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**JAIPURIA INSTITUTE OF MANAGEMENT, NOIDA**

**PGDM A**

**Third TRIMESTER (Batch 2024-2026)**

**END-TERM EXAMINATIONS, April 2025**

**Set-1**

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| --- | --- | --- | --- |
| Course Name | Business Research Methods | Course Code | 20503 |
| Max. Time | **2 hours** | Max. Marks | **40 Marks** |

**INSTRUCTIONS:**

1. Attempt all questions, marks are indicated after each question

2. Attempt questions as per sequence & mention the correct question and subpart number

**Note: Attempt all questions**

**Q. No. 1** **The Case of the Fading Footfall**

ZoomMart, a mid-sized retail chain, recently noticed something strange in the store dashboard visuals—the footfall graphs were dipping in two of its top-performing outlets. The heatmaps from surveillance systems showed customers spending less time in the aisles. Feedback forms showed vague remarks like “not engaging” and “no vibe.” On observing store images, management noticed dim lighting, cluttered layout, and outdated product arrangement.

To uncover the root cause, the marketing head planned to first gather open-ended insights from customers and employees. Then, they wanted to visually compare customer behavior across stores and test specific changes in layout and lighting to see if that impacts dwell time and sales.

The goal was to understand: What exactly is going wrong? What is the customer feeling? Can a change in the environment bring back the engagement?

**Questions**

1. What symptoms/facts indicated a potential issue in ZoomMart’s stores? **(2 Marks)**
2. Frame one research question based on this situation. **(2 Marks)**
3. Identify which type of research design/study the company should conduct, justify your answer. **(2 Marks)**
4. Develop the hypothesis for testing the impact of store lighting on customer dwell time. **(2 Marks)**

**Q. No.2**

**FeelSmart’s Customer Experience Redesign**

FeelSmart, a rising smart gadget brand, launched a new retail experience filled with glowing product displays, interactive demos, and touch-enabled walls. From outside, the setup looked like a tech museum. However, after a month of foot traffic, few customers returned, and conversion was visibly low.

The team now wants to know how customers feel when they enter the store, what they think about product pricing and innovation, and whether they are likely to recommend or buy again. The goal is to create a short questionnaire (10-15 questions) to visually capture the customer experience, both emotionally and logically.

Design a short questionnaire (10-15 questions) to evaluate the given research question using different measurement scales.

**Research question: "How do in-store ambiance, product perception, and emotional experience influence customers’ intention to revisit the FeelSmart retail store?" (6 Marks)**

**Q. No. 3**

**Identify the appropriate sampling technique for the given situation and briefly explain the procedure. (2\*4 = 8 marks)**

1. A new FMCG brand announces on FM radio that the first 100 callers will be given a free sample and asked to record voice feedback.

2. A streaming platform randomly dials users from its subscriber list to hear their experience with background scores and audio clarity.

3. In an MBA college, researchers read out names from the student register and pick every 5th student to record a voice note about classroom experiences.

4. For a festival marketing campaign, a city is divided into five sound zones, and booths are set up in each. From each zone, a few listeners are picked.

**Q. No. 4 (8 Marks)**

**Testing Customer Engagement in a Live Product Experience**

At Step-In Shoes, a sports footwear brand, the marketing team recently launched an in-store action zone campaign across three cities: Delhi, Mumbai, and Bengaluru. Customers were encouraged to walk, jump, and sprint in new shoes before purchasing — a hands-on trial to boost confidence and comfort.

Simultaneously, the company tested three types of promotional strategies:

* Discount Offers
* Free Goodies
* Loyalty Points

After these energetic customer interactions, marketers recorded the customer engagement score (on a scale of 1 to 10) based on observable factors like time spent, physical exploration of products, and purchase queries. Now, the company wants to find out whether promotion type makes any real difference in how involved customers feel.

**Data (15 Customers):**

| **Customer** | **City** | **Promotion Type** | **Engagement Score** |
| --- | --- | --- | --- |
| 1 | Delhi | Discount | 6.5 |
| 2 | Delhi | Free Goodies | 7.0 |
| 3 | Delhi | Loyalty Points | 5.5 |
| 4 | Mumbai | Discount | 8.0 |
| 5 | Mumbai | Free Goodies | 6.5 |
| 6 | Mumbai | Loyalty Points | 7.0 |
| 7 | Bengaluru | Discount | 6.0 |
| 8 | Bengaluru | Free Goodies | 7.5 |
| 9 | Bengaluru | Loyalty Points | 6.0 |
| 10 | Delhi | Discount | 7.0 |
| 11 | Mumbai | Loyalty Points | 6.5 |
| 12 | Delhi | Free Goodies | 7.5 |
| 13 | Bengaluru | Discount | 6.5 |
| 14 | Mumbai | Free Goodies | 7.0 |
| 15 | Bengaluru | Loyalty Points | 5.5 |

**Q. No. 5**

**Sonic Beats' Digital Marketing Strategy :** Sonic Beats, a growing company in the smart audio device market, has launched a new line of wireless earbuds designed for working professionals and content creators. The marketing team, keen to decode what drives online product satisfaction ratings, collected feedback from early users.

To fine-tune their promotional and product design strategy, they asked 15 customers to rate their overall satisfaction with the product on a scale of 1 to 10, after at least two weeks of use. They also gathered three metrics from the same users:

* Product Sound Clarity Score (1 to 10)
* Battery Life Rating in Hours (1 to 10)
* App Interface Ease-of-Use Score (1 to 10)

The team now wants to listen carefully to the data and observe which of these three factors actually influence the final satisfaction rating. They believe that statistical thinking can lead to sharper decisions in future product designs and marketing communications.

**Data Table: 15 Customer Ratings**

| **User ID** | **Sound Clarity** | **Battery Life** | **App Ease of Use** | **Satisfaction** |
| --- | --- | --- | --- | --- |
| 1 | 9 | 8 | 7 | 8.5 |
| 2 | 7 | 6 | 8 | 7.0 |
| 3 | 8 | 7 | 6 | 7.5 |
| 4 | 6 | 5 | 5 | 5.5 |
| 5 | 9 | 9 | 9 | 9.5 |
| 6 | 5 | 6 | 7 | 6.0 |
| 7 | 8 | 8 | 8 | 8.0 |
| 8 | 7 | 7 | 6 | 7.0 |
| 9 | 6 | 5 | 4 | 5.0 |
| 10 | 9 | 8 | 9 | 9.0 |
| 11 | 7 | 6 | 5 | 6.5 |
| 12 | 8 | 9 | 7 | 8.0 |
| 13 | 5 | 4 | 6 | 5.5 |
| 14 | 9 | 9 | 8 | 9.5 |
| 15 | 6 | 5 | 6 | 6.0 |

**Variable Information**

* **Dependent Variable**:
  + Satisfaction (Overall Satisfaction with the product – metric scale)
* **Independent Variables**:
  + Sound Clarity (rating 1–10)
  + Battery Life (rating in hours, 1–10)
  + App Ease of Use (rating 1–10)

**Questions for Exam**

1. To what extent are the independent variables together useful in predicting the dependent variable? **(1 Marks)**
2. Identify variable(s) have a significant impact on the outcome. Support your answer with relevant values. **(2Marks)**
3. Write the final statistical model. **(2Marks)**
4. If the company improves sound clarity from 6 to 8 (keeping other factors constant), what is the expected increase in satisfaction? **(2 Marks)**
5. Assess multicollinearity diagnostics and implement appropriate measures for mitigation if detected. **(3 Marks)**