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Buy, then Build

Maximizing Value with a Hybrid Approach to Your Data and AI OS

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Introduction

At the beginning of this year, in a white paper titled The Greater Debate: To Buy or To Build, we explored the benefits of purchasing a commercial data and AI infrastructure solution that's already been refined and widely adopted in the market to help you accelerate your data strategy, suggesting that it is far more effective than dedicating an entire team of DevOps to develop your in-house platform. In that paper, we gave you 7 key reasons to choose a pre-built solution that excels in cost-efficiency, deployment speed, and maintenance simplicity, so that your team can allocate the right resources to core business growth.

However, the nature of the AI space demands constant evolution, and, with it, the approach to AI implementations must also adapt. Today, as new tools continue to enter the market at a blazing rate, we are revisiting the conversation we have on the optimal AI solution, and proposing a new and much more contemporary approach that leverages the advantages of both off-the-shelf data tools and custom-built data solutions.

The new solution we propose approaches data strategy in a hybrid model. It begins with the purchase of a foundational platform—what we refer to as a data operating system—that gives businesses the liberty to choose what tools to integrate. From there, companies can build on the platform by customizing features and integrations so that ultimately, the platform becomes unique to the organization. This approach ensures that companies can remain agile and adapt their technology stack to their evolving needs without being locked into a one-size-fits-all solution.

Introducing, the Hybrid Model: **to Buy, then Build**

Why Just Buying Is No Longer Feasible

Before we jump into the benefits of adopting such a hybrid approach, let's first examine why buying a comprehensive data solution is no longer a one-size-fits-all strategy under the current climate.

1 . Complexity of Modern Technology Ecosystems

The technology ecosystems have become increasingly complex, involving a web of interconnected operation systems, applications, data sources, and networks. The global machine-learning market is expected to grow to $152.24 billion in 2028 at a compound annual growth rate (CAGR) of 38.6%. In the fast-paced world of data and AI, what you have today may quickly become outdated or insufficient in addressing the dynamic and most current demands of your enterprises. As such, businesses can no longer depend on a single, monolithic solution to meet all their data needs.

This is further complicated by the stringent regulatory and security requirements, placing more pressure on businesses to maintain a flexible system that can adapt swiftly to continuous changes. Organizations that operate across cloud environments, on-premises systems, and various third-party platforms, therefore, need solutions that are adaptable, scalable, and overall interoperable.

2 . Customization and Flexibility

While most of these data platforms often promise convenience by bundling multiple features into a single platform, they can limit a business's ability to adapt and scale according to its unique needs. All-in-one systems are typically designed to serve a broad range of users, which means they may not offer the specific functionalities required for certain industries or use cases. For example, the same set of data solutions that might work for a financial bank may not work for a manufacturing company in the automotive industry. Further, as businesses grow and evolve, the need for flexible approaches—such as specific data processing needs, GPU requirements, or industry regulations—may also increase, demanding more tailored solutions.

3 . Integration Challenges

Another drawback with some of the all-in-one data platforms on the market has to do with integration challenges. Many organizations deal with some form of legacy system or specialized tools, which naturally become incompatible with proprietary and closed platforms in operation. Such solutions, when integrated into the current tech stack, may result in technical blockages, siloing of data, and other forms of inefficiencies. Changes or updates to one component of the system may also disrupt other functionalities, possibly leading to downtimes or inconsistencies within the infrastructure.

4 . Cost Constraints

While many platforms may seem like an all-inclusive solution, they often come with a hefty price tag, covering not just the core product but also additional features and functionalities you may never need. Paying for unnecessary functionalities just so that you can use the platform can be considered a waste of resources. Besides, hidden costs will inevitably arise during the implementation, customization, and training stages, along with continuous support and maintenance efforts to further increase the financial burden. The overall cost structure, combined with these hidden expenses, may force businesses to reconsider if a comprehensive data platform is indeed the most cost-effective and sustainable option for their long-term growth.

The New Take On Buying

Now, with all the concerns surrounding the limitations of an all-in-one data platform, what's gaining momentum is the strategy of starting with a basic data operating system with all the core features and tools already integrated into it, then building customizations on top of it.

Unlike purchasing pre-existing, monolithic platforms that come with a set of pre-designed features, an operating system provides the essential building blocks for you to customize data tools and capabilities as per request. Compared to a one-size-fits-all solution that offers limited flexibility, the hybrid approach excels in the following:

1 . Cost Feasibility

The initial purchase of a foundational system is a lot more economical compared to building a fully custom solution from scratch. Instead of requiring a large upfront investment, a basic platform typically includes only the essential core functionalities, such as data cataloging and integration capabilities, with minimal maintenance and support fees. Although the cost might spread out over time, this approach still gives businesses the initiative and flexibility to decide whether to invest in the long run.

2 . Customization and Flexibility

The hybrid approach provides the flexibility for companies to modify or extend the solution over time. As your business needs change, so can the platform—companies can choose the desirable tools for smoother integration, and scale it up or down depending on their evolving requirements and growth objectives.

3 . Deployment Speed

The simplicity of an operating system allows it to be deployed quickly with minimum effort so that your team can start using the core features almost right away. Once the core system is set up, all of the customizations and integrations can be added incrementally based on the business priorities and bandwidth of the teams.

4 . Risk Mitigation

Start with a proven commercially available system that allows the mitigation of many of the inherent risks associated with deploying new technology. Since the tools integrated are likely to be very well-tested, reliable, and supported, its core features will function out of the box as expected since day one. This stability reduces the likelihood of technical issues, which are more common in fully custom-built systems, where untested components can introduce unforeseen challenges.

By adding customizations only when needed, you also avoid the risk of developing features that may ultimately fall short of expectations or fail to deliver meaningful value. Teams can incrementally validate each new feature or integration against real-time needs, refining and adjusting accordingly. In addition, vendor support from the operating system also provides security updates, compliance issues, and troubleshooting to ensure the platform is resilient and dependable for evolving organizational needs.

Such an operating system like Shakudo exemplifies this “building on top of buying” approach. Unlike monolithic solutions that lock your data strategy with rigid, pre-defined workflows, Shakudo offers a modular infrastructure that serves as a starting point for tailored development. With many of the most current and best-of-breed data tools already integrated and easily accessible on the platform, what companies need to do is simply the last mile of customization, tailoring the system to their unique requirements. This approach not only reduces the upfront cost and accelerates the deployment speed but also minimizes the risks associated with overhauling existing systems.

The “Buy, then Build” Approach

Last time, we talked about how developing an in-house solution requires significant financial and human resources for designing, implementing, and continually updating the infrastructure. The risk of overburdening internal teams with these responsibilities, combined with the unpredictability of future scaling, is what makes an in-house infrastructure a less desirable option.

Since it is hard to justify purchasing an all-encompassing proprietary platform and even less feasible to build an entire data solution system in-house, adopting a hybrid approach becomes the strategic choice.

Enter the new paradigm: **To Buy, then Build**

A “Buy, then Build” approach begins with the implementation of a basic operating system with foundational capabilities that address the core needs and are inherently open and flexible. From there, businesses can build custom features and integrations to tailor the solution to their specific requirements. The operating system acts as the bedrock, while custom integrations ensure seamless alignment with existing IT infrastructure and workflows. By combining the flexibility and customization of in-house development with the scalability and efficiency of external platforms, businesses can address their unique needs without being overwhelmed by operational burdens.

Here’s how you would do it:

Step 1: to buy

Purchasing an operating system with tools that covers most of your basic data processing requirements

The first step is to invest in a foundational operating system that provides essential capabilities to kickstart your data strategy. The system should have a set of out-of-the-box features that handle general use cases, which are necessarily required for any business. The key advantage of this approach is the significant time and effort it saves compared to building an entire system from scratch.

For example, some of these would include tools for:

- Data ingestion and integration pipelines
- Metadata management and data catalog
- Data quality and profiling
- Authentication and access control (RBAC/ABAC)
- API management and service mesh
- Monitoring and observability
- Job orchestration and scheduling
- Version control and lineage tracking
- Resource management

Step 2: to build

Build additional custom features or integrations that cater to your specific requirements

After having the operating layer as your central framework, the next step is to build on top of it all the custom features and integrations tailored to your organization's specific needs. This phase is where the flexibility of the hybrid approach comes into play. Instead of trying to mold your needs to fit a generic solution, you can extend the platform’s functionality in several ways to include custom features such as:

- Industry-specific data transformations and workflows
- Custom ML model deployment pipelines
- Domain-specific data quality rules and validation
- Specialized reporting and visualization layers
- Integration with proprietary internal systems
- Custom compliance and audit workflows
- Business-specific data processing rules
- Specialized data science environments
- Custom data marts and semantic layers
- Role-specific operational dashboards

Step 3: to improve

Once you've chosen your own stack of solution tools, and start customizing your data strategy through tailored integrations and features, you can scale up and down the platform's capabilities to align with evolving business needs.

Of course, the work does not end here. An equally important follow-up is to continuously monitor and fine-tune the system by verifying that each tool communicates effectively, maintaining data accuracy across systems, and ensuring that workflows remain efficient and resilient as new tools or data sources are integrated. This proactive approach helps keep the platform accountable amid evolving business needs and safeguards against data inconsistencies or performance bottlenecks.

Conclusion

In today’s rapidly evolving data landscape, businesses need solutions that are adaptable, cost-effective, and scalable. Hence, we're stepping beyond the outdated Build vs. Buy dilemma to embrace a smarter approach that seamlessly blends the best of both worlds.

With its open architecture and robust core features, Shakudo emerges as the ultimate resolution for businesses seeking maximum agility. Shakudo currently integrates more than 170 data and AI tools that are best-in-class in the market, offering businesses a wide range of options to tailor their data strategy. With the number of integrations continuing to expand, such an open architecture allows businesses to integrate only necessary and relevant tools into their workflows while leaving room for future development. Ultimately, Shakudo’s approach enables companies to strike the right balance between flexibility and cost-efficiency, allowing companies to maintain control over customization with minimum cost and operational overhead.

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ABOUT SHAKUDO

Shakudo creates compatibility across the best-of-breed data tools for a more reliable, performant, and cost effective data and AI operating system. As an operating layer on top of your cloud Shakudo allows you to pick the best-of-breed data tools for your needs, while providing a platform with fully automated DevOps experience. This combines the best of both worlds in data stack practices so you can focus on delivering business value with data.

Shakudo is the most **easy, secure, cost-effective, scalable** way to bring the most advanced data and AI tools to your data. Find out more at **shakudo.io.**