Applying AI Solutions at the Startup, Growth and Enterprise Stages

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We see companies applying AI solutions differently, depending on their growth stage. Here are the challenges they face and the best practices at each stage.

A growing number of companies are seeking to apply artificial intelligence (AI) solutions, whether they want to launch disruptive products or innovate the customer experience. No matter how business is approaching their strategy, they'll need to label massive amounts of data – text, images, audio, and/or video – to create training data for their machine learning (ML) models.

Of course, AI isn't developed with a one-size-fits-all approach. We find that companies apply different strategies based on their size and stage of growth. Over the past decade, we've seen companies leverage AI solutions and encounter challenges along the way, as they come to us for data labeling, or the data enrichment and annotation that is required for training, testing, and validating their initial ML models and for maintaining their models in production.

> **Startup** companies tend to apply narrow AI to tackle specific problems in an industry where they have deep domain expertise. They typically lack data – especially labeled data that is primed and ready to be used for ML training. They may be challenged by choosing the right data annotation tools, and many lack the expertise or funding to build their own data labeling tools.

Growth-stage companies are using AI solutions to enhance customer experience and drive greater market share. They typically have a fair amount of data and domain expertise, and they may even have the capabilities to build or customize their own data labeling tool, although perhaps without features like robust workforce analytics. At this stage, navigating competing priorities can be a challenge, where technical resources can be easily stretched and operations staff can get dragged into performing low-value data tasks. The companies in this stage that are applying AI most effectively are those that are giving thoughtful consideration to their customers and missions, focusing on their core competencies, and offloading what makes sense to outside specialists.

Enterprise companies typically are using AI in one of two ways: incorporating AI into a product or using it to innovate business processes to generate better efficiency, productivity, or profit margins. Larger companies often have plenty of data and extensive in-house technical and data expertise. They are spending millions of dollars on data and AI, but siloed communication across products and departments can make it difficult to get a unified snapshot of the data landscape and where there are opportunities for AI to improve the business. In general, enterprise companies are not as advanced on the data maturity curve as they'd like to be.

As companies of all sizes seek to apply AI solutions, the one component that is more important now than ever is the role people play in the process. Data preparation is a detailed, time-consuming task, so rather than using some of their most expensive resources – data scientists – a growing number of companies are using other in-house staff, freelancers, contractors and crowdsourcing to get this massive amount of data work done.

Best practices for AI solutions implementation

At the end of the day, it takes smart machines and skilled humans in the loop to ensure the high-quality data that performant AI models require. That's a crucial dynamic when you consider some of the real-world challenges the technology is in a position to help solve. From the ability to identify counterfeit goods or reduce vulnerability to phishing attacks, to training autonomous vehicles with hardware upgrades that make them safer, it's quality data that makes AI truly valuable.

For companies that are looking to apply or develop AI solutions, here are a few best practices we've identified that can help ensure efficient, productive data operations:

Secure executive support: Leadership is a key factor in success, and lack of leadership leads to 87% of data science projects failing to make it to market.

Incorporate data science early: Companies that consider data science and data engineering early in their process will see the most success.

Collaborate often: Direct access to and clear communication with the people who work with data makes it easier to adjust tools and process (e.g., guidelines, training, feedback loops), which can positively impact data quality and the overall success of an AI project.

Be prepared for surprises: Developing AI is iterative, and change is inevitable. Companies should consider their workforce and process thoughtfully to ensure each one can provide the flexibility and agility they will need to facilitate innovation quickly while maintaining accuracy along the way. When you realize you're going to need more labeled data than planned, and quickly, it's critical to have the right foundation for quality at greater levels of scale.

AI requires a strategic combination of people, process and technology

At any stage of growth, it's important to understand how to strategically combine people, process, and tools to maximize data quality, optimize worker productivity and limit the need for costly re-work. Leveraging best practices from companies that work with data can put an organization in the best position for success as the AI market continues to grow and new opportunities emerge.