



Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

Data Handling and Business Intelligence

Assignment 1

Title of the Assignment: *Written Report*

Module Title/Name: *Data Handling and Business Intelligence*

Module Code: *LCBB5000*

Student name: *Aleksandar Chimshirov*

Student ID: *2235336*

Word count: *1250*

Lecture: Leader: *Dr. Molly Jack*

Table of Contents

Introduction	3
Why BI trends, Tools and Applications are the future for the business:	3
How the five BI trends can assist in making timely and effective decisions	4
Conclusions	6
References	7

Introduction

To transform unprocessed data into useful insights, business intelligence (BI) integrates structures, technology, and processes. Efficiency, competitiveness, and profitability are increased by using these insights to guide tactical and strategic business decisions. Business Intelligence is essential in today's retail environment, as consumer tastes and market dynamics are ever-changing. The significance and relevance of the global business intelligence (BI) market cannot be emphasized, as it is expected to reach \$56,200.9 million by 2023 (Express Analytics, 2023).

In this practice, integrating contemporary BI trends, technologies, and apps is essential. Report will suggest a critical evaluation of the reasons these BI developments are crucial for our company's future and how they might support decision-making.

Why BI trends, Tools and Applications are the future for the business:

The future of business operations is represented by business intelligence (BI) trends, tools, and applications because of their revolutionary effects on competitiveness, efficiency, and decision-making. This section analyses the reasons these BI developments are important for our retail company, providing examples from real-world situations and a breakdown of both the advantages and disadvantages of each.

- **Data-Driven Decision-Making**

Businesses may now access enormous volumes of data and use them to gain crucial insights that inform their strategic choices thanks to modern BI tools. To enhance supply chain efficiency, customise marketing campaigns, and assess consumer behaviour, for example, Amazon leverages advanced BI tools (Davenport, 2018).

As a sample, Amazon employs real-time analytics to manage its enormous inventory and provide clients with customised recommendations. Immediate data processing enables Amazon to dynamically manage inventory levels, make real-time price adjustments, and improve customer experience. By using real-time analytics, our company can reduce stockouts and overstock situations and improve consumer experiences through more responsive inventory management.

- **Enhanced Efficiency and Productivity**

Through the automation of data collection, processing, and reporting, business intelligence (BI) technologies increase accuracy while saving time and effort. In order to keep shelves stocked with in-demand goods, Walmart uses real-time analytics for inventory management (Sullivan, 2020).

BI technologies cut down on the time and effort needed for data gathering, processing, and reporting by automating these processes. As a result, operations run more smoothly, freeing up employees to concentrate on key tasks. Walmart, for instance, employs real-time analytics to control inventory and make sure that products that are in high demand are supplied on the shelves.

- **Competitive Advantage**

Predictive analytics features included in BI software enable firms to foresee consumer demands and market trends. Netflix makes personalised content recommendations to consumers based on predictive analytics, which improves user experience and retention (Smith, 2019).

- **Improved Data Quality and Governance**

Without requiring in-depth technical knowledge, self-service BI solutions enable non-technical users to access, analyse, and visualise data. More stakeholders can now participate in data-driven decision-making because to the democratisation of data access.

Accurate, consistent, and secure data are essential for trustworthy decision-making, and these may be guaranteed by modern BI technologies. According to Chen et al. (2021), BI technologies are utilised by financial firms such as JPMorgan Chase to ensure data integrity and compliance.

- **Scalability and Flexibility**

The ability to evaluate enormous volumes of data and find insights that might not be seen through traditional analysis is improved by the integration of AI and machine learning into business intelligence (BI) systems.

Businesses can immediately adjust to changing needs because to the scalability and flexibility offered by cloud-based BI systems. According to Watson and Wixom (2019), Salesforce's cloud-based BI platform allows enterprises to increase their analytics capabilities.

In today's data-driven economy, our retail firm must embrace new BI trends, tools, and applications to stay competitive and responsive. Data visualisation, self-service BI, real-time analytics, predictive analytics, and AI integration are some of the distinct benefits that can improve our decision-making. From above information can be guarantee more rapid, well-informed, and efficient decision-making by utilising these sophisticated BI skills, which will ultimately spur corporate expansion and raise consumer happiness.

How the five BI trends can assist in making timely and effective decisions

The way that decision-makers work is greatly impacted by BI trends, which empower them to make quick and wise choices. Five business intelligence trends, together with possible advantages and disadvantages, are listed below, along with their explanations:

► **AI and Machine Learning Integration-** By finding patterns, forecasting future trends, and automating data analysis, AI and machine learning improve business intelligence. For the reason that of this, decision-makers can now respond proactively as opposed to reactively. Target analyses purchase data using machine learning algorithms to forecast customer demands and tailor marketing campaigns (Jain & Sharma, 2018).

1) **Positive Outcomes**

- Making proactive decisions- *Predictive analytics makes it possible to foresee changes in the market and modify strategy.*
- Reduced Human Error- *Automation reduces the possibility of mistakes when analysing data.*

2) **Negative Outcomes**

- High implementation costs *are a result of using AI and machine learning.*

- Dependency on Technology-*Relying too much on automated processes can lead to less supervision by humans.*

► Real-Time Analytics gives decision-makers access to up-to-date data, they can act quickly to adapt to changing circumstances.

Zara is able to promptly respond to consumer needs and fashion trends because it use real-time analytics to track sales and manage inventory across all of its locations worldwide (Castro & Oliveira, 2020).

1)Positive Outcomes

- Timely Decisions- *Quick reactions to opportunities and dangers are made possible by having access to up-to-date data.*
- Enhanced Agility-*Companies can respond swiftly to changes in the market and operational difficulties.*

2)Negative Outcomes

- Decision-makers may get paralysed by the constant flood of data, which is known as data overload.
- Requirements for Infrastructure- *Reliable IT infrastructure is necessary for real-time analytics but maintaining it can be expensive and difficult.*

► Data Visualization technologies help with faster and clearer decision-making by transforming complex data into simple, understandable graphics.

Starbucks makes judgements regarding product offers and shop layouts by using data visualisation to track and present customer preferences and sales patterns (McCandless, 2018).

1)Positive Outcomes

- Improved Comprehension-*Data is easier to access and comprehend when it is presented visually.*
- Enhanced Communication-*Sharing visual data between departments is simple.*

2)Negative Outcomes

- Excessive simplification - *of the data may result in the loss of crucial information.*
- Visual Misleading- *Misinterpretation can result from poorly designed visuals.*
 - Self-Service BI non-technical users can now produce reports and insights independently of IT teams thanks to business intelligence (BI).

To support a data-driven culture, Coca-Cola gives staff members the autonomy to access and evaluate data using self-service BI tools (Alpar & Schulz, 2018).

1)Positive Outcomes

- Employee Empowerment-*Users may freely access and analyse data, which enables quicker and better-informed decision-making.*
- Lower IT Burden- *Routine reporting duties are removed from IT departments, freeing them up to concentrate on more important projects.*

2)Negative Outcomes

- Data governance *challenges include the possibility of uneven data use and security breaches resulting from increased data access.*
- Challenges with Quality Control-*Novice users may misunderstand information, resulting in incorrect deductions.*

► Mobile BI increases the accessibility of BI tools to tablets and smartphones, allowing decision-makers to view and use data anywhere, at any time.

Marriott International employs mobile business intelligence (BI) to give managers instant access to client feedback and performance indicators, enabling them to take prompt action to raise the calibre of their services (Kim et al., 2019).

1)Positive Outcomes

- Greater Flexibility-*Decision-makers can respond more quickly by having mobile access to data.*
- Increased Productivity-*Making decisions and keeping an eye on things when away from the workplace is made possible via mobile access.*

2)Negative Outcomes

- Security Risks- *Security lapses are more likely to occur on mobile devices.*
- Limited Functionality- *When compared to desktop equivalents, mobile BI applications may have less functionality.*

Conclusions

All things considered, companies that want to be flexible and competitive must embrace the latest BI trends, tools, and applications. For well-informed, efficient, and rapid decision-making, these technologies offer the insights and ability required. But to get the most out of them, you must manage obstacles like installation costs, data governance, and security threats. Businesses may convert unstructured data into insightful knowledge by utilising AI and machine learning, real-time analytics, data visualisation, self-service BI, and mobile BI. This establishes a data-driven culture that improves decision-making and overall performance.

References

- Available at: <https://www.expressanalytics.com/blog/why-your-company-needs-business-intelligence-in-2023/> (Access on 8th July 2024)
- Alpar, P., & Schulz, M. (2018). Self-Service Business Intelligence. *Business & Information Systems Engineering*, 60(5), 367-371.
- Castro, V., & Oliveira, T. (2020). Understanding the adoption of BI in SMEs. *Information Systems Frontiers*, 22(4), 899-915.
- Chen, H., Chiang, R. H., & Storey, V. C. (2021). Business Intelligence and Analytics: From Big Data to Big Impact. *MIS Quarterly*, 36(4), 1165-1188.
- Davenport, T. H. (2018). *Competing on Analytics: Updated, with a New Introduction: The New Science of Winning*. Harvard Business Review Press.
- Express Analytics. (2023). *How to Grow Your Company Using Business Intelligence in 2023*. Available at <https://www.expressanalytics.com> (Access on 8th July 2024)
- Jain, A., & Sharma, D. (2018). Machine Learning for Business Analytics: Concepts, Techniques, and Applications. *International Journal of Business Analytics*, 5(1), 34-45.
- Kim, K., Lee, J., & Choi, J. (2019). Mobile Business Intelligence Solutions. *Journal of Information Technology Management*, 30(2), 105-117.
- McCandless, D. (2018). *Information is Beautiful*. HarperCollins UK.
- Smith, C. (2019). Netflix's Big Data-driven Success Story. *Journal of Business Strategy*, 40(2), 60-67.
- Sullivan, D. (2020). Real-Time Analytics for the Internet of Things. *IT Professional*, 22(1), 63-68.
- Watson, H. J., & Wixom, B. H. (2019). The Current State of Business Intelligence. *Computer*, 42(9), 96-99.