International Journal of General Engineering and Technology (IJGET)
ISSN (P): 2278–9928; ISSN (E): 2278–9936
Vol. 14, Issue 1, Jan – Jun 2025; 73–88

International Academy of Science, Engineering and Technology
Connecting Researchers; Nurturing Innovations

SCALABLE BI SOLUTIONS FOR PRODUCT ANALYTICS: IMPLEMENTING BI FOR INSIGHTS INTO PRODUCT PERFORMANCE AND USER ENGAGEMENT

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ABSTRACT

The continuous evolution of digital products in a competitive marketplace demands robust solutions for measuring performance, user engagement, and product lifecycle efficiency. Business Intelligence (BI) plays a pivotal role in providing organizations with insights that are vital for strategic decision-making, particularly in the realm of product analytics. This paper explores scalable BI solutions that are designed and implemented to enhance the understanding of product performance and user engagement. We focus on designing BI infrastructure that is not only capable of processing large volumes of diverse product and user data but also adaptable to evolving business needs and rapid technological advancements.

The core of the research involves outlining the design and implementation of a BI system that integrates data from various sources, including transactional data, user interaction logs, and product usage statistics, into a unified data warehouse. The paper delves into the specifics of data extraction, transformation, and loading (ETL) processes, ensuring that the data pipeline can handle high-throughput data streams while maintaining data integrity and consistency. Scalable architecture, such as cloud-based solutions and distributed processing frameworks, is evaluated for its role in ensuring the system can manage increasing data complexity and volume, particularly in high-growth environments.

KEYWORDS: *Business Intelligence, Scalable Solutions, Product Analytics, User Engagement, Data Integration, Cloud Architecture, Predictive Analytics, Machine Learning, Data Security, ETL Processes, Cross-Functional Collaboration, Data Compliance.*

Article History

Received: *13 Apr 2025* | ***Revised:*** *16 Apr 2025* | ***Accepted:*** *17 Apr 2025*
