

AI: The Killer App for Your Business

How connected artificial intelligence will reshape 21st century businesses.

Executive Perspective

By: Ron Bodkin

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Artificial intelligence will change everything. But, much of the hype so far has been focused on the consumer world, from Google's robotic cars that drive better than a 16 year old to deep learning applications beating the best human players in poker and the game Go.

Gains in deep learning have permitted AI to finally achieve what it's been promising for decades, but what many in business don't know is this transformation isn't just happening in consumer realms. The field is finally ready to explode for enterprises, but there are challenges.

The main issue is the core technology approaches available today have limitations. Some enterprise AI adopters are taking either a Software as a Service approach that addresses a very specific use cases or are leveraging cloud AI platforms and their open APIs to build applications. These third-party products have limitations: they are simply too generic to achieve meaningful business results. Both the lack of use and lack of access to large volumes of high-value data that are relevant to the enterprise prevents an AI system from being "trained" to drive real business return.

The third approach is custom development. Some companies are spending a lot of time and resources leveraging open-source software, like Google's TensorFlow, to build custom solutions that can address any business problem they desire. Custom, in-house AI development can be very expensive and risky, but this has proven to deliver strategic and game-changing results that far exceed other AI approaches.



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Challenge: How do companies achieve game-changing and strategic advantage using AI without the traditional cost and risk associated with custom development?

The answer is a more holistic approach — a "connected AI" approach. Connecting the assets and capabilities required for strategic AI results means aligning people, machines, open source, existing systems and all

high-value data assets to quickly iterate and validate AI models and results, minimizing risks associated with one-off custom development. Understanding the influences among all of these connections is the best way to realize strategic AI results. If companies take a strategic approach to connected data, connected analytics and apply AI expertise, this will enable connected interactions, and that's the recipe for leveraging AI that delivers measurable results.

For example, a "connected AI" approach is making huge strides for financial services companies, where deep learning applications are identifying fraud faster and with lower false-positive rates than previous predictive models. Applications like recommender systems and preventative maintenance are becoming smarter. It's hard to imagine just how limitless the potential is for businesses to be transformed by these types of connected AI approaches.

There was a quote in a recent article by two MIT professors on AI's business influence that really sets the tone going forward. "Over the next decade, AI won't replace managers, but managers who use AI will replace managers who don't." But enterprises really need to take this thought a step further. In the near future, businesses that use AI will replace businesses that don't. The good news is AI for business is still in its early days, it will be widespread in just a few years — and early adoption will be essential to survival in a post-AI economy.

Scholar Perspective

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Enterprises are under the impression they're on their way to using artificial intelligence — they've set up a few predictive models and integrated machine learning into their processes, so it feels like they're checking all the right boxes. But, the true end goal of AI is something much more sophisticated. True artificial intelligence is rooted in machines that can learn from data and interpret it on their own. It's more than just a predictive model that makes dealing with large data sets faster and easier.

True AI in the enterprise today does exist, but these solutions have mostly involved robotics for manufacturing that are extremely good at a narrow set of tasks. Industrial robots number in the millions. In Amazon's warehouse, robots speed the process of finding and sorting through their vast array of products in a very complex supply chain.

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What we haven't seen is an uptick in AI-based solutions that understand and interpret data and can translate that information in a human-like way that drives value back to the business. With the exception of a few Bay Area tech giants, the industry hasn't experienced highly proficient natural language processing, image-based detection or other skills that would enable this next generation of AI to perform more than just business tasks, but instead, drive business solutions.

Imagine if there were AI platforms that could identify and bring together data sources and then explain to its human counterparts the "why" behind its recommendations — something like AI for data engineering and data science.

Or, imagine if chatbots could interpret problems and provide solutions using natural language that satisfy buyers quicker and more effectively than current call centers. Imagine if an AI engine could comb through the large volumes of documents companies collect so each of its project teams didn't have to rely on keyword searches, and instead had a platform that could interpret all historical information in real time.

These scenarios will soon be achievable, but how are companies going to get there?

One of the biggest challenges for AI in the enterprise is that each company — even within the same industry — has unique problems. So, for the most part, businesses today need custom AI solutions to drive specific value.

However, the reality for most companies is that homegrown, custom AI isn't feasible. One, it's an expensive initiative to take on, and, two, AI development has a very small talent pool, and it would be difficult to get that kind of brain trust in one organization at an affordable, sustainable rate. But, the information and opportunity is out there. To truly accelerate AI, companies should work with partners that have done it before.

The bottom line is that for companies that think AI is going to be easy, they should think again. This isn't a plug-and-play solution that's going to transform a business overnight. It's going to take an against-the-grain push for decades-old companies to be able to survive. New, data-first disruptors will continue to pop up and threaten to edge out any enterprises that think they're implementing cutting-edge AI that's really just an old predictive model in disguise.

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CASE STUDY

Danske Bank Battles Fraud Using AI

How a 150-year-old bank in the Nordics is regaining a personalized view of the customer through deep learning.

Danske Bank's overarching goal is to be the most trusted financial partner in the Nordics. And for banks, that means staying on top of the ever-present threat of fraud.

Between the combination of new digital payment methods and fraudsters that are rapidly evolving their nefarious schemes, banks are realizing that existing analytic techniques based on handwritten rules, isolated intuition, light analysis and manual response are no longer satisfactory. To stay on top of fraudulent behavior, the bank instituted machine learning models to look for outliers in the data, and while this historical method had great capabilities, its potential was short of what the company needed. Danske Bank had approximately a 40 percent fraud detection rate, and 99.5 percent of all cases investigated are not fraud related. This resulted in tens of millions of lost Euros each month.

Danske Bank turned to a deep-learning-based connected AI approach. This employs a "champion/challenger" method, a tactic where its deep learning systems compare models in real time to determine which is most effective. When a challenger outperforms its other challengers, it transforms into a champion, giving the other models a roadmap to successful fraud detection.

The company saw a 60 percent reduction in its false positive detection rate and a 50 percent increase in true positives — which translates to real savings for Danske Bank.