cutting-edge AI solutions, we can elevate them to the status of heroes in the customer support arena. AptEdge is here to help you achieve that.

In summary, building an in-house system like AptEdge would take years, with costs in the millions. Contact us today to see how our system can help your customer support excel.