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The Contribution of Business Intelligence to Decision-Making in International Companies

A contribuição do Business Intelligence na tomada de decisão em empresas internacionais
La contribución del Business Intelligence en la toma de decisiones en empresas Internacionales

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Abstract:
This article addresses the contribution of Business Intelligence (BI) to decision-making in international companies, emphasizing its historical evolution, strategic importance, and impacts on Operations Management and Supply Chain Management. In a business environment characterized by intense global competitiveness, technological advancement, and the exponential growth of corporate data, organizations have come to depend on intelligent systems capable of transforming data into strategic information for decision support. In this context, Business Intelligence has become an essential tool for operational optimization, organizational integration, risk management, and increased international competitiveness. The study presents a historical analysis of the evolution of information systems up to the emergence of modern BI platforms, highlighting their integration with emerging technologies such as Big Data, Artificial Intelligence, and cloud computing. In addition, it discusses the relevance of BI in the strategic management of global supply chains, emphasizing its contribution to predictability, logistical efficiency, and improved organizational performance. It concludes that Business Intelligence represents an indispensable strategic element for international companies, contributing significantly to more assertive, sustainable, and data-driven decisions.

Keywords:
Business Intelligence. Decision-making. Strategic management. Supply Chain Management. International companies.

Resumo:
O presente artigo aborda a contribuição do Business Intelligence (BI) na tomada de decisão em empresas internacionais, enfatizando sua evolução histórica, importância estratégica e impactos na Gestão de Operações e Supply Chain Management. Em um ambiente empresarial caracterizado pela intensa competitividade global, avanço tecnológico e crescimento exponencial de dados corporativos, as organizações passaram a depender de sistemas inteligentes capazes de transformar dados em informações estratégicas para suporte decisório. Nesse contexto, o Business Intelligence consolidou-se como uma ferramenta essencial para otimização operacional, integração organizacional, gestão de riscos e aumento da competitividade internacional. O estudo apresenta uma análise histórica da evolução dos sistemas de informação até o surgimento das plataformas modernas de BI, destacando sua integração com tecnologias emergentes, como Big Data, Inteligência Artificial e computação em nuvem. Além disso, discute-se a relevância do BI na gestão estratégica das cadeias globais de suprimentos, evidenciando sua contribuição para previsibilidade, eficiência logística e melhoria do desempenho organizacional. Conclui-se que o Business Intelligence representa um elemento estratégico indispensável para empresas internacionais, contribuindo significativamente para decisões mais assertivas, sustentáveis e orientadas por dados.

Palavras-chave:
Business Intelligence. Tomada de decisão. Gestão estratégica. Supply Chain Management. Empresas internacionais.

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Resumen:
El presente artículo aborda la contribución del Business Intelligence (BI) en la toma de decisiones en empresas internacionales, enfatizando su evolución histórica, importancia estratégica e impactos en la Gestión de Operaciones y en el Supply Chain Management. En un entorno empresarial caracterizado por la intensa competitividad global, el avance tecnológico y el crecimiento exponencial de los datos corporativos, las organizaciones pasaron a depender de sistemas inteligentes capaces de transformar datos en información estratégica para el apoyo a la toma de decisiones. En este contexto, el Business Intelligence se consolidó como una herramienta esencial para la optimización operativa, la integración organizacional, la gestión de riesgos y el aumento de la competitividad internacional. El estudio presenta un análisis histórico de la evolución de los sistemas de información hasta el surgimiento de las plataformas modernas de BI, destacando su integración con tecnologías emergentes como Big Data, Inteligencia Artificial y computación en la nube. Además, se discute la relevancia del BI en la gestión estratégica de las cadenas globales de suministro, evidenciando su contribución a la previsibilidad, la eficiencia logística y la mejora del desempeño organizacional. Se concluye que el Business Intelligence representa un elemento estratégico indispensable para las empresas internacionales, contribuyendo significativamente a decisiones más asertivas, sostenibles y orientadas por datos.

Palabras clave:
Business Intelligence. Toma de decisiones. Gestión estratégica. Supply Chain Management. Empresas internacionales.

INTRODUCTION

Digital transformation and economic globalization have brought about significant changes in the competitive dynamics of contemporary organizations. The increased complexity of international markets, coupled with the high volume of information generated daily by companies, has driven the need for technological mechanisms capable of assisting managers in data interpretation and organizational decision-making.

In this scenario, Business Intelligence (BI) has emerged as an important strategic tool to support decision-making. The concept of BI is related to the set of technologies, methodologies, and processes designed for the collection, storage, analysis, and dissemination of strategic information within organizations. Its main purpose is to transform operational data into relevant knowledge to support managerial and strategic decisions.

In international companies, characterized by operating in distinct markets and the complexity of their global operations, Business Intelligence plays a fundamental role in organizational integration, performance monitoring, and strategic management of operations and the Supply Chain. The use of advanced analytical systems enables greater control over

logistics processes, demand forecasting, identification of market trends, and reduction of corporate risks.

Given this context, this article aims to analyze the contribution of Business Intelligence to decision-making in international companies, addressing its historical evolution, strategic importance, and impacts on the contemporary management of global operations.

HISTORICAL EVOLUTION OF BUSINESS INTELLIGENCE

The development of Business Intelligence is directly associated with the evolution of organizational information systems and the growth of companies' analytical needs. Initially, during the 1960s and 1970s, organizations used systems primarily focused on processing operational data, known as Transactions. Processing Systems (TPS). These systems were intended to record routine operations related to inventory control, invoicing, sales, and accounting.

However, the growth of organizations and increased business competitiveness highlighted the limitations of these systems, particularly regarding their capacity for strategic analysis. In response to this need, the first decision support systems (DSS) emerged , considered precursors to modern Business Intelligence .

In the 1980s, advances in computer technology enabled the development of relational databases and integrated management systems. During this period, companies began using tools capable of consolidating information from different organizational departments, facilitating broader management analyses.

During the 1990s, with the intensification of economic globalization and the expansion of international operations, Business Intelligence consolidated itself as a strategic tool in organizations. The emergence of Data Warehouses allowed for the structured storage of large volumes of corporate data, while Data Mining tools enabled the identification of market patterns and trends.

In the 21st century, technological evolution has significantly expanded the analytical capabilities of BI. Technologies such as Big Data, cloud computing, Artificial Intelligence, and Machine Learning have become integrated into corporate systems, providing predictive and automated analyses in real time.

Business Intelligence and Decision Making

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Decision-making is one of the main administrative processes within organizations. In international business environments, characterized by high competitiveness and constant economic instability, strategic decisions need to be based on reliable, accurate, and up-to-date information.

In this context, Business Intelligence plays an essential role in providing analytical support for managers and executives. The main contribution of BI lies in its ability to transform large volumes of data into strategic information capable of guiding organizational decisions.

Business intelligence (BI) tools enable the creation of management dashboards, key performance indicators (KPIs), analytical reports, and multidimensional analyses. These resources provide greater visibility into internal and external processes, contributing to more assertive decisions and reduced uncertainty.

Furthermore, BI facilitates the integration of data from different organizational units and international markets, providing greater strategic alignment between departments, branches, and global partners.

Another relevant aspect concerns the use of predictive analytics. Through the application of statistical algorithms and Artificial Intelligence, organizations can anticipate market trends, predict future demands, and identify potential operational risks.

Thus, Business Intelligence becomes an indispensable tool for international companies seeking greater competitiveness, operational efficiency, and strategic sustainability.

The Contribution of Business Intelligence to Operations and Supply Chain Management

Strategic Operations Management and Supply Chain Management represent one of the areas most impacted by the use of Business Intelligence . Global supply chains have become highly complex structures, involving suppliers, distribution centers, logistics operators, and consumers distributed across different regions of the world.

In this environment, the use of BI systems enables greater operational control and integration of logistics activities. Organizations can monitor inventory in real time, identify production bottlenecks, predict supply disruptions, and optimize international distribution processes.

The visibility provided by analytical tools significantly contributes to reducing operational costs and increasing logistical efficiency. Multinational companies use Business Intelligence for supplier performance analysis, international transport management, and monitoring strategic Supply Chain indicators.

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Furthermore, BI assists in managing operational and geopolitical risks. In international operations, factors such as exchange rate fluctuations, economic crises, international conflicts, and regulatory changes can directly impact the performance of global supply chains.

In this way, Business Intelligence allows for greater organizational adaptability, favoring quick and strategic responses in the face of global instability.

Challenges in Implementing Business Intelligence

Despite the benefits provided by Business Intelligence , its implementation presents significant challenges for organizations. One of the main obstacles relates to the integration of data from different systems and organizational units.

In international companies, the diversity of technological platforms, languages, and legislation makes it difficult to standardize corporate information. Furthermore, many organizations face problems related to data quality, compromising the reliability of the analyses performed.

Another important challenge relates to cultural resistance. Implementing a data-driven culture requires significant organizational changes, including employee training and adaptation of decision-making processes.

Information security is also a critical factor. Increased digitization and global interconnectivity have amplified the risks associated with cyberattacks and leaks of strategic data.

Therefore, for Business Intelligence to produce effective results, it is necessary for organizations to develop robust policies for data governance, information security, and technology management.

Business Intelligence and Digital Transformation in International Companies

Digital transformation represents one of the most relevant phenomena in the contemporary corporate environment, promoting structural changes in how organizations operate, compete, and relate to their stakeholders. In this context, Business Intelligence has become one of the main strategic pillars of business digitalization, especially in international companies that need to handle high volumes of information from different global markets. The integration between digital platforms and analytical systems has allowed for greater agility in the collection, processing, and interpretation of corporate data.

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With the advancement of digital technologies, organizations have begun operating in highly connected environments where decisions need to be made in real time. Business Intelligence contributes significantly to this process by enabling the continuous monitoring of operational, financial, and market indicators. Modern analytical tools offer interactive dashboards, automated reports, and predictive analyses capable of providing immediate strategic support for international managers.

Furthermore, the digital transformation associated with BI has expanded the capacity for organizational integration between different business units located in various countries. Multinational companies use centralized data intelligence platforms to align corporate strategies, standardize operational processes, and increase administrative efficiency. In this way, Business Intelligence has become an indispensable element for sustaining business competitiveness in globalized digital environments.

The Role of Business Intelligence in Corporate Risk Management

Corporate risk management has become an essential activity in international organizations due to the increasing economic, political, and technological instability observed in the global landscape. Multinational companies are constantly exposed to financial, logistical, exchange rate, regulatory, and operational risks, requiring mechanisms capable of anticipating threats and minimizing organizational impacts. In this context, Business Intelligence plays a strategic role by providing analytical information that assists in the preventive management of corporate risks.

Business intelligence (BI) tools enable the monitoring of critical variables related to international operations, providing greater analytical capacity and predictability. The use of statistical models, data mining, and artificial intelligence facilitates the identification of risk patterns and market trends. Furthermore, Business Intelligence systems can integrate information from different organizational departments, allowing for a broad and integrated view of the risk factors impacting the organization.

Another relevant aspect concerns the ability of BI to support compliance and corporate governance processes. International companies need to comply with different tax, environmental, and commercial laws in multiple countries, making regulatory management extremely complex. In this sense, Business Intelligence systems assist in compliance control, traceability of operations, and the generation of strategic reports for audits and executive decision-making.

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The integration between business intelligence and artificial intelligence.

The technological evolution observed in recent decades has fostered a significant convergence between Business Intelligence and Artificial Intelligence (AI), resulting in more sophisticated and automated analytical systems. This integration represents one of the main trends in contemporary strategic management, enabling international companies to develop advanced capabilities in predictive analytics, decision automation, and organizational learning.

Artificial Intelligence enhances Business Intelligence through the use of Machine Learning algorithms and cognitive analysis. These technologies allow for the identification of complex patterns in large volumes of data, enabling predictions of market behavior, consumer demand, and operational performance. In international companies, the combined use of BI and AI fosters faster and more accurate decisions, reducing human error and increasing global competitiveness.

Furthermore, the analytical automation provided by the integration of BI and Artificial Intelligence significantly contributes to the optimization of global supply chains. Intelligent systems can predict logistical disruptions, identify operational bottlenecks, and recommend corrective actions in real time. In this way, organizations become more resilient and adaptable in the face of constant transformations in the international economic environment.

Future Trends in Business Intelligence in Global Organizations

Constant technological transformations indicate that Business Intelligence will continue to evolve rapidly in the coming years. The increase in business digitization, coupled with the exponential growth in the volume of corporate data, drives the development of increasingly advanced analytical platforms. In this scenario, international companies tend to increase investments in data intelligence as a strategy to strengthen competitiveness and organizational innovation.

Analytics stands out , enabling real-time analysis to immediately support corporate decisions. This capability will be fundamental for organizations operating in highly dynamic global markets subject to rapid economic changes. Furthermore, the expansion of the Internet of Things (IoT) is expected to significantly increase the amount of data generated by logistics and industrial operations, expanding the role of BI in the strategic management of organizations.

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Another relevant trend relates to the democratization of data analysis within companies. Business Intelligence tools are becoming more accessible and intuitive, allowing professionals from different organizational areas to use advanced analyses without needing in-depth technical knowledge. Thus, BI tends to consolidate itself not only as a technological tool, but as a central element of the data-driven organizational culture in the international companies of the future.

FINAL CONSIDERATIONS

Business Intelligence has established itself as one of the main strategic tools to support decision-making in international companies. Its historical evolution demonstrates a significant transformation of traditional management models, which have moved from intuitive approaches to data-driven decision-making processes and intelligent analytics.

In the context of Strategic Operations and Supply Chain Management, Business Intelligence (BI) directly contributes to increased operational efficiency, logistical integration, risk reduction, and strengthened organizational competitiveness.

Furthermore, the incorporation of emerging technologies, such as Big Data and Artificial Intelligence, has significantly expanded the analytical potential of contemporary organizations, enabling faster, more accurate, and strategic decisions.

However, the challenges related to systems integration, data quality, and information security highlight the need for continuous investment in technological infrastructure and organizational capacity building.

It can be concluded, therefore, that Business Intelligence represents an indispensable strategic element for organizations operating in global markets, contributing significantly to sustainability, innovation, and business competitiveness.

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