DATA ANALYTICS IN E-COMMERCE

A CASE STUDY ON FLIPKART

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INTRODUCTION TO E-COMMERCE

- Buying / Selling of goods & services online
- Global reach
- 24/7 accessibility
- Data driven personalization

World map with e-commerce growth stats

ROLE OF DATA IN E-COMMERCE

Data is the backbone for:

*Customer behaviour tracking

*Sales trend Analysis

*Pricing optimisation

*Supply chain efficiency

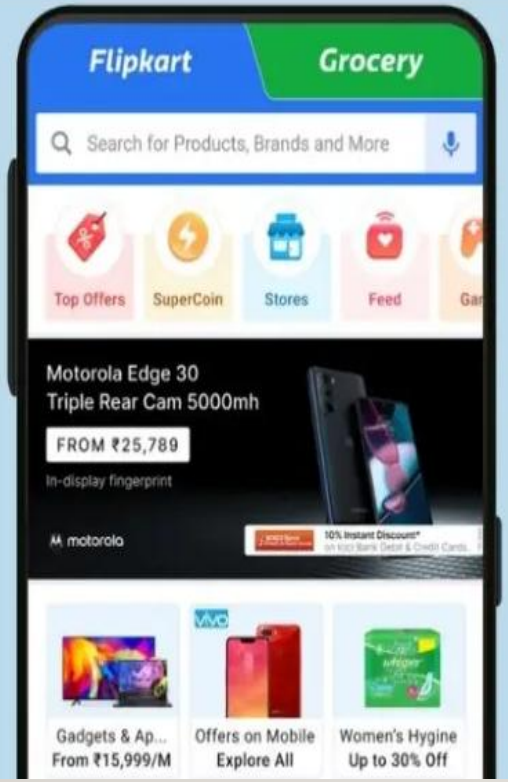
Without data ⟶ Decisions are guesses

FLIPKART'S USE OF DATA ANALYTICS

Personalised Marketing:
- *Recommendation engine
- *Email and push notification campaigns

Customer Behaviour Analysis:
- *Browsing history, clicks, searches

Operational Effeciency:
- *Inventory prediction using ML
- *Dynamic pricing based on demand/Competition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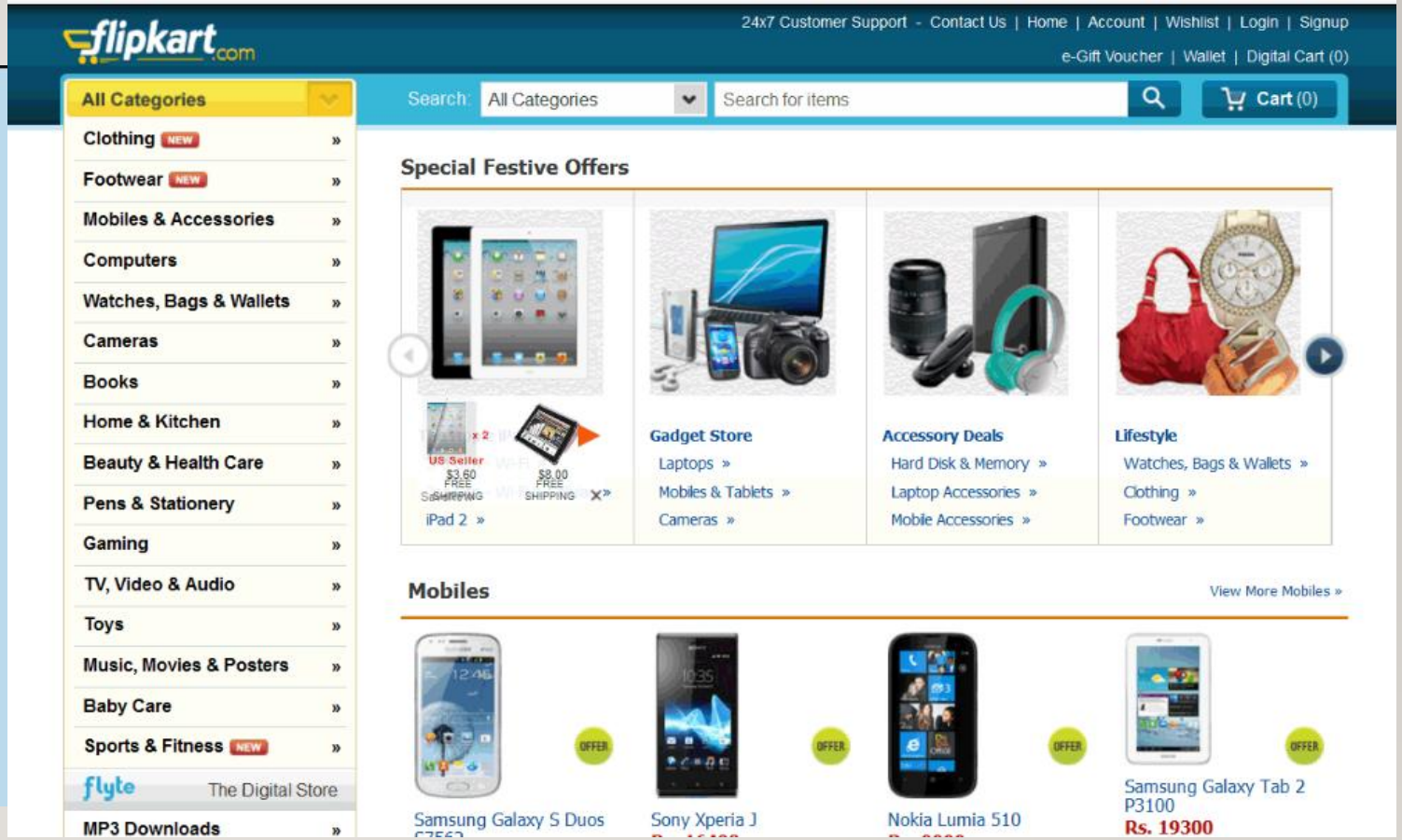
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PERSONALIZED RECOMMENDATIONS

*Recommendation system boosts engagement

*Example: *“People who bought iPhones also bought cases, chargers, etc.”*

***Impact:**
Higher conversion rates, repeat purchases

KPI'S FOR FLIPKART (KPI=KEY PERFORMANCE INDICATOR)

*__Conversion Rate__ – Visitors who buy
*__Average Order Value (AOV)__ – Avg. spend/order
*__Cart Abandonment Rate__ – % leaving carts without buying
*__Customer Lifetime Value (CLTV)__ – Long-term revenue/customer
*__Return on Ad Spend (ROAS)__ – Effectiveness of campaigns

KPI Dashboard

Conversion Rate

2.37% ▲ 1.5%

Average Order Value

₹1,200 ◆ 2.3%

Cart Abandonment Rate

65.2% ▲ 2.1%

Customer Lifetime Value

₹4,700 ▲ 3.4%

FLIPKART'S – DATA-DRIVEN SUCCESS

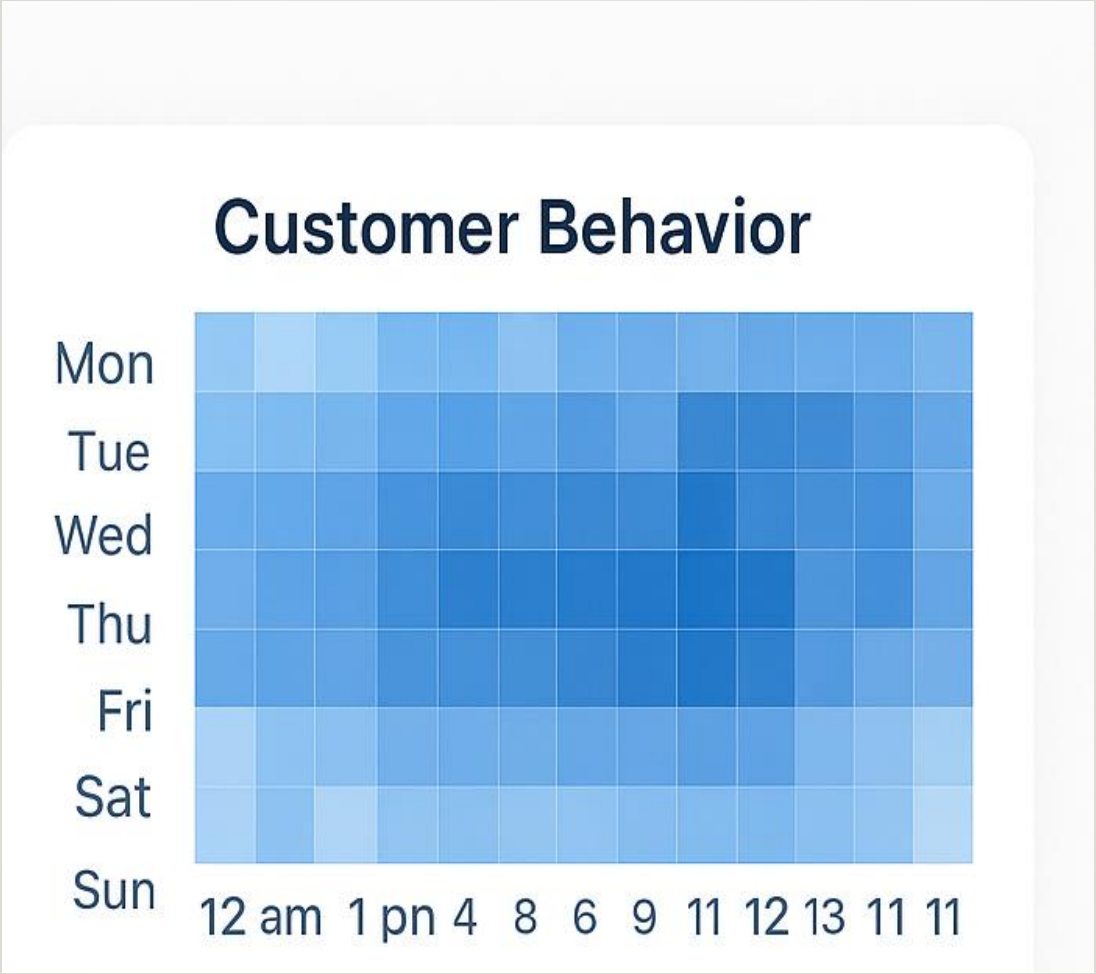
***Big Billion Days Sale:**
*Data used to forecast demand spikes
*Optimized inventory across warehouses
*Personalized app notifications drove engagement

Outcome:
Record-breaking sales, customer growth

CUSTOMER BEHAVIOUR ANALYTICS

*Data collected from:
    *Search queries
    *Clickstream data
    *Purchase history
*Insights:
    *Popular product categories
    *Peak shopping hours
    *Most abandoned products

Heatmap of customer behaviour



DATA-DRIVEN INVENTORY & PRICING

***Inventory:**
*Predict demand, avoid stockouts
***Dynamic Pricing:**
*AI-based adjustments vs competitors
*Discounts optimized to maximize profit

CHALLENGES FLIPKART FACES

*Cart abandonment due to hidden costs
*High competition (Amazon, Meesho, Reliance Digital)
*Logistics delays in Tier 2/3 cities
*Managing return/refund fraud

INSIGHTS & FINDINGS

*Data = core driver of personalization & sales

*Recommendation engines = boost CLTV (Customer Lifetime Value)

*Inventory analytics = efficient supply chain

*KPIs must be continuously tracked to guide strategy

RECOMMENDATIONS

* **Improve Cart Conversion:**
* A/B test checkout designs, transparent pricing
* **Enhance Personalization:**
* AI chatbots for real-time shopping help
* More localized recommendations for Tier 2/3 cities
* **Leverage Predictive Analytics:**
* Seasonal demand forecasting
* Prevent overstock/understock issues

FUTURE OF DATA ANALYTICS IN FLIPKART

*AI/ML-driven hyper-personalization

*Voice commerce (shopping via Alexa/Google Assistant)

*AR/VR product previews

*Predictive delivery (Amazon-like “anticipatory shipping”)

CONCLUSION

- Data analytics = heart of e-commerce success
- Flipkart uses customer insights, personalization, and operational analytics
- Future growth depends on advanced AI and predictive models