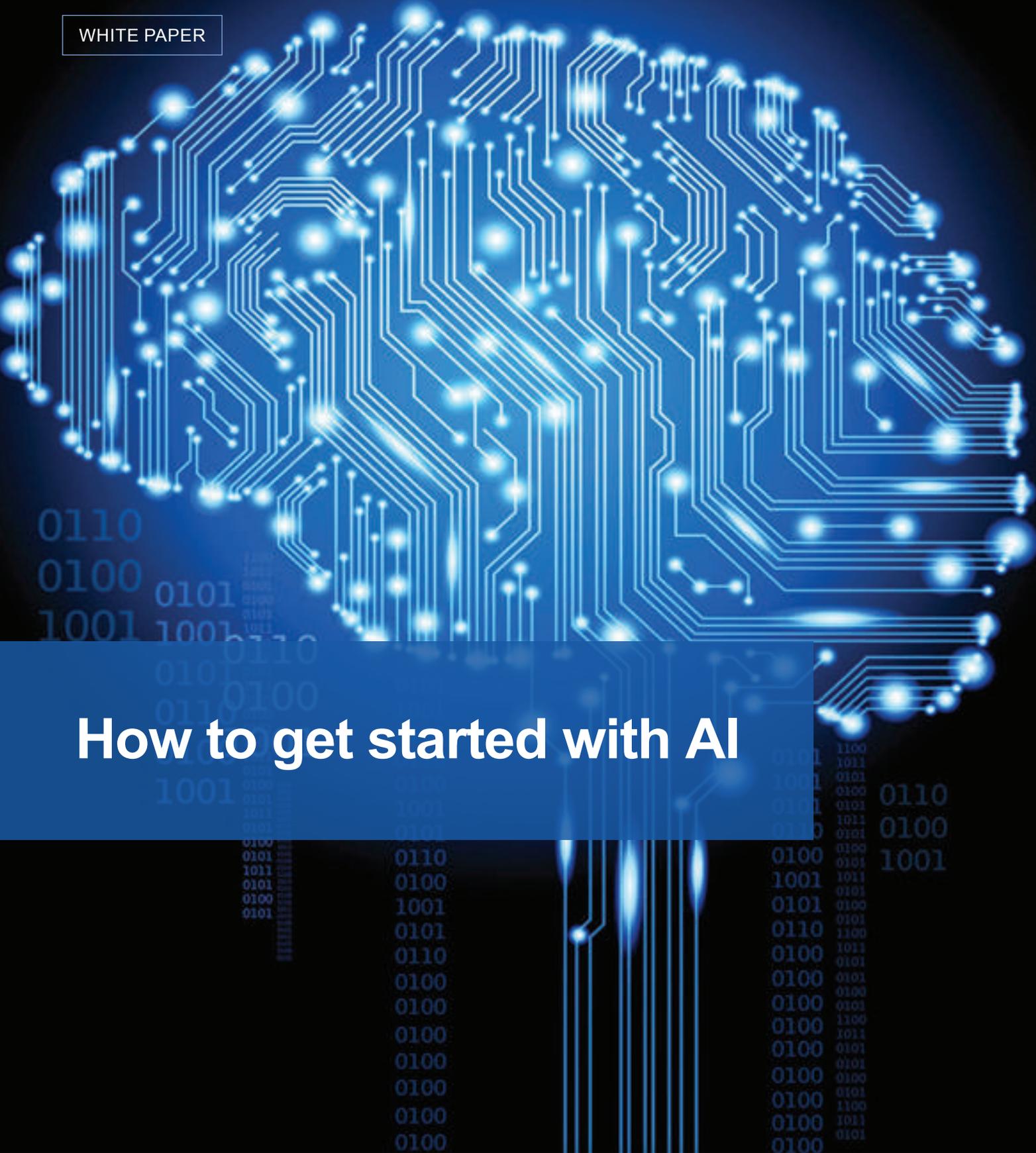


WHITE PAPER



How to get started with AI



latentview

Actionable Insights • Accurate Decisions



Introduction

Information technology is no longer just about process automation and codifying business logic. Insight is the new currency; and time-to-insights and the knowledge it provides is core to value creation and key to competitive advantage. In this context, Artificial Intelligence (AI) is poised to be the catalyst of business transformation and disruption in today's digital economy.

A combination of advances in algorithms, data proliferation, and tremendous increases in computing power and storage has propelled AI from hype to reality. AI has become a strategic priority for businesses today. Gartner predicts that by 2020 AI will be one of the top five investment priorities for more than 30% of CIOs globally.

According to a report by the MIT Sloan Management Review and BCG, 84% of the enterprises believe that investing in AI will enable them to sustain a competitive advantage while 75% believe that AI will open up new businesses. Despite high expectations, business adoption of AI is at an early stage - there is a disparity between expectation and action. Just about any company today needs a plan with respect to artificial intelligence. Those that have been slower to move have some catching up to do. Companies that continue to fall behind in the artificial intelligence race may find the competitive odds stacked against them.

Identifying business cases for AI and overcoming issues related to understanding its implications on technology, business, workplace, and industry will help companies increase the adoption of AI.

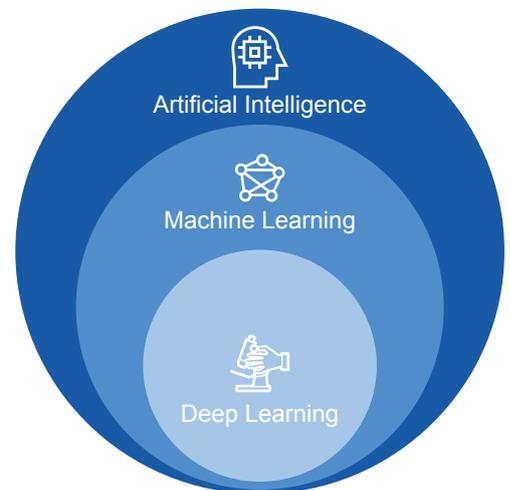
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What is AI

AI can be broadly defined as the ability of a machine to perform cognitive functions we associate with human minds, such as comprehending, reasoning, learning, and problem solving. AI makes it possible for machines to learn from experiences, adapt to new inputs and perform human-like tasks. It works by combining large amounts of data with fast iterative processing and intelligent algorithms, thus allowing the software to learn automatically from patterns in the data. Examples of technologies that enable AI to solve business problems are robotics and autonomous vehicles, computer vision, language, virtual agents, and machine learning.

AI includes many methods and continuously evolving range of technologies including the following major subfields:

- **Machine Learning (ML)** algorithms use neural networks to find patterns and learn how to make predictions and recommendations by processing data and experiences, rather than by receiving explicit programming instruction. The algorithms also adapt in response to new data and experiences to improve efficacy over time.
- **Natural Language Processing (NLP)** is the ability of computers to analyze, understand and generate human language, including speech.
- **Deep Learning (DL)** is a variation of machine learning in which multi-layered neural networks learn from vast amounts of data. Deep learning excels with unstructured data sets, and some of its common applications include image and speech recognition.



Benefits of AI

Artificial Intelligence has the capacity to disrupt markets through the creation of innovative new services and business models, by bringing to the table actionable insights that would otherwise be lost in massive amounts of data. It sees patterns in data that even trained professionals can miss. Much of that data is unstructured data (e.g. data generated by written reports and business documents, videos, photos, social media posts, e-mail messages, etc). It allows you to understand customer behaviour and expectations, and accordingly devise strategies and plans that address their individual needs—all this with a precision and foresight that wasn't possible even a few years ago.



Forward looking organizations are putting to use artificial intelligence and machine learning technologies to automate important but manual and time-consuming tasks, thus allowing their employees to focus on higher-value activities. Business leaders are also leveraging AI to glean new insights, transform decision making and enable improved business outcomes.

Early adoption of AI for specific and clearly scoped out applications enables organizations to create significant business value and set the stage for transforming business processes. Organizations can use artificial intelligence to:

- Increase competitive advantage and improve efficiency.
- Advance automated interactions with customers, partners and workers.
- Multiply productivity gains by automating processes.
- Power smarter machinery, vehicles and structures.
- Enhance customer intimacy and thereby increase consumer demand.
- Improve analysis of video and audio in real-time.

LatentView Analytics helped a global technology infrastructure provider use machine learning to predict churn among existing clients with 90% accuracy which helped it take appropriate measures to retain customers with high customer lifetime value.

AI can be used to extract new insights, transform decision making and enable improved business outcomes.

AI at Work

From image and speech recognition, medical diagnosis, and self-driving vehicles to personalized healthcare, there are many possible applications of artificial intelligence and machine learning across industries. The Retail and Financial Services industries have been some of the early adopters of these next-gen technologies.

Retail

Online retailers are using machine learning algorithms to drive online recommendation engines that offer personalised marketing promotions or user experience based on a customer's previous purchases or online browsing history. Retailers are also able to deliver better customer service using smart machines which can reduce response time and augment staff capacity and capability. From a pricing stand-point, by monitoring price changes over time, E-commerce companies can track patterns in price fluctuations and set their selling-prices according to demand.



Financial Services

The transformative potential of machine learning is compelling the financial services industry to adopt it with enthusiasm. Machine learning can help banks, insurers, and investors make smarter decisions so that they can manage and improve client satisfaction, react appropriately and faster to market trends, predict risk, and innovate to stay competitive.

Financial institutions are now increasingly depending on machine learning algorithms that can identify trends more efficiently than humans and react in real-time; thereby improving their capability to better forecast trading volatility and managing wealth and assets. For instance, the Banking and Finance sector is leveraging artificial intelligence to manage the large volumes of data that is getting generated, and for detecting frauds.

Areas with the biggest AI potential by vertical

|  RETAIL |  FINANCIAL SERVICES |  ENERGY |
|--|--|---|
| <ul style="list-style-type: none">• Inventory planning and delivery management• Personalised design and production• Anticipating customer demand | <ul style="list-style-type: none">• Fraud detection and anti-money laundering• Personalised financial planning• Automation of customer-facing operations | <ul style="list-style-type: none">• Real-time information on energy usage• Predictive infrastructure maintenance• More efficient grid operations |
|  AUTOMOTIVE |  TECHNOLOGY & MEDIA |  MANUFACTURING |
| <ul style="list-style-type: none">• Automated driver assistance• Engine monitoring and predictive maintenance• Connected car and IoT | <ul style="list-style-type: none">• Customised content creation• Personalised marketing and advertising• Automated telemarketing | <ul style="list-style-type: none">• Enhanced monitoring and auto-correction of manufacturing processes• Supply chain optimization• On-demand production |

How to get started with AI

AI initiatives should be allied to specific, well-defined opportunities and problems to have maximum impact. Significant investment is required in skills, processes and tools to successfully exploit AI's true potential. The key areas that organization seeking to deploy AI should consider:

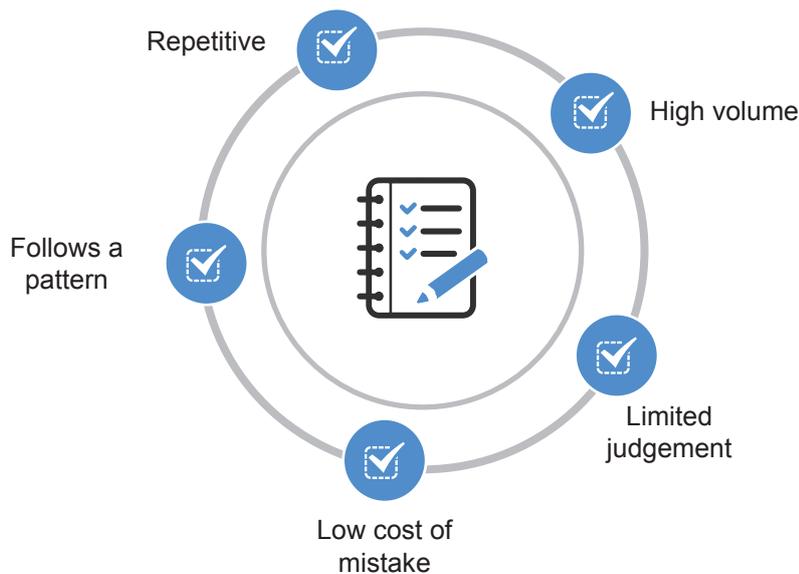
1. Determine what AI means for your business

It's important to first begin with defining your strategic objectives for AI. Start by identifying the problem and defining how AI can help in solving it. Research on the technological developments and competitive pressures coming up within your sector, with specific questions such as: How soon will change arrive, and how you will respond? It's also important to identify the operational pain points that AI techniques could address, and at the same time what game-changing opportunities does AI open-up within your market.

2. Identify a clear business application

Maximize impact of AI initiatives by aligning strategy and deployment to address problems that have rankled the organization historically and where AI appears to present a novel opportunity. Organisational collaboration is critical to identifying the business problem to solve. Also, data that's well-suited to addressing the problem should be readily available. To prioritise where you will implement AI, it is important to map the key process flows that need to be automated and decision flows that need augmentation. Evaluate many use cases in which AI could drive specific business value and then consider testing with one or two high-impact business units.

AI implementation check list



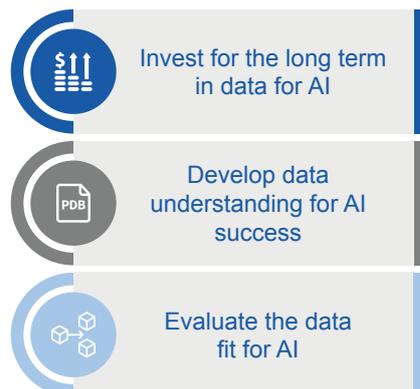
Tasks which satisfy these criteria are starting points for AI implementation

3. Build a data culture for AI

Artificial intelligence is enabled by data. A major limitation faced by AI systems is low quality of data and not less volume of data. Given the pervasive nature of artificial intelligence, the consequence of it getting data "right" or "wrong" is significant. A common misconception is that algorithms and functionalities are more important than data in AI-powered applications. In fact, the two are inseparably linked—without the right data, building models is risky and possibly dangerous. Data enables AI technologies to learn how humans think and feel, and accelerates their learning curve, ultimately making them more accurate.

Data is your primary asset and source of intellectual property, hence it's important to assess what changes and investments can enable the organization to capture more and better quality of data. It's also important to actively collect data assets unique to your core business process or identified as critical to delivering business outcomes. Managing data in support of AI is not a one-off project, but an ongoing activity that should be formalized as part of your organization's data management strategy.

Data management best practices for AI



4. Make sure you have the right talent

One of the key challenges that organizations are facing in adoption of AI is the lack of necessary staff skill. Most organisations lack the internal skills needed to plan and execute AI projects. While the demand for data scientists, data engineers, and other technology professionals is growing, these skills are in short supply. Forward thinking organizations are addressing this challenge by training existing staff to become (citizen) data scientists. Business leaders are also looking to augment in-house expertise with third-party analytics firms that can provide a range of services, from creating use cases, doing pilot projects, training staff, to delivering managed services.

Conclusion

The effects of artificial intelligence will be amplified in the coming decade as virtually every industry will transform their core processes and business models to take advantage of artificial intelligence and machine learning. The hurdle now is in business imagination, implementation, and management. For business leaders, it is imperative to get a plan for making AI work in the organisation. Initial artificial intelligence projects may get delayed or underdeliver, but the risk of organizations becoming non-competitive by ignoring artificial intelligence is high. To gain a competitive edge, increased AI adoption will be the key.

Helping your business to realise the promise of AI

LatentView Analytics is working with companies across industries to harness the power of AI to transform their business processes, drive innovation and enhance customer experience. To know how LatentView Analytics can help you plan for AI and leverage its potential within your business, please get in touch with us at sales@latentview.com

Sources

<http://www.livemint.com/Industry/eKTKQvbsx3wXnDemWijpFK/Artificial-intelligence-to-be-top-investment-priority-for-30.html>
<https://www.pwc.com/gx/en/issues/data-and-analytics/publications/artificial-intelligence-study.html>
<https://sloanreview.mit.edu/projects/reshaping-business-with-artificial-intelligence/>
<https://hbr.org/2016/10/7-ways-to-introduce-ai-into-your-organization>
<https://www.forbes.com/sites/quora/2017/04/05/eight-easy-steps-to-get-started-learning-artificial-intelligence/#38503b3fb117>

About the author



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Jayant brings over 20 years of experience in the IT industry and has worked for companies such as Accenture, Fujitsu, Wipro, and Genpact. At LatentView Analytics, Jayant is actively associated with its thought leadership initiatives and digital marketing strategy.

About LatentView Analytics

LatentView Analytics is one of the fastest growing data and analytics firms globally, delivering solutions that help companies drive digital transformation and use data to gain a competitive advantage. It is a trusted partner to enterprises worldwide, including more than two dozen Fortune 500 companies in the financial services, retail, consumer packaged goods, technology, media, automotive and healthcare industries. LatentView Analytics has offices in Princeton, San Jose, London, Netherlands, and Singapore with its global delivery centre at Chennai, India. For more information, please visit www.latentview.com