Business Intelligence (BI)

October 2023

Whitepaper

Harnessing Business Intelligence for Competative Advantage



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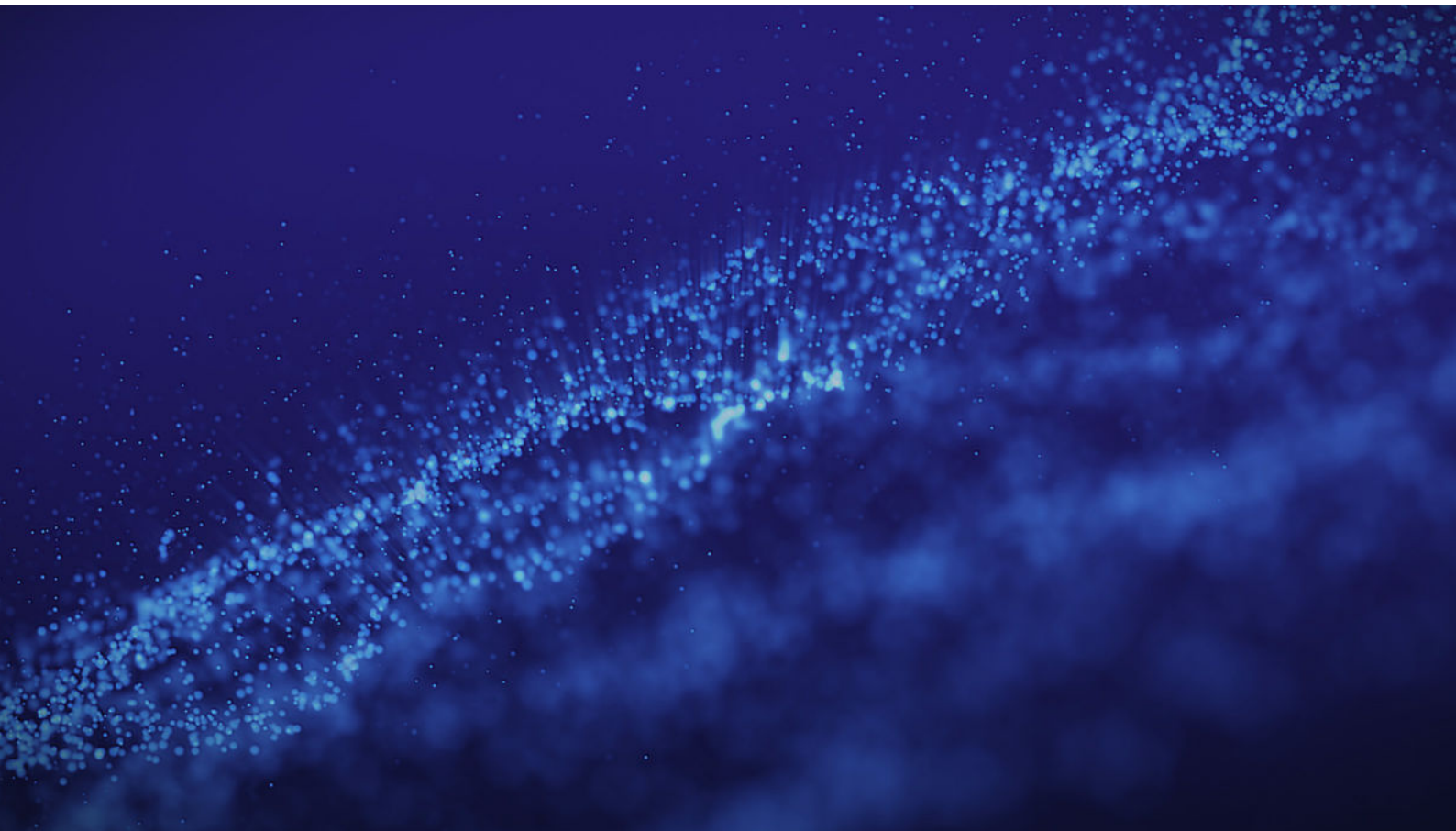
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1

Turning Data into Gold

In today's fast-paced and data-driven business landscape, informed decision-making reigns supreme. The ability to glean actionable insights from vast and intricate datasets has transformed from a mere advantage into an absolute necessity for organizations striving to survive and thrive.

Organizations are constantly seeking ways to harness the power of business intelligence (BI) to unlock valuable insights from vast amounts of data to gain a competitive edge.

With the relentless influx of data, businesses stand at a crossroads of unprecedented opportunities and challenges. The value of data goes beyond its mere collection. The art of transforming raw data into meaningful, timely, and actionable intelligence differentiates market leaders from followers.

From enhancing customer experiences to optimizing supply chains, from fine-tuning marketing strategies to mitigating risks, business intelligence applications are as diverse as they are impactful.

As technology continues to evolve, cloud-based BI has emerged as a game-changer, enabling organizations to access, analyze, and visualize data in real time from anywhere in the world.



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Advantages of Business Intelligence (BI)

Embracing Business Intelligence (BI) yields a cascade of advantages. By fostering data-driven decision-making, BI empowers organizations to derive insights from accurate and timely data, thus enhancing operational efficiency and securing a competitive edge.

Business Intelligence (BI) tools unravel complex datasets by leveraging intuitive data visualizations, revealing patterns and trends that might otherwise remain hidden. Including historical data and advanced analytics techniques within Business Intelligence (BI) facilitates improved forecasting and predictive analytics, enabling proactive decision-making that can shape a certain future.

Moreover, Business Intelligence (BI) streamlines data collection, analysis, and reporting processes, optimizes operational efficiency, diminishing manual efforts and redirecting employees towards value-added endeavors.

Benefits

Data-driven decision-making

BI enables organizations to make informed decisions based on accurate and timely data, improving operational efficiency and competitive advantage.



Business Intelligence (BI)

Enhanced data visualization

BI tools provide intuitive and interactive visualizations, enabling users to understand complex data sets better and identify patterns or trends.

Improved forecasting and predictive analytics

Business intelligence (BI) allows organizations to leverage historical data and advanced analytics techniques to forecast future trends, enabling proactive decision-making.

Increased operational efficiency

BI streamlines data collection, analysis, and reporting processes, reducing manual efforts. It enables employees to focus on value-added tasks.

Enhanced collaboration

BI provides a centralized and easily accessible environment that allows stakeholders to work together on data projects, share insights, and collaborate on decision-making processes regardless of physical locations.

Businesses embracing business intelligence are five times more likely to make faster decisions than those who do not.[i]



3

Growing Trends in Business Intelligence (BI)

As the business landscape evolves, so do the strategies and tools that drive success. Business Intelligence (BI) is at the forefront of this evolution, witnessing growing trends reshaping how organizations leverage data. From advanced analytics and artificial intelligence to enhanced data visualization and real-time insights, these emerging trends steer businesses toward more informed decision-making and a deeper understanding of market dynamics. Keeping up with these trends is becoming increasingly vital for staying competitive and embracing the full potential of data-driven strategies.



Education, Retail and Wholesale, Financial Services, and Healthcare are most likely to increase future Business Intelligence (BI) budgets.[ii]

- The adoption of **Cloud-based Business Intelligence** is a compelling trend, attributed to its unmatched scalability, cost-effectiveness, and seamless implementation. Dresner Advisory Services research found that around 54% of enterprises believe that cloud business intelligence (BI) tools are critical or very critical to their current and future initiatives.[iii]

  To bring this concept to life, envision a larger Retailer leveraging a cutting-edge cloud-based BI solution to dissect real-time sales data streaming in from various store

locations. This insightful analysis uncovers emerging trends and empowers the company to streamline inventory management, facilitating data-driven choices that tangibly elevate their overall sales performance.

- **Self-service Business Intelligence** (BI) is emerging as a transformative force. It makes data accessible to all employees within an organization regardless of their technical expertise and with minimal IT intervention. Beyond mere accessibility, this empowerment nurtures a thriving culture rooted in data-driven insights, propelling individuals at every level to harness the power of data for informed decisions. Gartner's research echoes this sentiment and underscores the pivotal role of self-service data and analytics, as nearly half of finance executives recognize it as a driving force behind elevated employee productivity.[iv]

  Imagine a financial institution where intuitive dashboards and user-friendly interfaces are available to each team member. Imagine a loan officer seeking to enhance customer interactions. With a few clicks, they can tap into real-time data streams, uncovering insights about customer preferences, transaction patterns, and credit history. Armed with this intelligence, they craft personalized solutions that resonate with the customer's unique financial journey.

- **Conversational Artificial Intelligence** (AI) and **Natural language processing** (NLP) are at the forefront of reshaping how we interact with business intelligence platforms. They empower users to engage with data seamlessly using natural language queries and commands. As Gartner's insights reveal, the adoption of conversational AI is on a steep rise, with projected adoption rates soaring over 100% in the next two to five years. By 2024, penetration rates are expected to reach an impressive 70%-80%.[v] These technologies bridge the gap, making BI accessible to a broader range of users and sparking a fresh wave of progress driven by insights.

  Consider a customer support team in the insurance industry, navigating the intricacies of customer feedback. Armed with a BI tool enriched with NLP capabilities, a support agent can engage in a dialogue with the data itself. Imagine the agent asking open-ended questions like, "What aspects of our service are customers most satisfied with?" or "Are there recurring concerns in recent feedback?" Extracting sentiment analysis and pinpointing areas for improvement becomes a streamlined process.

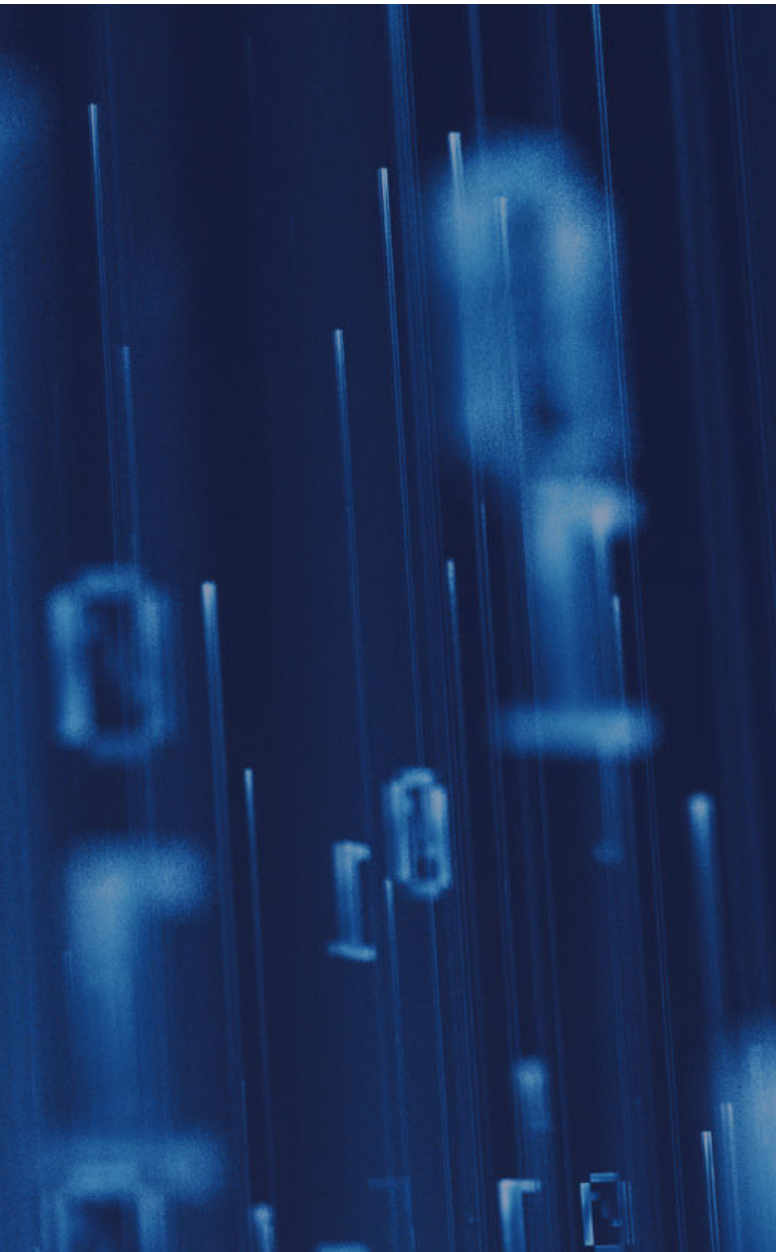
- In our data-rich world, data visualization emerges as a transformative tool that rises above complexity, offering vital insights in a format that is both accessible

Data-driven storytelling is enabling decision-making. A Tableau study revealed that a resounding 74% consider data visualization as pivotal to realizing their business objectives, while TDWI reports that 75% of organizations consider data visualization essential or critical in their decision-making process.[vii]

Business Intelligence (BI)

Let's explore the logistics field as an example. A logistics company uses interactive data visualizations to finely tune its supply chain operations. Converting shipment routes into visual narratives reveals concealed bottlenecks. Guided by this newfound insight, data becomes their navigational beacon, illuminating the way toward efficiency improvements and cost savings.

- **Data governance** is a significant trend within business intelligence (BI) due to its pivotal role in ensuring data accuracy, security, and compliance. With the exponential growth of data and increasing concerns about privacy and regulatory requirements, organizations are recognizing the necessity of establishing robust data governance practices. A well-implemented



governance framework assists organizations in staying compliant, minimizing risks, reducing costs, ensuring reliable data, improving communication, and achieving strategic goals.

Dresner Advisory Services shared that over 60% of survey respondents view **data security**, **data quality, or governance** as critical strategic technologies and initiatives within business intelligence. [viii]

The healthcare sector is a prominent illustration of an industry where data governance practices play a pivotal role in safeguarding patient data privacy and security. Enforcing rigorous data access controls, maintaining diligent oversight of data quality, and complying with regulations such as HIPAA are essential to preserving the integrity and confidentiality of sensitive information.

- Advanced analytics employs sophisticated techniques and tools like predictive modeling, machine learning, data mining, and statistical analysis to dissect intricate datasets, revealing concealed patterns, relationships, and insights that conventional methods might overlook.

  Consider the financial sector a prime example of how advanced analytics transforms operations. By harnessing this technology, financial institutions identify fraudulent transactions by analyzing intricate patterns within vast transaction data while also using predictive modeling to evaluate credit risk and tailor loan interest rates based on applicants' financial histories. These proactive measures serve as a shield against potential risks.

  A retail company uses advanced analytics to analyze historical sales data, customer demographics, online behavior, and

purchasing behaviors. They forecast future trends and demand through predictive modeling, enabling them to optimize inventory levels and plan targeted marketing campaigns for high-potential customer segments.

In the education sector, a university could utilize advanced analytics to improve student performance and retention. By analyzing data sources like academic records and participation, they can predict dropout risks and identify early warning signs. Personalized interventions are tailored based on student characteristics, leading to improved retention rates and overall student success.

- **Real-time analytics** empowers users to quickly analyze and respond to data, facilitating prompt and well-informed decision-making for organizations. It involves tools and technologies that enable data processing in real-time or near real-time, such as streaming data from sensors, devices, or online transactions. It is crucial for sectors where quick responses are essential, like financial trading, e-commerce, and emergency services.

Imagine a large urban hospital challenged with managing patient flow and ensuring timely care. Delays in patient admission, discharge, and bed turnover are causing bottlenecks and impacting patient experiences. With a real-time analytics business intelligence (BI) solution integrating data from electronic health records (EHRs), medical devices, and patient tracking systems, staff members could allocate beds more efficiently, reducing patient wait times.

Or consider an e-commerce enterprise harnessing real-time analytics to monitor website traffic, scrutinize user behaviors, and tailor the online shopping journey. This dynamic approach enables them to pinpoint high-value customers, offer personalized product recommendations, and fine-tune real-time conversion rates, culminating in an optimized shopping experience that resonates with each customer.



A WIIISDOM study underscores this importance, revealing that more than 40% of respondents regard real-time analytics as a very important BI priority and about another 40% consider it important.[ix]

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Modern Business Intelligence Solutions



At the core of business intelligence (BI) are several critical components that form the bedrock of success. Together, these elements unlock valuable insights from extensive datasets, empowering organizations to navigate today's business landscape and make informed decisions.

Illuminating Insights through Data Visualization

Data, without the proper means of interpretation, remains an enigma. Effective data visualization is the translator between raw numbers and actionable insights, offering a visual language that communicates complex trends and patterns with astonishing clarity - unraveling the art of transforming data into engaging and informative visuals that empower decision-makers to grasp the big picture while scrutinizing the finer details.

Let's look at a marketing team in a healthcare organization that uses a self-service BI tool to access and analyze patient data. They can create reports and dashboards, enabling them to identify target patient demographics, personalize marketing campaigns, and measure campaign effectiveness.

Business Intelligence (BI)

Unleashing Insights Potential with Data Analytics

The heart of business intelligence beats in the realm of data analytics. Methodologies range from descriptive and diagnostic analytics to predictive and prescriptive analytics. Data analytics becomes the tool that drives organizations from reactive to proactive decision-making. Harnessing advanced analytical techniques empowers businesses to uncover hidden opportunities, mitigate risks, and shape strategies that resonate with precision.

For example, a retail company with multiple locations may use a Business Intelligence (BI) solution to analyze sales data from all stores simultaneously in real-time. Doing so allows them to identify trends, optimize inventory management, and make data-driven decisions to improve overall sales performance. Or it could use BI software to Retail businesses can use BI software to manage the organization's inventory, enabling real-time monitoring of inventory levels for businesses per location.

Paving the Way with Data Movement / ETL

Data movement serves as the pivotal link that joins various sources of information, rendering them usable and effective. Processes like Extract, Transform, Load (ETL), and real-time data integration include gathering data, transforming it into a usable format, and integrating it in real time.

Think of data movement or ETL (Extract, Transform, Load) like this: Imagine you have a bunch of puzzle pieces scattered around. First, you gather those pieces from different places (Extract). Then, you put them together, paint them to match, and arrange them properly (Transform). Finally, you place the completed puzzle on display for everyone to see (Load). In the business world, this process helps bring different pieces of data together, making them useful for decision-making. For instance, a





retail company might use ETL to combine sales data from various stores, analyze trends, and optimize inventory management.

Navigating Change with Data Migration

As businesses evolve, so does the data that drives them. The prospect of transitioning from legacy systems to modern infrastructures or migrating to the cloud necessitates a nuanced understanding of data migration.

Consider a small bakery managing its orders, inventory, and customer records using pen and paper. The bakery implements a digital point-of-sale (POS) system and online ordering platform to expand its operations and reach a broader customer base. This transition involves transferring all existing customer information, order histories, and inventory data into the new digital system. Ensuring a smooth data migration is essential to prevent errors in customer orders, maintain order history accuracy, and seamlessly transition to the online platform. By completing this data migration, the small bakery streamlines its operations, improves order accuracy, and enhances customer convenience, positioning itself for growth and success in the competitive food industry.

Ensuring Excellence through Data Quality Management

In the digital age, the quality of data is paramount. Even the most sophisticated analytics and visualization efforts are only effective if based on accurate, complete, consistent data. Profiling, cleansing, and ensuring data accuracy is the foundation of the entire business intelligence ecosystem.

For example, consider a customer relationship management (CRM) system a sales team uses. If the CRM is populated with incomplete or outdated customer information, the sales team might miss potential leads or fail to provide personalized solutions. By implementing robust data quality management practices, such as regular data cleansing and validation, the CRM system remains a reliable source of information, enabling the sales team to make informed decisions and drive better customer engagement.

5

The Promise and Potential of Modern Business Intelligence

In today's ever-evolving business landscape, mastering the art of data-driven decision-making is the key to achieving success. Business Intelligence (BI) has risen beyond being a mere advantage and has become an absolute necessity for organizations aspiring to survive and thrive.

Business Intelligence (BI) serves as a strategic compass, diligently focused on extracting actionable insights from the vast expanse of data. Its capabilities and possibilities go far beyond dealing with complex situations or challenges. With the capacity to deliver benefits, insights, and solutions, it can provide value and advantages beyond the scope of dealing with intricate or complicated matters.

Through the adoption of cloud-based solutions, organizations can gain a global perspective. At the same time, the empowerment of self-service BI democratizes data-driven endeavors at all organizational levels, uncovering untapped potential.

With the augmentation of conversational AI and



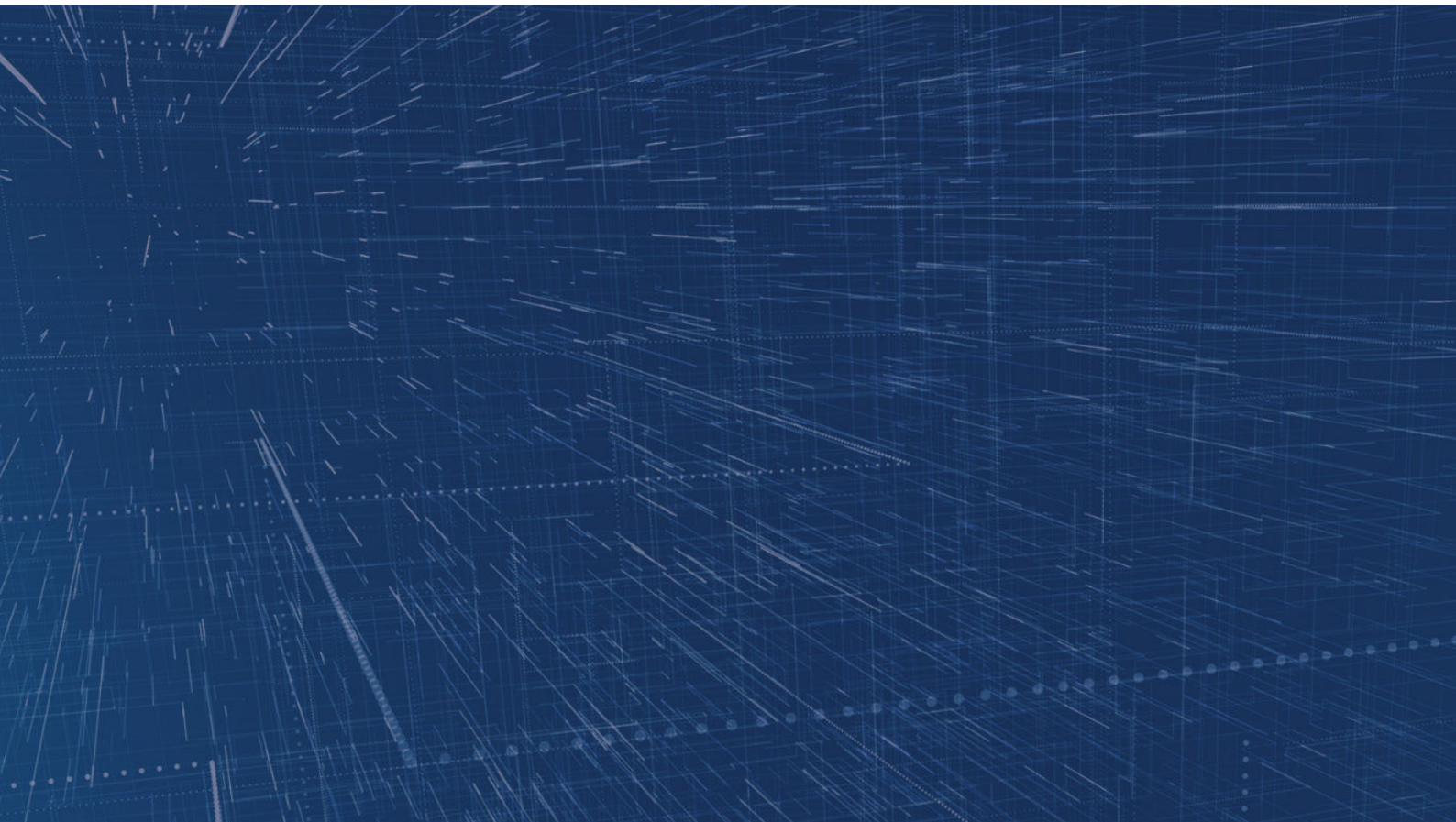


data visualization, the capabilities of BI extend beyond mere complexity, offering intuitive interfaces and visual narratives that empower quick and precise decision-making.

Emerging trends, such as data governance, propel organizations to uphold their data's integrity, security, and compliance, laying the foundation for efficient and streamlined operations.

As advanced analytics takes center stage, industries like finance, retail, and education undergo transformative shifts using predictive modeling for fraud detection and student support. Meanwhile, real-time analytics empowers sectors like healthcare to seamlessly coordinate patient care, while the omnipresent discipline of data quality management safeguards the accuracy and reliability of every insight.

Collectively, these pillars define the realm of modern Business Intelligence—a space where insights illuminate, potential is harnessed, and adaptability is mastered. Armed with these foundational principles, organizations embark on a journey where data transcends its mere accumulation and is distilled into the invaluable



essence of informed intelligence, propelling them steadfastly toward sustained success in our data-driven world.

To further explore these concepts and how they can be tailored to suit your business needs, don't hesitate to contact our team at Fortified Data via info@fortifieddata.com. Alternatively, you can schedule a consultation with one of our experts, who is available to provide personalized guidance, answer your questions, and assist you in implementing data-driven Business Intelligence solutions that drive success.

For more information, you can visit our website: www.fortifieddata.com.

[i] WIIISDOM Business Intelligence Trends 2020

[ii] Zoho Analytics, Dresner Advisory Services 2023 Wisdom of Crowds® Business Intelligence Market Study

[iii] DataProt Business Intelligence Statistics: State of the Market in 2023

[iv] Gartner: 2022 Finance Technology Bullseye Report Press Release

[v] Boost.AI: Gartner Hype Cycle on Conversational AI - Update 2023

[vi] Tableau, Visual Reporting and Analysis: Seeing is Knowing whitepaper from TDWI 2021

[vii] MarketSplash, 350+ Business Intelligence Statistics

[viii] Zoho Analytics, Dresner Advisory Services 2023 Wisdom of Crowds® Business Intelligence Market Study

[ix] WIIISDOM Business Intelligence Trends 2020

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