



GAME CHANGER: HOW GEN AI IS REVOLUTIONIZING SPORTS

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FROM DATA TO DOMINANCE

The sports industry is booming, with the market **expected to hit \$629.81 billion by 2028**, growing at a steady 5.6% annually. This growth is driven by several factors including new distribution strategies, better fan engagement, and the rise of niche and international leagues.

The rapid expansion of the industry opens up tremendous opportunities for everyone in the sports ecosystem. Sports clubs and leagues can reach and excite wider audiences through direct-to-consumer platforms and personalized experiences. Sports betting companies can use real-time data to offer more tailored experiences. Media and broadcasters can customize content based on viewer analytics, and merchandising and ticketing retailers can manage inventory and pricing with predictive analytics.

In this dynamic landscape, organizations that can harness the power of AI — especially generative AI — and data will be ahead of the game. Gen AI is transforming content production, marketing, player health and safety, roster building and playbook strategies. It's also enhancing live-game viewing with data-driven visualizations, alternate camera angles and even alternate commentators.

GEN AI'S MVP IS HIGH-QUALITY DATA

Think of timely, high-quality data as the MVP that drives a team to victory. Without it, your AI's output will be unreliable and ineffective. But privacy regulations are making it tougher to collect and use actionable data. As a result, leading sports organizations are investing heavily in building their own fan data and analytics programs and proprietary fan databases.

No matter where your data comes from, having a solid game plan for deploying data and AI is essential to unlocking the full potential of gen AI. In this ebook, we delve into how gen AI is changing the sports industry, the hurdles sports organizations face in adopting this technology, and how to get your data playbook ready to make the most of this transformative technology.

GAME-CHANGING GEN AI APPLICATIONS IN SPORTS

Virtually everyone in a sports organization can use gen AI thanks to modern applications that run on natural language inputs, eliminating the need for technical knowledge to deliver data-driven insights. These apps tee up a range of opportunities that can enhance fan experiences, improve team operations and optimize sportsbook offerings.

FAN EXPERIENCES

Personalization is the name of the game for fan experiences. AI can help tailor ads, messages and content to fans based on factors like their interests, geography and past behavior. This can enhance fans' overall experience and connection with the team, brand or sport, ultimately improving fan loyalty and boosting revenue. Here are some examples of what gen AI can do for fan experiences:

- Deliver targeted marketing and offers such as next best action suggestions, game promotions and merchandise recommendations by incorporating fan insights
- Curate highlight reels and data visualizations that align fan interests with live game and shoulder content
- Identify rewards and incentives based on ongoing fan engagement and conversion
- Provide customized betting recommendations that align with personal preferences and appetite for risk





TEAM OPERATIONS

Sports team leaders can turn their team into a powerhouse of performance with the help of gen AI. Here are some examples of what LLMs and predictive analytics can do:

- Identify ideal positions and traits for targeted recruits and assess player performance and potential for scouting
- Recommend plays and lineup strategies based on game scenarios, player analytics and archived video
- Suggest customized practice and nutrition plans for players, and develop personalized training programs to prevent injuries and track rehab progress
- Design game rules to minimize injury risk and create realistic virtual environments for safe training
- Provide insights into live game content, sports betting products, and ticketing and merchandise sales for dynamic ticket pricing

SPORTSBOOKS

By adopting gen AI, sportsbooks can enhance their accuracy, security and overall user experience, making them more reliable and appealing to bettors. Here are some examples of what LLMs and advanced AI systems can do:

- Provide insights for setting odds and lines, ensuring that sportsbooks offerings are both competitive and profitable
- Predict potential fraudulent activities and identify problem gamblers, allowing sportsbooks to implement effective risk mitigation strategies
- Enhance user experience by offering real-time updates and personalized betting recommendations
- Provide customized betting recommendations that align with personal preferences and appetite for risk
- Improve efficiency by automating routine tasks such as data entry, report generation and scheduling
- Help ensure compliance with local regulatory requirements through advanced monitoring and reporting capabilities

NAVIGATING THE HURDLES OF GEN AI ADOPTION

Sports organizations looking to adopt gen AI face unique challenges that will require strategic game plans and innovative play-calling. From managing technical complexity and costs to enabling a strong defense with robust security and governance, leaders must tackle these impediments to fully realize the transformative potential of gen AI.

COMPLEXITY

Overcoming legacy solutions and data silos:

Legacy solutions can be incompatible with modern AI tools, making integration complex and resource intensive. Outdated infrastructure causes data silos between different units such as marketing, production and distribution, which hinders the flow of information and reduces the effectiveness of AI-driven insights. Many sports organizations struggle to break down barriers to data sharing. According to a recent enterprise survey, **90% of respondents say their data is unstructured**, in forms such as email, text files, videos, images and web content. Additionally, half of respondents say their company's unstructured data is mostly or completely siloed.

Building and maintaining an enterprise-grade data + AI stack: Integrating diverse data sources, managing large volumes of multimedia content, and ensuring seamless operation are technically demanding tasks. The need for specialized talent, such as data engineers and AI experts, further complicates the process. Customizing AI for personalized content recommendations and targeted advertising adds another layer of intricacy, especially when dealing with data silos.

Democratizing access to AI tools: Making AI tools work across all business and technical teams is a major hurdle. Many team members, particularly those in editorial and creative roles, lack the technical skills to use these tools effectively. Limited resources make it tough to maintain AI infrastructure and provide the necessary training. Organizations must integrate AI tools seamlessly with existing systems, maintain data compatibility, and uphold security standards to prevent slowing down innovation and AI adoption.

TECHNOLOGY CHALLENGES TO CONSIDER

- **Managing technical complexity:** Most enterprises lack the resources to develop their own LLMs, so they fine-tune pretrained foundation models like GPT4 or BERT using their own data. This requires data science expertise and model governance to ensure the foundation model is tailored to the organization's needs.
- **Meeting high-resource demands:** Developing a foundation model requires storing and managing enormous amounts of structured and unstructured data. The model training process also requires significant computing power, typically using massively parallel banks of GPUs.
- **Minimizing data movement across applications:** Requests for gen AI-powered apps can pressure internal teams to create siloed data copies, increasing data risks.

COST

Building and managing AI systems: For sports companies trying to build their own AI systems, the initial setup costs for infrastructure, software and skilled personnel can be high. There are ongoing expenses for data storage, processing and model maintenance. AI models need continuous updates and improvements, which further adds to the financial burden. Companies must also consider the potential costs of integrating AI with existing systems.

Managing metadata: Sports companies must handle vast amounts of metadata — such as video tags, ad impressions and audience interaction data — which are essential for real-time content delivery and analytics. Handling all the metadata across different platforms can get very expensive due to data duplication and latency issues. Data management requires substantial storage and processing power, which drives up costs. Plus, maintaining separate infrastructures for different AI apps creates redundant costs and operational delays.

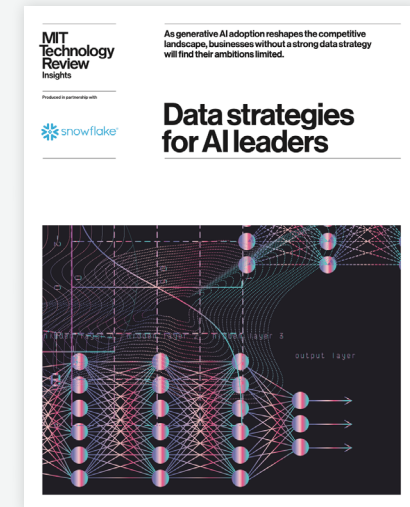
Using LLMs: The use of LLMs for content generation, targeted advertising and audience analysis might seem like a good idea at first, but the costs can skyrocket as projects scale. Training and deploying these models requires specialized hardware and ongoing maintenance, which adds up quickly. Developing custom models for specific content or ad strategies can improve performance, but it also requires a significant investment in both development and management.

SECURITY AND GOVERNANCE

Safeguarding personal data and intellectual property: Using detailed consumer data to personalize content and ads can expose sensitive information, such as viewing habits and personal preferences, to potential breaches. This not only risks legal and reputational fallout, but also undermines consumer trust. Additionally, as AI becomes more involved in content creation and distribution, protecting intellectual property is crucial to avoid legal and financial risks.

Securing data during model training and use: When sports companies use proprietary data to fine-tune off-the-shelf foundation models, there's a risk of exposing that data to other users of the model, depending on the security of the training environment. This data may include personally identifiable information (PII) and intellectual property. Also, gen AI systems that learn from user prompts can inadvertently share personal or proprietary information, potentially exposing it to unauthorized parties.

AI governance and regulatory compliance: Good AI governance means regularly monitoring tools to ensure they are functioning as intended and aligning with business needs. It's also important to document how these AI systems make decisions so everyone knows and trusts the process. Sports companies must ensure they are compliant with new and applicable regulations, such as the EU AI Act and U.S. guidelines, which exist to make sure AI used in media and advertising is fair and transparent.



Learn the latest insights from global business leaders about how AI is transforming their organizations and forcing tough conversations about data quality and access.

[Download the Data strategies for AI leaders report.](#)

A WINNING STRATEGY ON USING DATA AND AI

Data is the cornerstone of any successful AI strategy, and this is particularly true in the sports industry, where data is the MVP driving every winning play. Whether you're competing for fan wallet share through ticket sales and merchandise, striving for on-field dominance, or attracting betting customers, the quality of your AI models hinges on the data they are trained on.

Before implementing gen AI, sports organizations need to establish a robust data strategy. This involves deploying a modern data platform that collects data in one place, secures it, shares it, and allows for uniform and granular governance policies. A cloud-based platform allows for easier collaboration between internal and external stakeholders, as well as the ability to ingest data from outside sources such as partners, agencies and third-party data vendors.

Here are three key steps to implementing a robust data strategy:

1. Break down silos

Collecting data in one place is a necessary first step toward preparing it for gen AI. Companies need to facilitate the integration of diverse data types, both structured and unstructured, from multiple sources. This is crucial for gen AI, which relies on comprehensive data sets to generate accurate and insightful outputs. Data can include player performance metrics from a coaching division, fan engagement data from social media platforms, and operational statistics from ticket sales.

2. Build an agile data foundation

IT environments are rarely homogeneous, and this is especially true for sports organizations, which often manage legacy infrastructure alongside newer technologies. Hybrid on-premises and multi-cloud architectures are common. Despite this diversity, an agile data foundation can streamline the collection and sharing of huge volumes of first- and third-party data. It also can enforce strict data governance and security policies, ensuring data quality and accessibility with secure sharing capabilities. Additionally, it supports real-time analytics and decision-making.

3. Leverage a modern data cloud platform

Modern cloud-native data platforms enable real-time data processing and analytics, essential for gametime decisions. They enhance collaboration across departments and external parties, and allow for AI model customization. Additionally, support for cloud-native technologies such as serverless computing and containers allow compatibility with major cloud platforms, avoiding vendor lock-in and high transfer fees.

SCORING BIG WITH A MODERN DATA CLOUD PLATFORM

A modern data cloud platform can function like a versatile playbook, easy for coaches and analysts alike to use and adapt to different game plans.

- **Easy to use:**
Intuitive interfaces and user-friendly tools make a modern data cloud platform accessible for users with limited technical knowledge. Its flexibility allows seamless integration with various data sources and applications, resulting in faster insights.
- **Lower total cost of ownership:**
A fully managed platform takes care of maintenance and updates, freeing up technical teams for strategic initiatives rather than operational tasks. Pay-as-you-go pricing models allow you to only pay for the resources you use, optimizing budget allocation. And the scalability of cloud platforms means you can manage costs as your data needs grow.
- **Robust security and governance:**
Advanced security measures, including encryption, access control and compliance certifications, act like a strong defensive line that protects sensitive data against breaches and misuse. Comprehensive governance features enable you to manage and use data in accordance with regulatory requirements.
- **Faster and easier AI deployment:**
Integrated tools and frameworks lend to a streamlined process that reduces the time and effort required to develop, train and deploy AI solutions. As a result, sports organizations can quickly get their AI models off the bench and into the game.

SNOWFLAKE CORTEX: THE SMART WAY TO BUILD APPS POWERED WITH GEN AI

As sports organizations harness the potential of gen AI apps to drive innovation, they'll aim to create their own mini LLMs using data they can control. **Snowflake Cortex** is an intelligent, fully managed service that hosts and serves industry-leading LLMs, ML models and vector functions. It enables quick and secure analysis of proprietary data, facilitating the development of custom gen AI apps.

CORTEX AI CAPABILITIES



Easy

Skip the infrastructure management with serverless AI to analyze unstructured data, build chatbots and other AI apps.



Efficient

Run top-tier LLMs, state-of-the-art hybrid search and other services next to your secure, governed data.



Trusted

Protect the value of your data and models with industry-leading security and unified governance trusted by thousands of organizations.

THE FUTURE OF SPORTS IS AI-DRIVEN

Artificial intelligence presents exciting opportunities for sports and gaming organizations aiming to outscore the competition. By personalizing fan engagement, enhancing athletic performance and optimizing marketing strategies, AI helps teams stay ahead of the curve. In the future, gen AI will unlock even more opportunities, such as real-time strategy optimization and immersive virtual reality experiences that bring fans right into the action. However, getting there requires companies to get their data houses in order by adopting a modern, cloud-native data platform.

For more information on how to achieve your AI objectives, visit [The Snowflake AI Data Cloud for Sports](#). If you'd like to take a deeper dive into gen AI, check out [The Essential Guide to Generative AI](#).





ABOUT SNOWFLAKE

Snowflake makes enterprise AI easy, efficient and trusted. Thousands of companies around the globe, including hundreds of the world's largest, use Snowflake's AI Data Cloud to share data, build applications, and power their business with AI. The era of enterprise AI is here.

Learn more at snowflake.com (NYSE: SNOW)



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