

BAIT3013 BUSINESS INTELLIGENCE

Read the case study of ZUS Coffee, and answer ALL of the following questions.

ZUS Coffee, a Malaysian coffee chain, has rapidly expanded from a single kiosk in 2019 to over 330 outlets across the country, driven by a digital-first approach. Initially focused on the “fast coffee” model, the brand capitalised on the convenience of pick-up and delivery services, particularly during the pandemic. This model, designed for efficiency, allows customers to easily collect their coffee through pick-up windows, a feature still present in many outlets today.

The brand’s digital innovation is deeply rooted in data analytics. ZUS Coffee’s mobile app tracks customer preferences and purchasing behaviours; helping the company develop its menu based on customer data. For example, if 60% of customers favour caramel flavours, new drinks are crafted around these insights. The data-driven approach is inspired by the success of China’s Luckin Coffee, and it has become a defining element of ZUS Coffee’s operations.

The company’s use of technology extends beyond product development, enhancing the entire customer experience. From app-based ordering to a focus on affordable, quality coffee, ZUS Coffee has built a scalable, tech-centric business model. This has contributed to their rapid growth, with plans to open 250 new outlets in 2024 and further expand internationally, including 100 new stores in the Philippines. Looking ahead, ZUS Coffee aims to transition into a holistic coffee brand, offering merchandise and ready-to-drink products alongside its coffee shops.

With a strong digital infrastructure and operational framework, ZUS Coffee currently employs over 3,000 employees who are specialists across various roles, including baristas, supervisors, and store managers. This solid foundation enables the company to scale rapidly while maintaining high standards of quality and customer satisfaction, positioning itself as a leader in Malaysia’s coffee industry.

Excerpt summarised from Chew Nicole (2024, Jan 19). A stirring success. *TheStar*.
<https://www.thestar.com.my/business/business-news/2024/01/19/a-stirring-success>

Question 1

- a) Discuss with examples **THREE (3)** key factors that drive Business Intelligence (BI) at ZUS Coffee. (9 marks)
- b) Assess **TWO (2)** primary considerations the management of ZUS Coffee should be aware of before implementing the BI solutions. (6 marks)
- c) Explain **TWO (2)** benefits of implementing a BI solution at ZUS Coffee. Include examples to demonstrate how BI can improve customer satisfaction and maintain high-quality standards. (10 marks)

[Total: 25 marks]

Question 2

- a) How can ZUS Coffee leverage *descriptive analytics* to gain insights into its current business operations? Provide **TWO (2)** examples in your discussion. (8 marks)
- b) Apply **TWO (2)** *predictive analytics* to assist ZUS Coffee in making better informed decisions. (8 marks)

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Question 2 (Continued)

- c) Data is the main ingredient for any BI, and business analytics initiative.
- Contrast between *data*, *information* and *knowledge*. (3 marks)
 - Data preprocessing* is necessary to convert the raw real-world data into a well-defined form for analytics algorithms. Describe each step as illustrated in Figure 1. (6 marks)

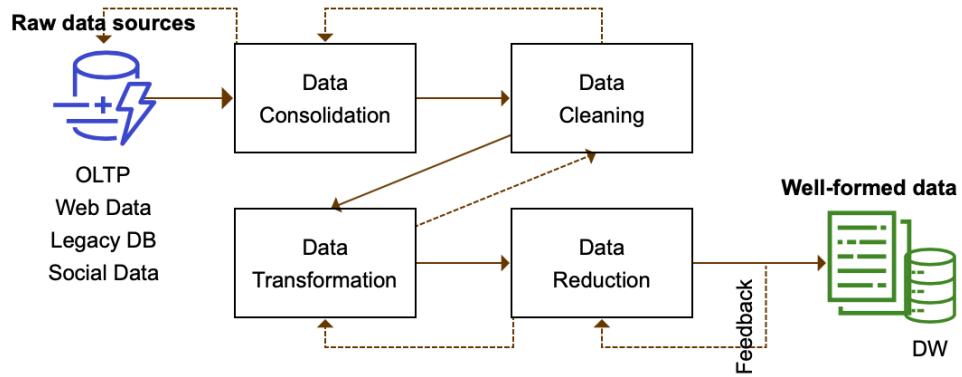


Figure 1: *Data preprocessing steps*.

[Total: 25 marks]

Question 3

- a) Suppose as part of ZUS Coffee's expansion project, the company is adopting the *Cross-Industry Standard Process for Data Mining (CRISP-DM)* (Figure 2) to systematically execute its data mining project. Explain and relate each step involved to ZUS Coffee's context. (9 marks)

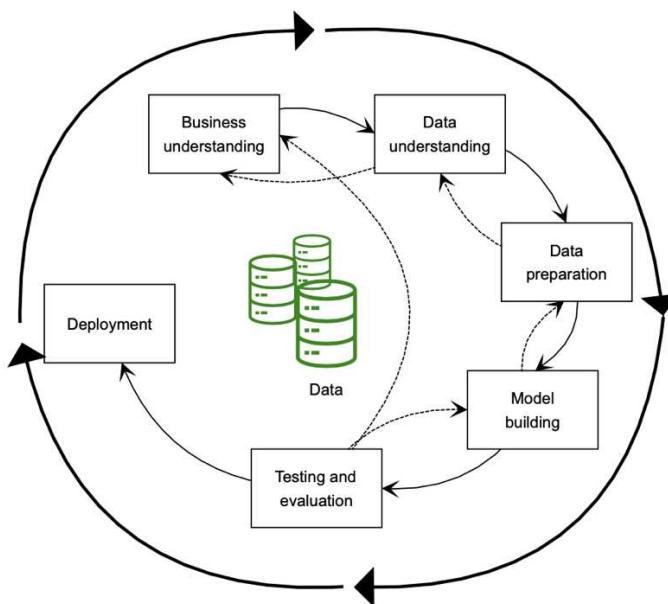


Figure 2: CRISP-DM data mining process.

BAIT3013 BUSINESS INTELLIGENCE**Question 3 (Continued)**

- b) As ZUS Coffee continues to scale its operations and enhance its data-driven decision making, understanding the different types of data processing systems and storage solutions is crucial.
- (i) Compare **THREE (3)** differences between *Online Transaction Processing (OLTP)* and *Online Analytical Processing (OLAP)* in the context of data warehousing. (6 marks)
 - (ii) Considering ZUS Coffee's current and future data analytics needs, choose the most suitable data storage solution between *data lake* and *data warehouse*. Justify your choice with relevant examples. (10 marks)

[Total: 25 marks]

Question 4

- a) ZUS Coffee recognises the value of utilising effective data visualisation and business reporting tools to help its employees manage daily operations across international markets.
- (i) Suggest and briefly describe **THREE (3)** business reports that would be helpful for ZUS Coffee. (9 marks)
 - (ii) Identify and explain **TWO (2)** types of charts or graphs that could be included in ZUS Coffee's employee dashboard. (6 marks)
- b) By embracing a digital-first strategy, Big Data becomes a key factor in driving ZUS Coffee's business success.
- (i) Provide an example for each of the “V”s (*volume, variety, velocity*) that define Big Data, using ZUS Coffee as the context. You are free to make any assumptions. (2 + 2 + 2 marks)
 - (ii) Discuss **TWO (2)** keys to success with Big Data Analytics. (4 marks)

[Total: 25 marks]