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ROLL NO → 2501201020

COURSE → Foundations of data driven decision making

SECTION → 'C'

COURSE CODE → ETSEDD111

PROGRAMME → BCA (AI and DS)

SEMESTER → 1st

FACULTY → Mr. SATINDER SINGH PAL.

ASSIGNMENT-4

Task 1: choose a buisness scenarios (marketing, operation or education) ad define 3-4 example to measure sucess.

→ Buisness Scenario : E-commerce online store - increase monthly sales

(i) Conversion rate : measures the percentage of website visitors who make make purchase.

$$= \frac{\text{Total number of purchases}}{\text{Total visitors}} \times 100$$

(ii) Average order value (AOV) : shows how much customer spend on average per order.

$$= \frac{\text{Total revenue}}{\text{Number of order}}$$

(iii) Customer Acquisition cost (CAC) : measure the marketing cost of acquiring one new customer.

$$= \frac{\text{Total marketing spend}}{\text{number of new customers}}$$

(iv) customer retention rate : shows howmany existing customers to buy again

$$= \frac{\text{Returning customer}}{\text{Total customer}} \times 100$$

Task 2: Develop a data-driven decision plan using available information and justify your choices.

→ step 1: collect and analyze data
- extract website analytic (visitor, click through rate etc.)
- track sale data ~~coordies~~, revenue, product performan
- analyse marketing reports (ad spend, campaign performance.
- customer behaviour data (repeat, purchase, abandon carts)

→ step 2: identify problem
- high traffic but low conversion rate.
- high CAC due to underperforming ads.
- low AOV due to lack of upselling

→ step 3: decision-making using evidence
- optimize product page
  enhance images, add reviews, improve loading speed - improve conversion rate.
- reduce CAC
  shift budget to high-ROI channels [google ads, marketi campaings]
- Increase AOV
  introduce product bundles, "frequently bought together," discount thresholds".
- Increase retention
  launch loyalty points, personalized discount emai

Task 3 : suggest methods to track and evaluate performances over time using feedback loops.

1 weekly KPI dashboards
track :
- conversion rate trends
- AOV ~~fluc~~ fluctuation
- CAC performance by campaign

2 A/B testing
- test different landing page design.
- test discount percentage effectiveness.

3- Custom feedback loop collect :
- post purchase survey
- product reviews
- chat bot response.

4- continuous improvement cycle (PDCA)
- Plan : Indentify issue → low conversion
- Do → improve product page.
- check : measure conversion rate.
- Act : keep the better version.

step 4: Justification

Data show remarketing ads comments better
→ allocating more budget in logical.

Heatmaps show users drop off at checkout
→ simplify checkout flow.

Repeat buyers generate 3X more revenue
loyalty programms are cost effective.