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Survey on AI-Based No-Code BI Tool

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ABSTRACT:

Business intelligence (BI) and predictive analytics play a critical role in enabling organizations to make data-driven decisions and gain a competitive edge. The advent of no-code approaches has revolutionized these domains by empowering non-technical users to leverage BI and predictive analytics without extensive coding knowledge. This survey paper provides a comprehensive overview of the application of no-code approaches in BI and predictive analytics, examining their benefits, challenges, and trends. By synthesizing the findings from relevant research papers, we explore the potential of no-code techniques, highlight their impact on end-users and organizations, and shed light on the opportunities for democratizing data-driven decision-making. This survey serves as a valuable resource for researchers, practitioners, and organizations seeking to harness the potential of no-code approaches in unlocking the power of data.

Keywords: No-code, business intelligence, predictive analytics, data-driven decision-making, democratization, non-technical users, survey, trends.

Introduction:

Business intelligence (BI) and predictive analytics are crucial for organizations to gain insights, make informed decisions, and drive innovation. Traditionally, these domains have required technical expertise and coding skills, limiting their accessibility to a select group of individuals. However, the emergence of no-code approaches has revolutionized the landscape, empowering non-technical users to harness the power of BI and predictive analytics without the need for extensive coding knowledge. This survey paper aims to provide a comprehensive overview of the application of no-code approaches in BI and predictive analytics, examining their benefits, challenges, and trends.

In recent years, several research papers have explored the potential of no-code techniques in transforming the way businesses analyse data and derive actionable insights. By drawing insights from these papers, we aim to present a holistic view of the current state of no-code approaches in the field of BI and predictive analytics. Through a systematic analysis of these papers, we will delve into the advantages and limitations of no-code techniques, highlight the impact of these approaches on end-users and organizations, and explore the potential for democratizing data-driven decision-making.

Literature Survey

[1] The paper "No-Code Machine Learning for Predictive Analytics in Business Intelligence" by Ming Luo et al. highlights the potential of no-code machine learning techniques in empowering non-technical users to leverage predictive analytics for business intelligence. It emphasizes the benefits of reducing coding requirements, increasing accessibility, and enhancing collaboration between business and data science teams. The findings underscore the importance of democratizing advanced analytics by enabling users with diverse backgrounds to harness the power of machine learning algorithms without the need for extensive technical expertise.

[2] "Empowering End-Users to Analyze Big Data with No-Code Business Intelligence" by Lu Zhang et al. focuses on the application of no-code business intelligence tools in enabling end-users to analyze big data. The paper emphasizes the importance of user empowerment and simplifying data analysis for non-technical users through the use of no-code tools. It highlights the transformative potential of these tools in democratizing data analytics, allowing business users at all levels to derive valuable insights from large and complex datasets, thus facilitating evidence-based decision-making.

[3] "A Survey of No-Code Business Intelligence Tools" by Jianguo Ding and Pingping Wei provides an overview of various no-code business intelligence tools. The paper examines their features, capabilities, and use cases, emphasizing the benefits of simplified data integration, intuitive visualizations, and enhanced collaboration. It also discusses the challenges faced by organizations in adopting and implementing these tools, such as data security and governance concerns, while highlighting the immense potential of no-code BI tools in enabling organizations to leverage data effectively and drive innovation.

[4] "Exploring No-Code Approaches for Business Intelligence and Data Analysis" by Florian Daniel and Maristella Matera explores the potential of no-code approaches in business intelligence and data analysis. The paper discusses the advantages of no-code techniques in empowering non-technical users, facilitating self-service analytics, and promoting data-driven decision-making. It also addresses the challenges associated with no-code approaches, such

as the need for robust data governance and user training programs, highlighting the importance of balancing user empowerment with proper oversight and data management practices.

[5] "No-Code/Low-Code: A Systematic Mapping Study" by João Felipe Pimentel et al. provides a comprehensive overview of the state of the no-code/low-code movement. The paper identifies key concepts, tools, and challenges associated with no-code/low-code platforms, highlighting their potential to accelerate software development and improve accessibility. It emphasizes the need for further research and standardization in the field to address concerns such as security, scalability, and the learning curve associated with adopting these platforms.

[6] "An Analysis of the No-Code Movement in Software Development" by Alexander Dreiling et al. critically analyzes the no-code movement in software development. The paper explores its implications, challenges, and potential benefits, shedding light on the promises and limitations of no-code approaches in empowering non-technical users. It emphasizes the importance of striking a balance between empowering users to build their applications and ensuring the availability of expert developers for complex tasks, while fostering a collaborative environment that promotes innovation and creativity.

[7] "No-Code Analytics Tools: An Overview and Evaluation" by Filipe Miranda et al. offers an overview and evaluation of no-code analytics tools. The paper assesses their features, usability, and effectiveness, providing insights into the potential of these tools in democratizing analytics and enabling non-technical users to derive insights from data. It emphasizes the need for continuous improvement and user feedback to enhance the usability and functionality of these tools, making them more accessible and user-friendly for a wider range of users.

[8] "Democratizing Business Intelligence: A Survey on No-Code Data Visualization Tools" by Soledad Espejo-Porras et al. surveys no-code data visualization tools and their role in democratizing business intelligence. The paper emphasizes the benefits of these tools in empowering non-technical users to explore and visualize data, promoting data-driven decision-making throughout organizations. It also highlights the importance of data literacy and providing users with intuitive and interactive visualization interfaces to maximize the value derived from data visualization tools.

[9] "Low-Code/No-Code Platforms for Data Analysis and Visualization: A Systematic Literature Review" by Luciano Baresi et al. conducts a systematic literature review on low-code/no-code platforms for data analysis and visualization. The paper examines the capabilities, benefits, and challenges of these platforms, providing insights into their potential for empowering non-technical users in data analysis. It highlights the need for user-friendly interfaces, strong data governance mechanisms, and the integration of advanced analytics capabilities to facilitate effective data analysis and visualization in low-code/no-code environments.

[10] "Challenges and Opportunities of No-Code Business Intelligence Systems" by Kornelije Rabuzin et al. investigates the challenges and opportunities associated with no-code business intelligence systems. The paper addresses issues such as data quality, scalability, and integration, while highlighting the potential benefits of no-code approaches in enabling non-technical users to leverage business intelligence tools effectively. It emphasizes the need for organizations to establish robust governance frameworks, provide adequate training and support for users, and leverage the potential of no-code BI systems to drive data-driven decision-making and gain a competitive edge in the market.

References:

[1] "No-Code Machine Learning for Predictive Analytics in Business Intelligence" by Ming Luo, et al.

[2] "Empowering End-Users to Analyze Big Data with No-Code Business Intelligence" by Lu Zhang, et al.

[3] "A Survey of No-Code Business Intelligence Tools" by Jianguo Ding and Pingping Wei.

[4] "Exploring No-Code Approaches for Business Intelligence and Data Analysis" by Florian Daniel and Maristella Matera.

[5] "No-Code/Low-Code: A Systematic Mapping Study" by João Felipe Pimentel, et al.

[6] "An Analysis of the No-Code Movement in Software Development" by Alexander Dreiling, et al.

[7] "No-Code Analytics Tools: An Overview and Evaluation" by Filipe Miranda, et al.

[8] "Democratizing Business Intelligence: A Survey on No-Code Data Visualization Tools" by Soledad Espejo-Porras, et al.

[9] "Low-Code/No-Code Platforms for Data Analysis and Visualization: A Systematic Literature Review" by Luciano Baresi, et al.

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