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SPOTLIGHT

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Generative AI agents will empower business users and enable data teams to focus on strategic initiatives resulting in data-driven culture.

The Future of BI: Generative Agents in Action

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Introduction

AI is now embedded in everyday tools and is delivering real-world impact. In the realm of data and analytics, AI goes further by augmenting human intelligence to unlock deeper, more meaningful insights. IDC's February 2025 *Future Enterprise Resiliency and Spending Survey* found that 38% of organizations surveyed were implementing AI to improve the productivity of data operations that, in turn, enhance data quality, accelerate insight generation, and ensure readiness for AI-driven initiatives.

The rise of AI agents is adding to AI's momentum. AI agents can be deployed across any aspect of an organization's technology stack and have agency or autonomy around executing workflows, reasoning, and taking actions. In IDC's February 2025 *CIO QuickPoll,* 60% of respondents called agentic AI a business model disruptor. AI agents not only allow for faster time to value but also support human workers by taking on cumbersome tasks. Generative AI (GenAI) agents are able to undertake autonomous actions in the background allowing for improved employee productivity and task efficiencies that result in transforming business models.

AT A GLANCE

KEY STATS

- Nearly 72% of organizations said they were embedding GenAI capabilities/introducing GenAI-enhanced applications and services into production (source: IDC's *Future Enterprise Resiliency and Spending Survey,* January 2025).
- 74% of organizations said that their focus on business intelligence and analytics increased due to GenAI (source: IDC's *North American Business Intelligence/Analytics Survey,* August 2024).
- Nearly 60% of CIOs surveyed called agentic AI a business model disruptor (source: IDC's *CIO QuickPoll,* February

According to IDC's January 2025 *Future Enterprise Resiliency and Spending Survey,* 72% of organizations are embedding GenAI capabilities or introducing GenAI-enhanced applications and services into production. The same survey highlighted that wider adoption of GenAI requires companies to consider the priorities within their AI strategy, with 43% focused on responsible AI, 38% on data management, and 35% on technology deployments/partners.

IDC's August 2024 *North American Business Intelligence/Analytics Survey* highlighted that nearly 80% of the respondents were using or integrating GenAI capabilities into their business intelligence and analytics (BIA) solution, while 74% indicated BIA was their top focus or that their focus on it had greatly increased. GenAI allows for efficiency around generating insights, engaging in advanced analytics, and querying more data within the organization.

However, according to the survey, companies face the following challenges when it comes to making data-driven decisions:

- Only 42% of organizations use the breadth of data sources available to them and just 35% use the breadth of data types available within their organizations.
- Two in five organizations have insufficient business intelligence (BI)/data staff to support the organization.
- One-third also indicate a low level of data literacy among their employees.
- One in two organizations are seeking capabilities around automatically identifying trends in data and building or deploying predictive models and forecasts.

IDC's 2023 *Enterprise Intelligence Survey* also found that two in five organizations say their processes are siloed and disconnected and note that users are resistant to change or are not focused on learning new data skills and techniques, resulting in data not being used properly. The same survey also highlighted that one-third of the respondents say they are unable to get timely access to trusted data at the right time in the process.

The lack of data team resources and the low level of data literacy among employees often lead to business users relying on the data team to support ad hoc data analysis requests, which causes team members to shift their focus from strategic initiatives. To address these concerns, organizations seek to empower data analysts and business users with solutions including AI-powered self-service, embedded business intelligence, and analytics.

One way organizations support business users is by providing them with an embedded dashboard that displays a predefined set of key performance indicators (KPIs). However, poorly designed dashboards can result in visual clutter, and raw data can overwhelm users and make insights harder to find. Also, the lack of context can render dashboards ineffective.

By introducing GenAI capabilities, organizations will be able to empower users by enhancing agility around generating insights and engaging in informed actions. The pervasiveness of GenAI will be based on use cases and the value these use cases can provide either by task, persona/business processes, or industry. GenAI capabilities will be introduced across organizations either as assistants or agents, and models will be trained to be more persona based to meet the needs of different business processes and functions.

Business intelligence is an area where the use of GenAI agents can drive value, as there is growing demand for organizations to leverage "citizen analysts" and automate data analysts' responsibilities to allow them to address more complex queries.

Incorporating GenAI capabilities into business intelligence is giving rise to generative BI (GenBI) solutions. GenBI agents allow users to query via a conversational AI interface and the agents work on automating the data workflows in the background. Organizations are now looking for an integrated BIA and data platform that will enable them to leverage data, ensure data governance and quality, gain access to insights, and enable self-service capabilities. This approach also allows for improved performance, security, and efficiency.

Use Cases Around Business Intelligence

There are several use cases within business intelligence that embedding GenAI/GenBI agents into these solutions can enable, including:

- **Natural language querying:** Users can query data using natural language to access data insights and trends. They will also be able to receive guidance on the types of data they can use for reporting, visualization, and decision-making, as well as on the type of analysis in which they can engage. GenAI/GenBI agents enable organizations to query unstructured data and even combine different data sets for richer insights.
- **Automated insights generation:** GenAI/GenBI agents can automate insight generation from different data sources. Automated insights generation can alert business functions to changes in trends and help them identify and prevent the root causes of issues and failures.
- **Personalized dashboards:** GenAI/GenBI agents can create personalized dashboards based on roles and permissions. They also help ensure data is accessed based on the user's profile within the organization.
- **Data storytelling:** Users can comprehend large volumes of data using GenAI/GenBI agents by selecting the right data and creating easy-to-understand data visualizations and explanations that meet their needs.
- **Data science productivity:** Data analysts/data scientists can easily generate code to create and test new analytics models.
- **Scenario simulation and forecasting:** GenAI/GenBI agents can help business users engage in multiple forecasting and scenario analyses without needing to rely on data analysts. They can also empower data analysts to be agile when it comes to predictive forecasting and scenario analysis, improving their overall productivity.
- **Decision support:** Organizations engage in prescriptive analytics to better understand what actions they may need to undertake and seek recommendations. GenAI/GenBI agents can guide less experienced data team employees and business users and support overall data literacy and the adoption of BI to drive decision-making.

Definitions

IDC defines GenAI assistants/copilots as AI solutions interacting with humans based on a foundation of GenAI and LLMs, supporting both end users and developers. Typically, they are purpose-built for automating specific business functions and guiding users through enterprise applications. GenAI assistants/copilots are increasingly capable of linking functions together within a project, process, or campaign context and executing those functions in enterprise applications. IDC believes that this technology will eventually be the standard user interface for many white-collar jobs.

IDC defines AI agents as large language model (LLM)–powered autonomous software entities that perceive their environment, make decisions, act upon them, and interact with users or other systems in a manner like a human. Today they are mostly text based but are rapidly advancing toward multi-modality.

Both GenAI assistants and agents are being introduced across different aspects of the technology stack and workflows.

Benefits

Benefits of introducing GenAI/GenBI agents into business intelligence solutions include the following:

- **Empowering everyone from executives to frontline staff:** Users will be able to better understand their data, leverage data, gain access to insights, engage in advanced analytics, and create visualizations without acquiring advanced analytical or data science skills or relying on data science/data analysts teams. This will drive agility and promote a data-driven decision-making culture across all levels of the organization.
- **Leveraging scalable intelligence:** Organizations will be able to leverage consistent, AI-driven analysis across different departments, business units, and geographies. By leveraging a robust semantic layer, they will be able to ensure consistency and accuracy of insights across BI and GenAI.
- **Freeing data analysts:** Often, mundane or ad hoc tasks from the business bog down data science/data analyst teams. By automating these tasks and making it easier for business users to engage in self-service queries using natural language, data teams can focus on higher-value tasks such as documenting organizational knowledge and processes into their data/semantic layers.
- **Enhancing operational efficiency by embedding into daily workflows:** Users will be able to get access to good-quality data and insights as and when they need to make decisions, resulting in improved operational efficiencies.
- **Improving transparency:** GenAI can help organizations clean and optimize the quality of the data they are leveraging and provide explainability around the insights provided, improving overall transparency. It can help scale data governance by ensuring proper data discovery, management, and use.
- **Deriving insights from structured and unstructured data:** With BI, organizations can gain insights from structured data, but GenAI enables organizations to query unstructured data. GenAI embedded into BI will enable organizations to engage in anomaly detection, data cleaning, and data optimization for in-depth analysis. This results in time and cost savings and enables organizations to better leverage unstructured data, which is largely underutilized given its volume and the lack of bandwidth from teams leveraging this data.
- **Using advanced analytics capabilities:** Users can engage in advanced analytics more frequently across business and data teams, driving productivity and efficiency gains.

Trends

Organizations need to be aware of several trends within business intelligence. For example, companies struggle to be data driven. GenAI/GenBI agents can play a major role in accelerating data use within organizations.

Further, while organizations are used to leveraging insights from structured data, as GenAI/GenBI becomes pervasive, businesses will be able to leverage unstructured data that is otherwise underutilized for decision-making.

GenAI/GenBI agents impact the overall business intelligence process by enabling users to automate several aspects of it and embrace more advanced analytics capabilities. Self-service will become more common, as it allows users to leverage AI-based recommendations around actions they regularly undertake.

Users can also leverage LLMs to create ontologies that will enable organizations to enhance machine learning and allow for better and more accurate understanding and inference.

As companies empower users, they will need standardized metrics to ensure consistency around insights. This will require investment in metric catalogs/metric stores that are interoperable across the organization's data infrastructure. They will also have to invest in technologies such as semantic layers to empower business and data teams and ensure there is consistency and accuracy in the insights they are leveraging and generating.

The pervasiveness of GenAI/GenBI agents highlights the need for improved data governance, security, and privacy. Organizations need to address these areas proactively to drive trust among users as they leverage AI-generated insights and recommendations and ensure data is secure and properly managed. Given the autonomy of agents, there will be need to introduce "human-in-the-loop" protocols in the early days of GenAI/GenBI agent deployments.

Considering IBM watsonx BI

IBM has long helped organizations to harness the power of data, analytics, and AI to uncover insights across their operations. IBM watsonx BI serves as an intelligent business insights agent that helps unlock the value of diverse enterprise data. It allows for decision velocity by transforming complex information into clear, actionable insights through natural language interaction.

The following are some of the key points of this offering:

- IBM watsonx BI is a conversational agent that organizations can use to query and get access to explainable insights in real time. It ensures that the insights are transparent and provides underlying logic and data sources to drive trust.
- IBM watsonx BI combines GenAI with a governed semantic model to provide consistent, business-aligned insights. The open and headless metric catalog enables organizations to leverage their own metrics and definitions to help ensure the output has business context. This approach is designed to promote trust, accuracy, and alignment across teams. Data stewards can use AI-generated suggestions to create or refine metrics while maintaining full control over the process. With support for multiple large language models, watsonx BI adapts to the governance and compliance requirements.
- IBM watsonx BI streamlines insight generation through intelligent automation and integration. AI-powered processes can accelerate every stage — from data enrichment to metric creation — minimizing manual effort and enabling faster, more reliable insights. The agent connects to the organization's data lakehouse, workflows, and tools, delivering insights where teams work. The open, embedded, and API-ready architecture makes it easy to deploy and scale.

Challenges

Despite these benefits, certain challenges can impede the adoption or use of the GenAI/GenBI agents features within BI. First, while AI is used to generate insights and recommendations, users within organizations need to be able to trust these insights. This requires transparency around how the systems have generated these insights. The quality of the data being leveraged is also critical to minimize bias. Organizations need to ensure AI model governance as well to minimize hallucinations.

Finally, business and data users need a certain level of training and awareness to better understand how to engage and prompt the agents to leverage them at scale. This will be a challenge that IBM will have to address as well, given the concerns in the market around not having the right skills to prompt GenAI agents effectively. Data silos and poor data management practices will impact the level of adoption of these types of solutions, especially if users are not comfortable with the insights and guidance being provided and actions being undertaken by GenAI/GenBI agents.

Conclusion

The integration of GenAI in the form of agents into business intelligence will transform organizations by empowering users at all levels to access insights, automate workflows, and make data-driven decisions without relying on specialized data or prompting skills. It will enable a range of advanced analytics capabilities that allow for natural language querying and enable the leveraging of unstructured data, which were previously challenging for many business organizations. Despite these benefits, companies will need to address aspects such as data governance, access to high-quality data, and training to fully realize the potential of GenAI/GenBI agents and drive successful adoption. GenAI/GenBI agents will help improve the overall data literacy of organizations and allow for agility in data-driven decisions.

About the Analyst

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Megha Kumar is research vice president within IDC's Worldwide AI, Automation, Data, and Analytics organization and global research lead for Business Analytics, Enterprise Intelligence, and Decisioning Solutions. Her research is focused on providing insights on business analytics, enterprise performance management, and decision intelligence technology trends, adoption, and vendor strategies. It includes best practices around enterprise intelligence and aspects of building a data-driven organization such as data culture and personas.

MESSAGE FROM THE SPONSOR

IBM watsonx BI helps organizations turn complex data into clear, actionable insights. It enables users to ask natural language questions and receive instant, explainable insights—eliminating the need for navigating dense dashboards. By combining generative AI with a governed semantic model, watsonx BI ensures every insight is grounded in your business's unique logic and definitions. It connects seamlessly to diverse data sources, automates enrichment and metric creation, and enhances productivity across analytics teams. With support for multiple large language models and a flexible, API-ready architecture, it integrates easily into existing workflows and platforms. Its open and interoperable design supports scalable, enterprise-wide adoption. For more information on watsonx BI please visit our website.

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