Lucidworks

Lucidworks Generative AI Global Benchmark Study

The State of Generative AI in Global Business

A report of the major findings of the largest, global generative AI study of its kind.
Primary research conducted by search and generative AI leader, Lucidworks.

Executive Summary

Generative AI, a revolutionary technology with the ability to autonomously generate content and virtual environments, is driving massive change in global business at an unprecedented pace. The technology holds immense potential to reshape industries, and global business leaders recognize the need to invest in generative AI to seize the opportunities it presents.

Lucidworks conducted the largest global study of generative AI practices, involving over 6,000 participants from companies with 100 or more employees across 14 industries and nine functional departments. The study evaluated 80 generative AI best practices and identified four stages of generative AI development to help businesses create industry-specific, customized generative AI roadmaps.

Planned generative AI spend increase is driven by a strong enthusiasm for the technology across various business functions. Technology and Data Science departments lead the way, with 96% planning to invest more in generative AI, closely followed by Research or Product Development at 93% and the Finance or Accounting function at 92%. However, companies that do not plan to increase their generative AI spending have a much higher number of concerns, highlighting the importance of addressing these issues to foster confident AI adoption.

Key areas of investment for businesses include improved customer experience, automation/efficiency, and overall business operations, as generative AI offers practical solutions for content creation, process optimization, and strategic decision-making.

As generative AI rapidly advances, companies must remain vigilant and proactive in embracing this transformative technology. Proper AI governance and addressing ethical concerns are vital to foster trust and responsible usage. The study provides valuable insights and benchmarks, and prepares a foundation for best practices, to guide companies on their generative AI journey, unlocking its full potential and ensuring their competitive edge in an increasingly AI-driven world.

The Transformation of Global Business In Real-Time

Generative AI is imposing massive change on global business, presenting unprecedented opportunities and challenges — and at a break-neck speed. This new technology can generate content, images, and even entire virtual environments autonomously, thereby disrupting various industries.

The capacity of generative AI to automate creative tasks and produce realistic, high-quality content in near real-time has immense implications for marketing, advertising, customer support, engineering, legal, entertainment, and many other business sectors. It can streamline content creation processes, reduce costs, and enable personalized customer experiences, leading to increased engagement and customer loyalty.

In addition to content generation, generative AI can significantly transform manufacturing and product design. By generating 3D models and prototypes, it can accelerate product development cycles and facilitate rapid prototyping. This innovation can drive efficiencies, shorten time-to-market, and enable businesses to respond swiftly to changing consumer demands.

Furthermore, generative AI can influence decision-making processes across businesses. It can analyze vast datasets, identify patterns, generate valuable insights and recommendations, enable dynamic browsing and shopping, enhance business intelligence, and aid in strategic planning. As a result, companies can make data-driven decisions, optimize operations, and gain a competitive edge — if they are planning for, investing in, and using generative AI.

With such transformational potential comes challenges. Ethical concerns arise due to the potential misuse of generative AI for misinformation, eepfakes, data mingling and security, and other malicious purposes. Safeguarding against these risks becomes critical as the technology becomes more pervasive.

The potential impact of generative AI on global business is evident, reshaping industries, revolutionizing content creation, optimizing processes, and redefining how companies leverage data. Embracing generative AI responsibly and proactively will be key for businesses to unlock their full potential and remain competitive.

DEFINING GENERATIVE AI

Generative AI, short for Generative Artificial Intelligence, refers to a subset of artificial intelligence techniques that focus on the generation of new, original content based on patterns and examples found in existing data. Unlike traditional AI, which is primarily used for analysis and prediction, generative AI is designed to produce new data that mimics the characteristics of the training data it has learned from. The key feature of generative AI is its ability to autonomously create content such as images, videos, music, text, summaries of text, and even entire virtual environments. This is achieved through sophisticated algorithms, typically based on deep learning models, such as Generative Adversarial Networks (GANs) or Variational Autoencoders (VAEs). These models learn to capture the underlying patterns and structures in the training data and can then generate new data samples that closely resemble the original dataset.

The Pressing Need for a Global Generative AI Benchmark

From innovation and competitive advantage to increased productivity and efficiency, AI offers some companies the chance to accelerate their competitive standing while laggards may fall behind. **But how are executives to know what to do next, why, and how they compare to others in the race to adopt generative AI?**

Lucidworks anticipated this need and executed the largest global study of generative AI practices. The study was conducted between May and July 2023 with over 6,000 participants. All participants were affiliated with organizations that are actively pursuing generative AI initiatives and all participants are involved in decision-making, implementation, or use of generative AI tools.

The study included participants from over 3,000 companies with 100 or more employees, 14 industries, and nine functional departments. Roughly 22% of the research participants were executives, 50% were managers, and 90% were involved in AI/IT technology decision-making.

The study evaluated 80 generative AI best practices across five categories and identified four stages of generative AI development. The research findings support probable generative AI 'next steps' specific to various industries and provide valuable insights for companies looking to advance their generative AI initiatives.

LARGEST STUDY OF GENERATIVE AI INITIATIVES

3 continents
8 countries

15 industries /
9 functional areas

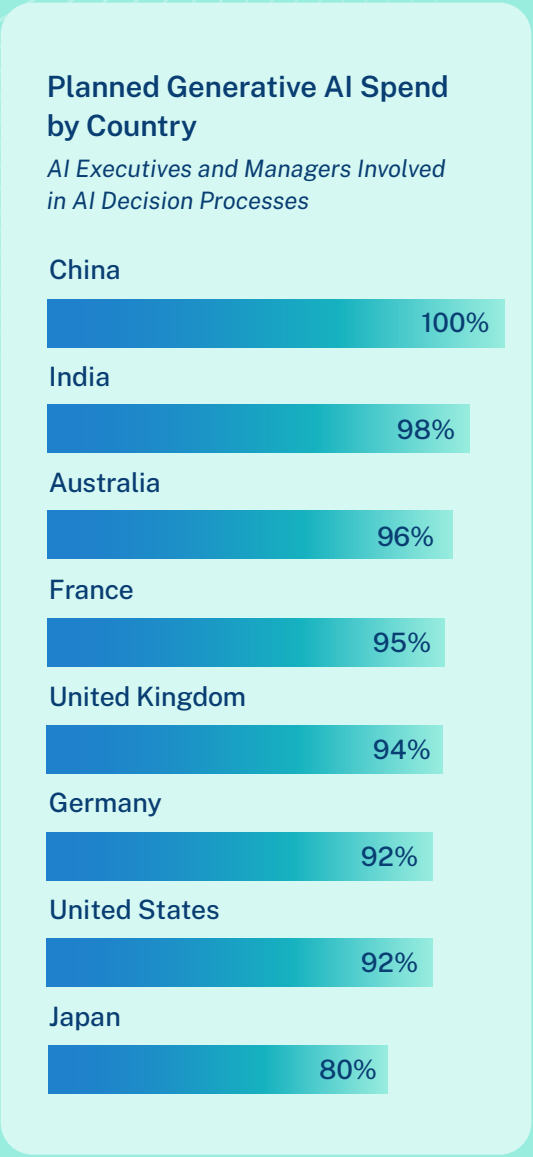
3,000+
companies with
active AI initiatives

22% executives/
50% managers

6,000+ global
AI practitioners
and stakeholders

90% involved in
AI or IT
decision-making

80 generative AI
use cases



KEY FINDING ONE:

93 Percent of Global Companies Plan to Increase AI Investment in the Next 12 months, the U.S. Faces Competition from China and India

In the race to harness the transformative power of generative AI, global companies are gearing up for an investment surge, with an impressive 93% planning to increase their AI spending in the next 12 months. This exciting development comes as no surprise, given AI's potential to revolutionize industries and unlock untapped opportunities. However, while the numbers are promising, a closer look reveals some intriguing trends that indicate a shift in the global AI landscape.

Chinese and Indian companies are leading the charge of primary decision-makers embracing generative AI advancement. A remarkable 100% of Chinese companies and an impressive 98% of Indian companies are gearing up to boost their generative AI investments, showcasing the competitive edge AI offers in the modern business landscape. By heavily investing in AI, these countries position themselves as potential AI leaders, raising the stakes for businesses worldwide.

The United States, though still showing strong commitment, is slightly below the global average with 92% of companies planning to increase generative AI spending. While the U.S. has been at the forefront of AI innovation, this slight dip signals a need to remain vigilant to maintain a competitive edge.

Japanese companies appear to be the most cautious among the global players at 80%, indicating a more measured approach to generative AI spending. Ninety six percent of Australian companies, 95% of French companies, 94% of United Kingdom, and 92% of German companies plan to invest in generative AI.

Companies must act decisively to navigate this new landscape and secure their positions as leaders in the Fourth Industrial Revolution.

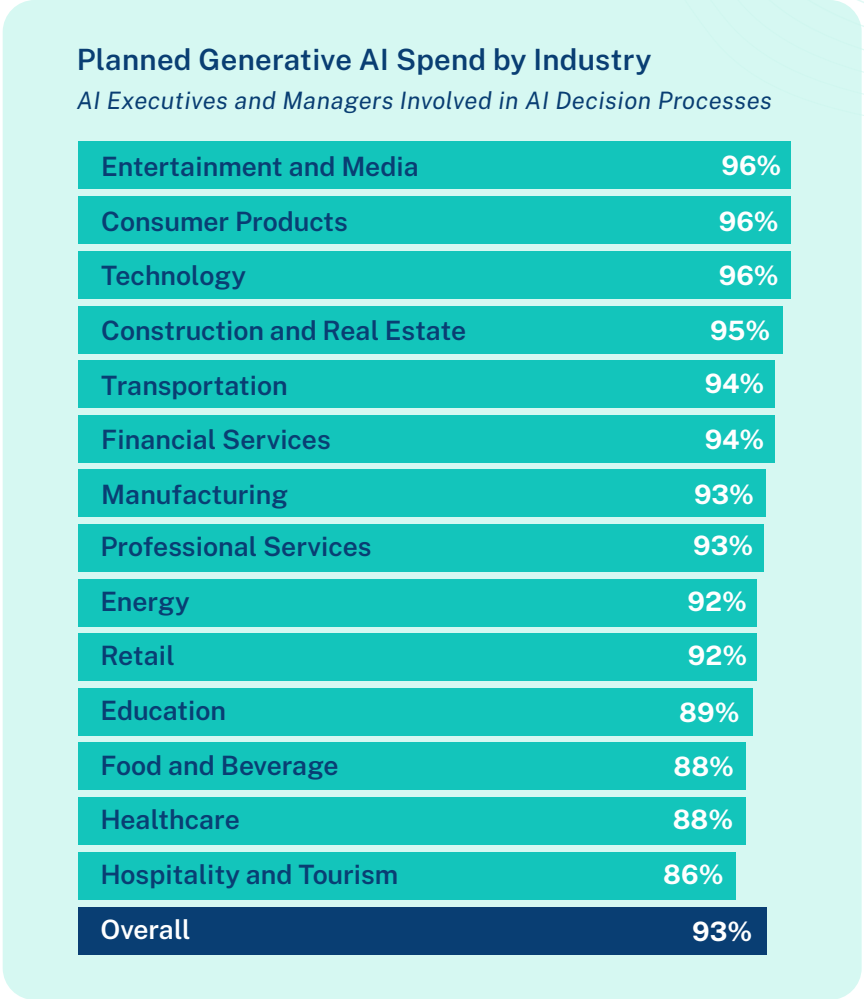
KEY FINDING TWO:

Generative AI Planned Investment is Led By Technology, Consumer Products, and Construction/ Real Estate Industries

The future of generative AI adoption looks promising for entertainment and media, consumer products, technology and construction and real estate industries, closely followed by manufacturing, transportation, energy and financial services.

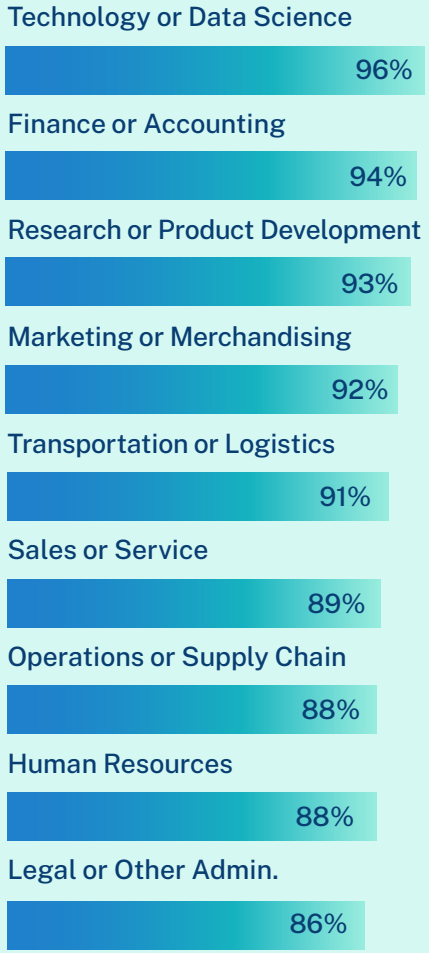
Based on an analysis focused on executives and managers who hold primary decision-making roles related to AI spending, these top industries have recognized the potential of generative AI to revolutionize their content creation, entertainment offerings, and customer experiences.

Conversely, the hospitality, healthcare, and food and beverage (F&B) industries are laggards in terms of investing in generative AI. As the potential of generative AI becomes more apparent, these sectors may explore the opportunities it presents to enhance their services, optimize operations, and improve customer/patient engagement.



Planned Generative AI Spend Increase by Function

AI Executives and Managers Involved in AI Decision Processes



KEY FINDING THREE:

Technology and Data Science Lead Planned AI Investment by Function

The data on planned generative AI spend increase by function reveals the widespread enthusiasm for this transformative technology among various business departments. Roughly 96% of executives and managers involved in AI decision processes from the technology or data science functions are actively prioritizing generative AI investments. This comes as no surprise, as these departments are at the forefront of AI innovation and understand the immense potential of generative AI to revolutionize their industries.

Following closely behind are the finance and accounting (94%) and research or product development (93%) departments planning to increase generative AI spending. These teams recognize the importance of AI in driving innovation, accelerating product development cycles, and enhancing the creative process to deliver cutting-edge solutions that cater to the ever-evolving needs of consumers.

Moreover, marketing or merchandising (92%), transportation or logistics (91%), sales or service (89%), human resources (88%), operations or supply chain (88%), and legal or other admin (86%) functions all exhibit a strong interest in generative AI adoption, recognizing its potential to drive efficiency, enhance customer experiences, and streamline various business processes. These statistics emphasize that generative AI is poised to impact all facets of a business, making it a transformative force across diverse functions and industries.

"AI is going to enhance many people's jobs and make them more efficient. But in some cases, it will entirely replace certain roles. Our business is already doing strategic planning to be ready."

– Study Participant

KEY FINDING FOUR:

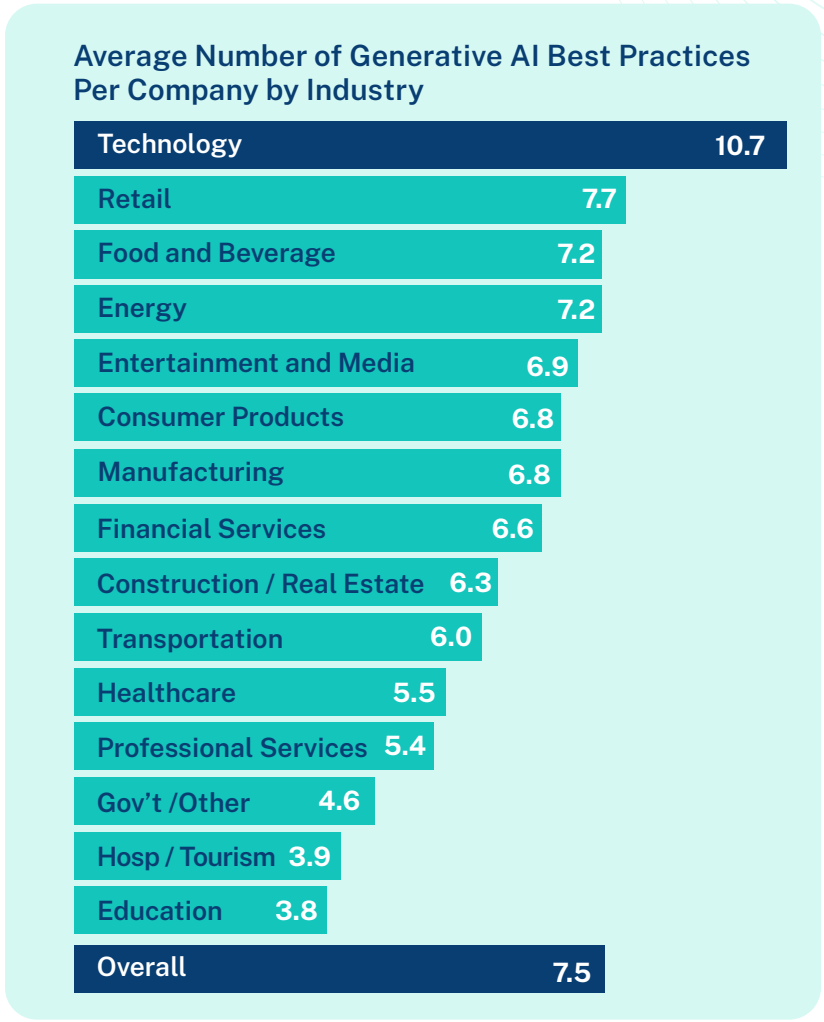
The Majority of Businesses are Early In Their Adoption Journey

The journey of generative AI adoption is still in its infancy across all industries, with companies only beginning to scratch the surface of its potential. Among the 80 identified generative AI Best Practices, the average company has launched a mere 7.5 initiatives, indicating that there is ample room for growth and exploration.

The technology sector leads the way in terms of early generative AI deployment, showcasing its proclivity for innovation and cutting-edge technologies. On average, technology companies have launched 10.7 generative AI best practices.

Following closely behind is the retail sector. With an average of 7.7 launched best practices, retailers are harnessing the power of generative AI to enhance customer experiences, improve the customer and shopper digital experience, and create personalized marketing strategies.

On the other end of the spectrum, the healthcare, professional services, government, and hospitality, sectors are lagging in their adoption of generative AI, each with fewer than 6 launched best practices.



KEY FINDING FIVE:

Today's Generative AI Implementations Are Highly Practical

Businesses are focusing their current generative AI implementations — also considered as 'best practices' — on three highly practical areas.

1 GOVERNANCE

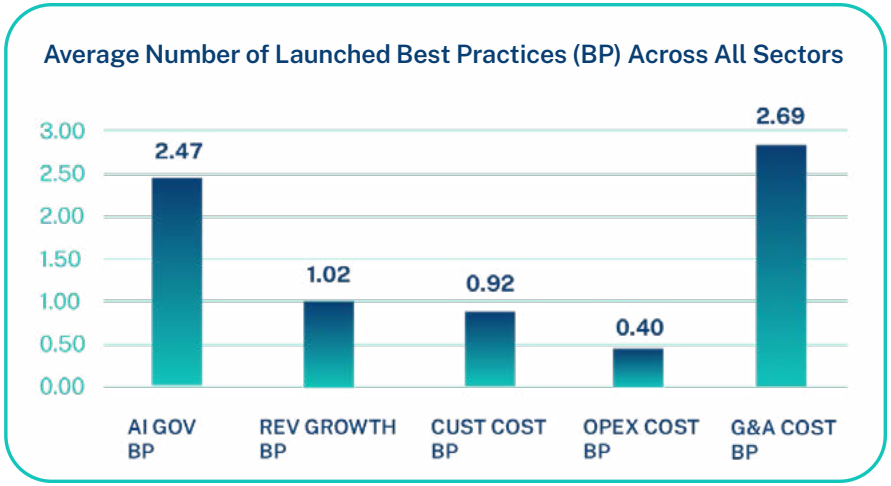
The significance of proper AI governance cannot be underestimated, especially as AI technologies continue to evolve. By prioritizing AI governance, companies proactively address issues related to data privacy, and ethical considerations, and ensure transparency and fairness in AI decision-making processes. This lays a solid foundation for responsible generative AI usage and builds trust among consumers and stakeholders alike.

2 COST REDUCTION

General and Administrative (G&A) cost reduction emerges as a major priority for businesses, and rightly so. Generative AI's capabilities to automate and optimize processes have the potential to significantly streamline administrative tasks, reduce operational costs, and improve overall efficiency. By employing generative AI in G&A functions, companies can free up valuable human resources to focus on more strategic tasks while benefiting from streamlined operations and cost savings.

3 OPEX, SERVING CUSTOMERS, GROWTH

As organizations delve deeper into generative AI adoption, certain operational areas, such as manufacturing, logistics, operation expense management, and services lifecycle and growth will pose more significant challenges. These sectors are known for their complexity and reliance on statistical AI, which may require more extensive adaptation to incorporate generative AI effectively. Nevertheless, the potential benefits are immense, and early exploration of generative AI in these operational domains could yield a high reward.

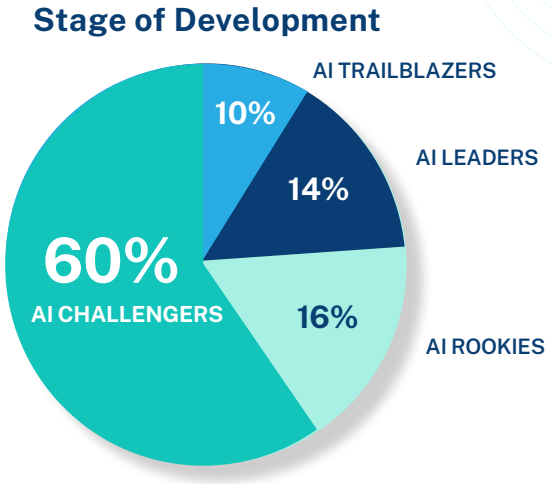


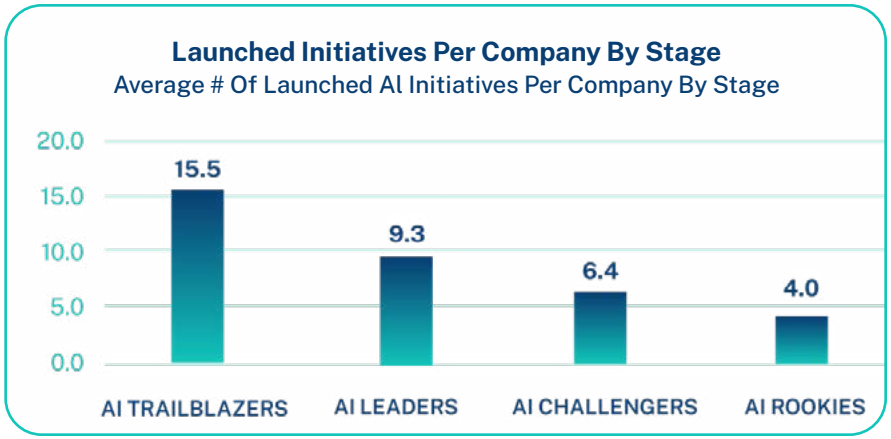
KEY FINDING SIX:

Companies Are in Early Stages of Generative AI; Trailblazers and Leaders Stand Out

To evaluate companies' progress, Lucidworks has devised a comprehensive set of stage criteria, equally weighted, to measure generative AI adoption. The criteria include the level of AI investment, leadership commitment, the number of generative AI initiatives already launched, and the number of planned generative AI initiatives. By assessing these factors, Lucidworks aims to provide a comprehensive view of how companies are embracing generative AI across different dimensions of their business.

Companies have been categorized into four stages based on their launched generative AI initiatives: Trailblazers (10%), Leaders (14%), Challengers (60%), and Rookies (16%). Trailblazers and Leaders stand out as pioneers in generative AI by having higher than average launched AI initiatives; Trailblazers averaged 15.5 launched initiatives, Leaders averaged 9.3 launched initiatives. Challengers and Rookies lag in launches AI initiatives; Challengers averaged 6.4 launches initiatives and Rookies averaged 4.0 launched initiatives. For businesses looking to understand where they stand in the landscape of generative AI adoption compared to their peers and industry leaders, this study can help.





KEY FINDING SEVEN:

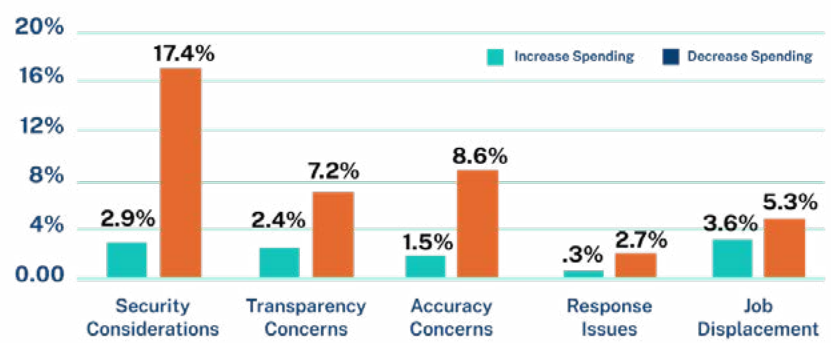
Concerns About AI Guide Investment Decisions

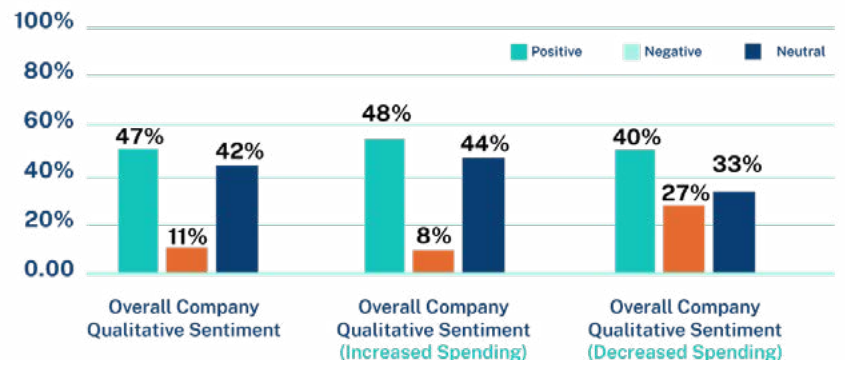
The data highlights a significant correlation between companies that do not intend to increase their generative AI spending and the prevalence of concerns related to the technology. In fact, these companies have approximately four times the number of generative AI concerns compared to their counterparts who are proactively investing in generative AI.

The top concerns cited by such companies revolve around crucial aspects of generative AI implementation, including the security of company data, transparency in understanding how AI-based decisions are made, the accuracy of AI-generated outputs, ensuring responsiveness in terms of timeliness and tone, and avoiding bias. The fear of job displacement is a prominent concern, as companies grapple with the potential impact of generative AI on their workforce and organizational dynamics. The data underscores the importance of informed decision-making when it comes to generative AI adoption. Companies that are hesitant to increase spending on AI are more cautious due to these legitimate concerns. Addressing these apprehensions requires a comprehensive approach that emphasizes data security measures, increased transparency in AI algorithms, and continuous efforts to improve AI accuracy and fairness. Additionally, companies must actively explore ways to re-skill and up-skill their workforce to align with AI-powered operations and foster a collaborative environment where AI enhances human capabilities rather than replacing them.

In contrast, companies willing to increase generative AI spending exhibit a higher level of confidence in addressing these concerns. By allocating resources towards the development of AI best practices, these companies can invest in robust security protocols, work towards more interpretable AI models, enhance the accuracy of AI outputs through continuous learning, and develop AI practices that promote responsiveness and fairness in interactions.

Companies That Do Not Plan to Increase Generative AI Spend Have Quadruple the Number of AI Concerns





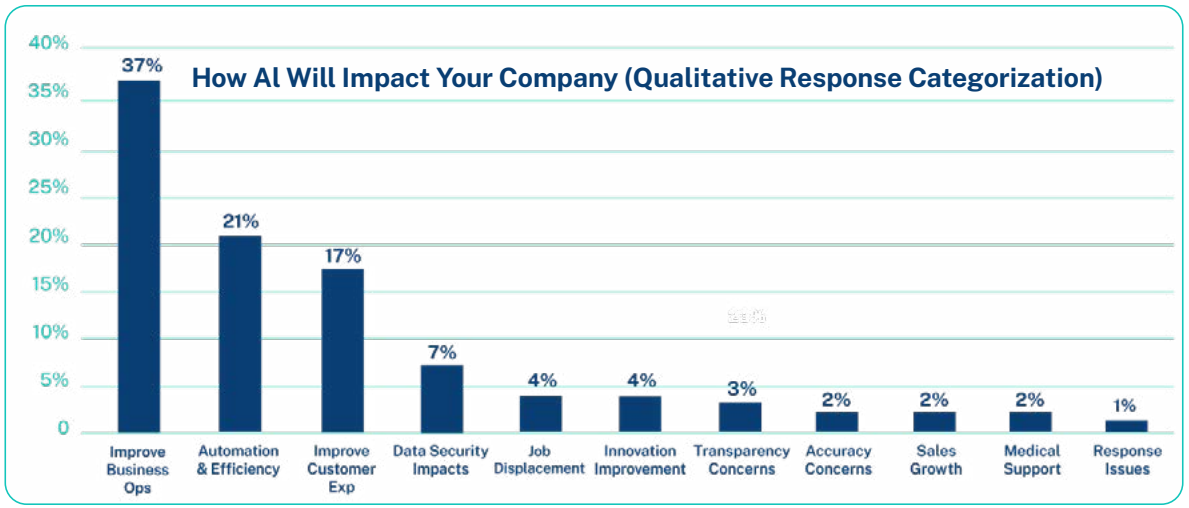
KEY FINDING EIGHT:

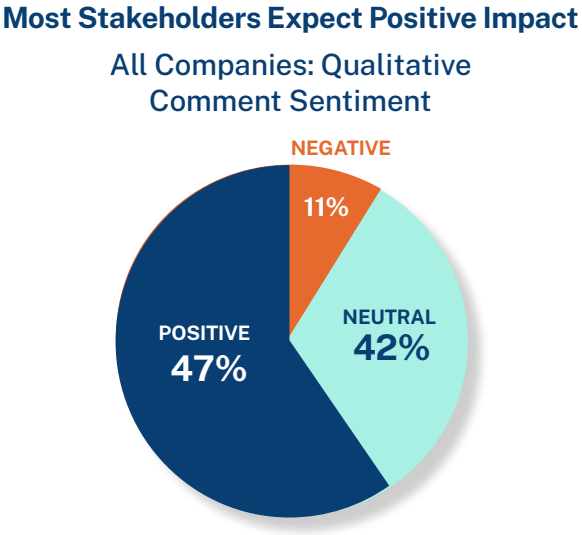
Investments in Generative AI Mean Positive Improvements In Operations, Efficiency and Customer Experience

Investing in generative AI can be a prudent and forward-thinking decision for stakeholders, with a majority 47% of comments expressing positive sentiments about the impact of these investments. The ability of generative AI to streamline processes, enhance creativity, and revolutionize customer experiences is highly promising. Respondents ranked the top areas they expect from these investments as improving business operations, improved automation and efficiency, and improving the customer experience.

Forty two percent of comments maintain a neutral stance, reflecting a cautious approach prevalent among some stakeholders. Generative AI technology is still evolving, and certain applications may encounter ethical or practical challenges. Nevertheless, most of the positive feedback highlights the strides made by generative AI, fostering a belief that its continued refinement will yield positive results.

Eleven percent of comments express concerns about generative AI investments. Such reservations are healthy, as they prompt critical evaluations and thoughtful considerations of potential risks. It is incumbent upon the industry to address these concerns transparently and work towards building a responsible and ethical framework around generative AI applications.





KEY FINDING NINE:

Best Practices for AI Adoption Planning

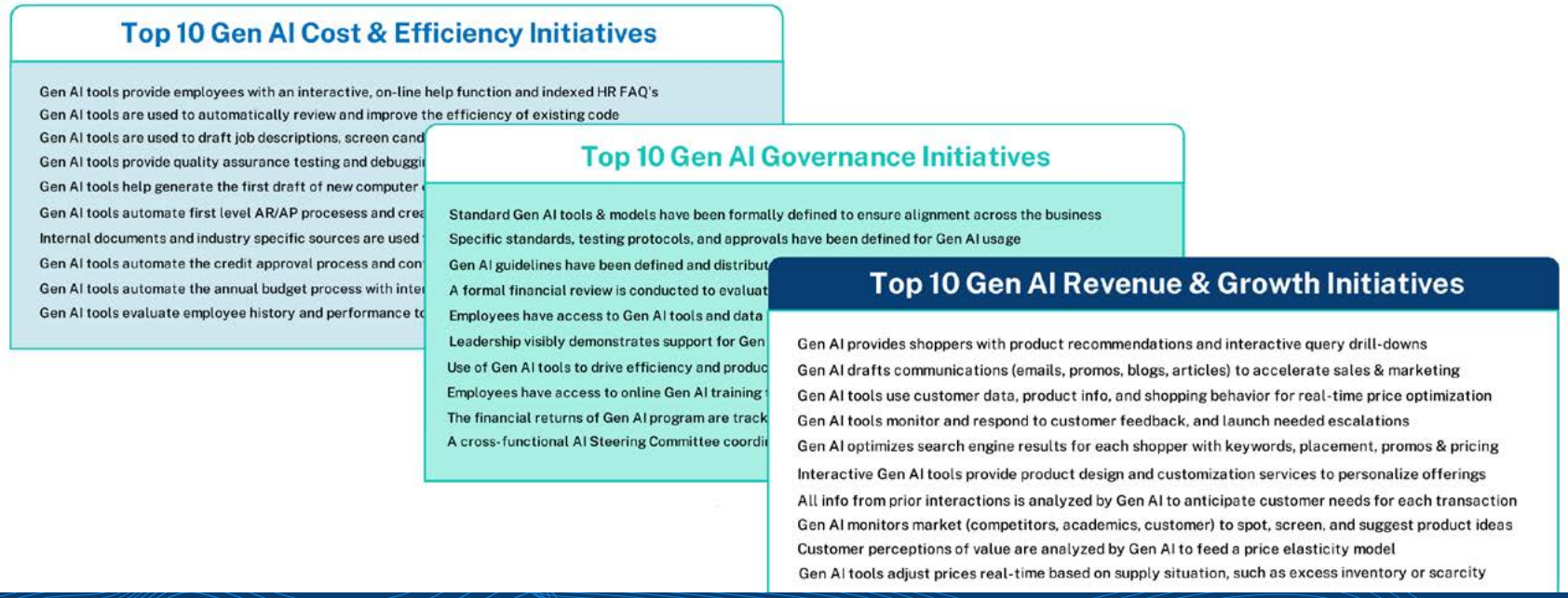
Lucidworks' new, global generative AI benchmark study offers valuable insights for businesses aiming to embark on their generative AI journey. Through a comprehensive assessment of Implemented, Planned, and Desired Best Practices, the study enables companies to construct a tailored generative AI roadmap by industry, providing a solid starting point for strategic planning.

By aligning their AI initiatives with industry-specific best practices, businesses can capitalize on the most effective approaches for their respective sectors, enhancing the likelihood of successful implementation and maximizing the benefits of generative AI technology. With this best practices mapping from Lucidworks, businesses can understand their current position in relation to generative AI adoption and identify the optimal pathways to progress further.

Lucidworks has plotted industries based on four distinct phases of progression along the generative AI road. This insightful categorization enables companies to gauge their level of maturity in AI adoption, identify potential challenges and opportunities, and strategize their efforts accordingly to propel themselves toward the forefront of AI innovation within their specific industry.

"Now is the time to understand the strategy and operational opportunities for generative AI. The fundamental shift that is occurring is swift, global, and highly impactful. This study confirms the emergence of generative AI industry leaders and laggards, and those that move swiftly to orient their practices can move ahead quickly."

— Mike Sinoway, Lucidworks CEO



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APPLYING AI TO WORKPLACE AND COMMERCE USE CASES WITH LUCIDWORKS

By utilizing generative AI technologies, Lucidworks aims to revolutionize the search experience, making it more efficient, personalized, and accurate. Lucidworks offers commercial applications of generative AI-based search enrichment solutions powered by integrations with LLMs:

1	**Workplace**	Summarize and more accurately index large amounts of document text to improve employee searches and productivity
2	**Commerce**	Interact with retail online buyers through chat to answer questions using natural language exchanges, and also display curated products from catalogs with applied merchandiser rules for security and controls
3	**Team Efficiency**	AI orchestration capabilities to manage large language models (LLMs) easily in a standardized place and way. This is made possible with LLM-powered keyword extraction, summaries, retrieval augmented generation, improved embeddings model training and deployment, and semantic vector search with pre-filtering, integrated with Lucidworks AI-hosted embeddings models
4	**Security & Control**	Guardrails for LLMs and generative AI including controls, security trimmings, data enrichment, content exclusion, merchandising, and experience optimization
5	**Help from Humans**	Lucidworks AI expert services, model training, best practices, and AI benchmarking

Lucidworks' utilization of generative AI in search has the potential to transform how users interact with search engines, and the shopping and browsing experience, offering a more intuitive, personalized, and efficient search experience that meets the evolving demands of modern users.

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Research Methodology

This study was conducted using a global online panel. The B2B online panel is a carefully curated group of professionals and key decision-makers from diverse industries and businesses. These panel members have voluntarily opted to participate in research studies and surveys related to their respective fields. They are typically selected based on specific criteria, such as their job title, company size, industry, or expertise, ensuring that the panel represents a wide range of businesses and sectors.

The recruitment process for B2B online panels involves reaching out to potential participants through various channels, including industry-specific forums, professional networks, trade shows, and targeted online advertising. Incentives may be offered to encourage participation and maintain panel engagement over time. B2B online panel is an invaluable tool for companies and researchers seeking to understand the complexities of the business world. By tapping into the knowledge and experiences of professionals across various industries, businesses can make data-driven decisions that align with market demands and drive growth and success in the competitive B2B landscape.

Questions?

Interested in more information about this data for your industry, or best practices to follow for the next phase of your generative AI advancement? Contact Lucidworks today. **Lucidworks.com**

About Lucidworks Lucidworks makes search a superpower for its clients. The company believes the key to a great digital experience starts with search and browse. Lucidworks captures user behavior and utilizes generative AI and machine learning to connect people with the products, content, and information they need. The world's largest brands, including Crate & Barrel, Lenovo, Red Hat, and Cisco Systems rely on Lucidworks' suite of products to power commerce, customer service, and workplace applications that delight customers and empower employees. Learn more at **Lucidworks.com**