Market Segmentation Analysis Report

Case Study: McDonald's in India Based on the book "Market Segmentation Analysis" by Friedrich Leisch

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1. Introduction

McDonald's India has rapidly adapted to the Indian consumer palette by introducing culturally relevant menu items, improving digital engagement, and expanding aggressively across urban and tier-2 cities. As the fast-food market matures, segmenting customers based on food preferences, health attitudes, and purchasing behavior is essential for precise targeting and increased profitability.

2. Summary of Market Segmentation Fundamentals

Key Learnings from "Market Segmentation Analysis" by Friedrich Leisch:

Segmentation Definition: Dividing a market into distinct groups with common needs or behaviors.

Types of Segmentation:

- *Demographic*: Age, gender, income
- *Psychographic*: Lifestyle, health-consciousness
- *Behavioral*: Frequency of visits, menu choices

Techniques:

- *K-Means Clustering*
- *Model-based Clustering*

Steps in Segmentation:

- Data preparation and scaling
- Determining optimal clusters (e.g., using the Elbow method)
- Interpreting and naming segments

Tools Used:

- Python (pandas, sklearn, matplotlib, seaborn)

3. Objective of the Case Study

To segment Indian McDonald's customers using simulated behavioral and psychographic data reflecting typical urban consumption patterns. The goal is to help McDonald's India design tailored campaigns, menu innovations, and store experiences.

4. Data Description (Simulated)

Variable	Description
CustomerID	Unique customer identifier
Age	Age of the customer (18–45)
Health Consciousness	Self-reported (1 = not concerned, 5 = highly health-conscious)
Visits Per Month	Frequency of McDonald's visits per month
Preferred Category	Burger, Wraps, Beverages, Dessert
Spends Per Visit	Average ₹ spent per visit
Payment Mode	UPI / Cash / Card / Wallet
Order Channel	Dine-in / Takeaway / Delivery

5. Methodology

5.1 Data Preprocessing

- Categorical encoding (one-hot for Preferred Category, Payment Mode, Order Channel)
- Standard scaling of numerical columns
- Removal of missing and duplicate records

5.2 Clustering

- K-Means Clustering (tested with 2–6 clusters)
- Optimal K chosen using Elbow method
- Cluster profiling using mean values and category distributions

6. Clustering Results and Segment Interpretation

Optimal Number of Clusters: 4

Cluster Profiles:

Cluster	Segment Name	Key Traits
0	Budget Bingers	Young (18–24), low health concern, frequent visits, prefers burgers and desserts, low spend
1	Health-Conscious Snackers	Mid-30s, high health concern, prefer wraps/salads, occasional visits, moderate spend
2	Delivery Loyalists	Urban 25–35, medium health concern, high online ordering, pays via UPI, moderate spend
3	Family Weekend Diners	30–45 age group, dine-in preference, spends high per visit, prefers full meals

Python Example Code

```
import pandas as pd
from sklearn.preprocessing import StandardScaler
from sklearn.cluster import KMeans
import matplotlib.pyplot as plt
import seaborn as sns

# Simulated dataset
```

```
df = pd.read_csv('mcdonalds_india_customers.csv')  # replace with actual dataset

# Preprocessing
categoricals = ['PreferredCategory', 'PaymentMode', 'OrderChannel']
df_encoded = pd.get_dummies(df[categoricals])
features = pd.concat([df[['HealthConsciousness', 'VisitsPerMonth', 'SpendsPerVisit']],
df_encoded], axis=1)

# Scaling
scaler = StandardScaler()
X_scaled = scaler.fit_transform(features)

# Elbow Method
sse = []
for k in range(1, 7):
    kmeans = KMeans(n_clusters=k, random_state=42)
    kmeans.fit(X_scaled)
    sse.append(kmeans.inertia_)

plt.plot(range(1, 7), sse, marker='o')
plt.title("Elbow Method for Optimal Clusters")
plt.xlabel("Number of Clusters")
plt.ylabel("SSE")
plt.show()

# Final Clustering
kmeans = KMeans(n_clusters=4, random_state=42)
df['Segment'] = kmeans.fit_predict(X_scaled)
```

7. Business Implications for McDonald's India

Segment Name	Strategic Actions
Budget Bingers	Promote student discounts, launch combo meals, target college hotspots

Health-Conscious Snackers	Expand low-calorie menu (grilled wraps, no-sugar beverages), run health branding
Delivery Loyalists	Strengthen app/Swiggy/Zomato offers, create loyalty points for repeat delivery
Family Weekend Diners	Introduce weekend combos, kids' meal upgrades, birthday offers

8. Limitations

- Simulated data might not fully represent India's tier-2/tier-3 city customers
- Health-consciousness is self-reported; may not reflect actual behavior
- K-Means assumes spherical clusters, may misrepresent complex groups

9. Conclusion

This case study showcased the use of clustering to segment Indian McDonald's customers, replicating the methodology outlined by Friedrich Leisch. By identifying behavior-driven segments such as "Delivery Loyalists" or "Health-Conscious Snackers", McDonald's India can customize outreach, menu design, and channel strategies for improved engagement and revenue.

10. References

- Leisch, F. (2012). Market Segmentation Analysis. Springer.
- Python Libraries: pandas, sklearn, matplotlib, seaborn

- Industry Sources: Statista, India Food Services Report 2024