An Overview of Segmentation

Lecture

Outline

- Define segmentation.
- Describe where segmentation fits into marketing strategy.
- List criteria to strategically evaluate market segmentation in the business contexts.
- State the difference between segmentation bases and segmentation descriptors.
- Explain different types of segmentation and their pros and cons.
- Explain different types of segmentation variables.
- Explain different types of segmentation methods.

Definition of Segmentation

- *"… is the process of dividing customers (or, prospects) whose needs (or wants or behavior) vary greatly into groups (or, segments) of customers whose needs (or wants or behavior) vary little within ecah group but vary greatly among groups…"*

The primary goal of segmentation is to better satisfy customer needs or wants. However, the firm does ***not*** want to

- Use the same marketing program for all customers
- Incur the high cost of developing a unique program for each customer

Where Does Segmentation Fit in Marketing Strategy?

- **STP** (**S**egmentation, **T**argeting, and **P**ositioning) is a core business process used to identify and select groups of potential customers
  - Whose needs *(or wants or behavior)* within groups are the same and whose needs *(or wants or behavior)* between groups are different (**S**)
  - Who can be reached profitably (**T**)
  - With a focused marketing program (**P**)

How Marketers Like to Think about Segmentation and What You Find in Reality

- Marketers like to think about “target market segments” that are
  - Easily defined
  - Unambiguous
  - Reachable
- In practice, market segments are
  - Hard to define
  - Ambiguous
  - Unreachable

How Have Segmentation Evolved over Time?

- Firms have moved from mass production to mass customization, making segmentation more important.
- Firms have moved from using ***just*** demographics to segment markets to a combination of *demographics*, *psychographics*, *attitudinal*, *and behavioral* data to fine-tune market segments.

An Important Distinction between Two Related Questions

- Are there segments in the markets that have similar needs, wants, behaviors?
  - This is an empirical question and can be answered if we have adequate data and use appropriate tools.

- Will identification of homogenous segments lead to an effective marketing segmentation?
  - This is a strategic question and can usually be answered with domain expertise.
  - Some guidelines are on the next slide.

Criteria to Strategically Evaluate Effectiveness of Market Segmentation

- Are the market segments
  - Identifiable?
  - Substantial?
  - Accessible?
  - Responsive?
  - Stable?
  - Actionable?

Primary Characteristics of Segments

- **Bases –** characteristics that are used in ***deriving*** segments (such as customers' needs, wants, preferences, behaviors, demographics, and so on).
- **Descriptors –** characteristics that are ***not used directly*** in segmentation but used to profile segments *after* these are developed using bases.

Foundation versus Targeting Segmentation

- **Foundation segmentation** creates segments that are used to deliver consistent customer treatments and to create focus for your long-term strategy.
  - All customers are usually included, and each customer can fall into only one segment.
  - Key attributes of foundation segments include value, profit, attrition, risk, demographics, and so on.
  - This is often used for corporate (core) segmentation or in new product/service situation
- **Targeting segmentation** identifies customers with specific needs and preferences.
  - Not all customers can be included in targeting segments, and each customer might fall into multiple segments.
  - This segmentation is useful for specific marketing programs and campaigns.

Source: http://www.sas.com/knowledge-exchange/customer-intelligence/two-types-of-segmentation.html

Needs, Behavior, and Value Segmentation

- Customers differ as to ***why*** they buy products/services, ***how*** they use them and ***what*** value they generate for a firm.
  - Needs-based segmentation (typically survey data)
    - Understand why customers buy and how they buy to explore gaps between product features and customer needs.
  - Behavior-based segmentation (typically customer transaction data)
    - Understand customer information and transactions to differentiate marketing campaigns (communications, promotions).
  - Value-based segmentation (typically customer transaction plus accounting data)
    - Understand profitability-value relation to increase customer profitability via different levels of service for different value customers.

- Source: http://www.peppersandrogersgroup.com/

Classification of Segmentation Variables

	General	Company Specific
Observable	Cultural, Demographic, Geographic, Socio-economic.	User status, usage frequency, revenue, days since last purchase, loyalty tiers, etc.
Unobservable	Psychographics, values, life styles, personality.	Benefits, perceptions, preferences, intentions

Source: *Market Segmentation* by Wedel and Kamakura, International Series in Quantitative Marketing, 2000.

Classification of Segmentation Methods

	A Priori	*Post Hoc*
Descriptive	Contingency tables, Log-linear models, RFM	Clustering methods: Hierarchical, *k*-means, Kohonen (SOM)
Predictive	Cross-tabs, Regression, Logistic, Neural Networks, Discriminant Analysis, Decision Trees	Decision Trees, CART, Mixture models

Source: *Market Segmentation* by Wedel and Kamakura, International Series in Quantitative Marketing, 2000.

RFM Analysis

Lecture

What Is RFM Analysis?

- RFM analysis is one of the most popularly used tools in direct and database marketing.
- RFM is a strategic, customer-based metric computed as a combination of three separate customer metrics: R (recency), F (frequency), and M (money).
- RFM is frequently used in the following:
  - As an input (independent variable) in predictive models
  - As basis for behavioral segmentation

...

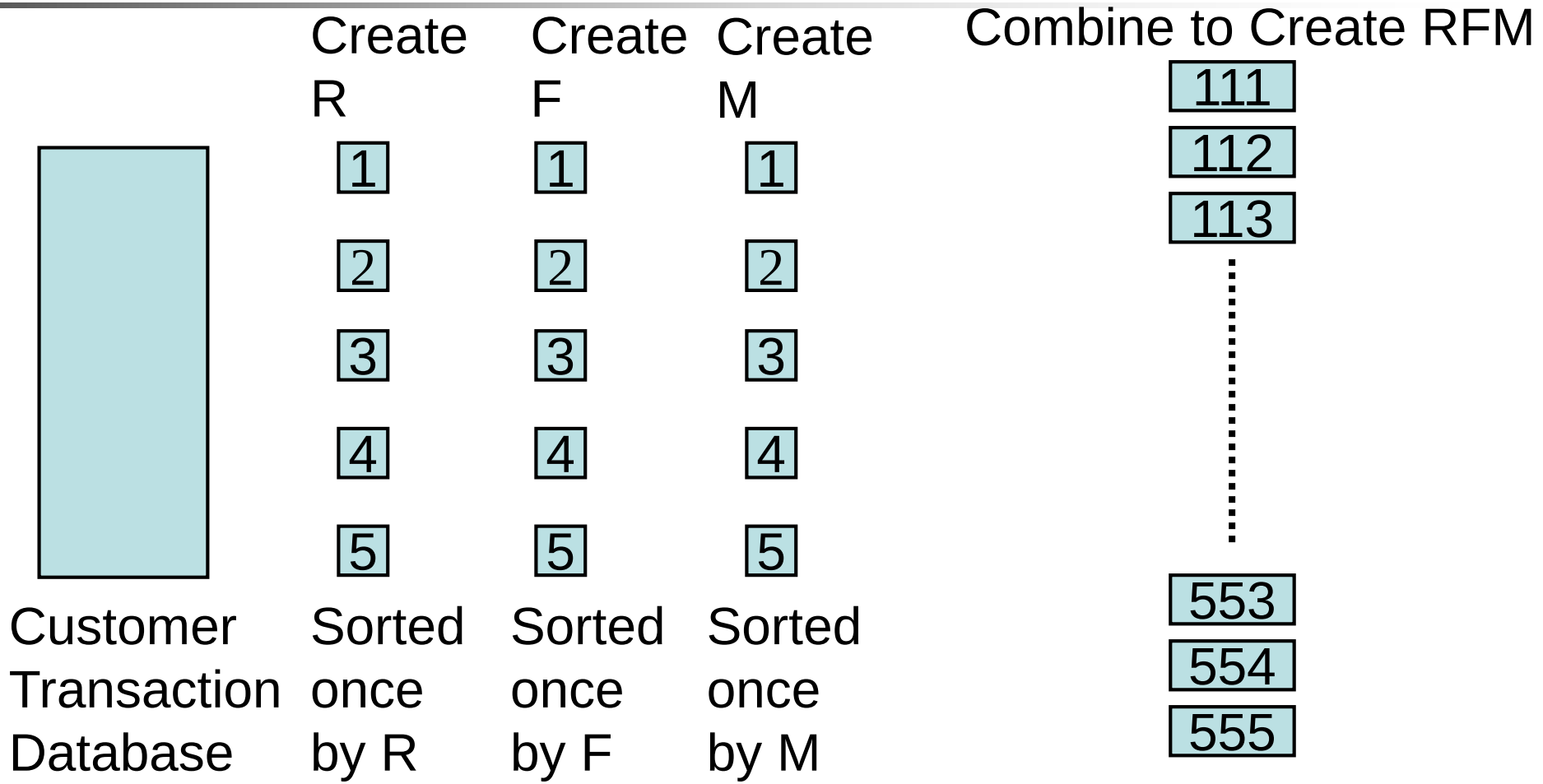
RFM Components

- Recency (R), frequency (F), and monetary (M) value codes are typically calculated for each customer based on customer transaction data.
  - Recency definition: how long it has been since a customer last placed an order with the company
  - Frequency definition: how often a customer orders from the company *in a certain defined period*
  - Monetary value definition: the amount that a customer spends in *a certain defined period*

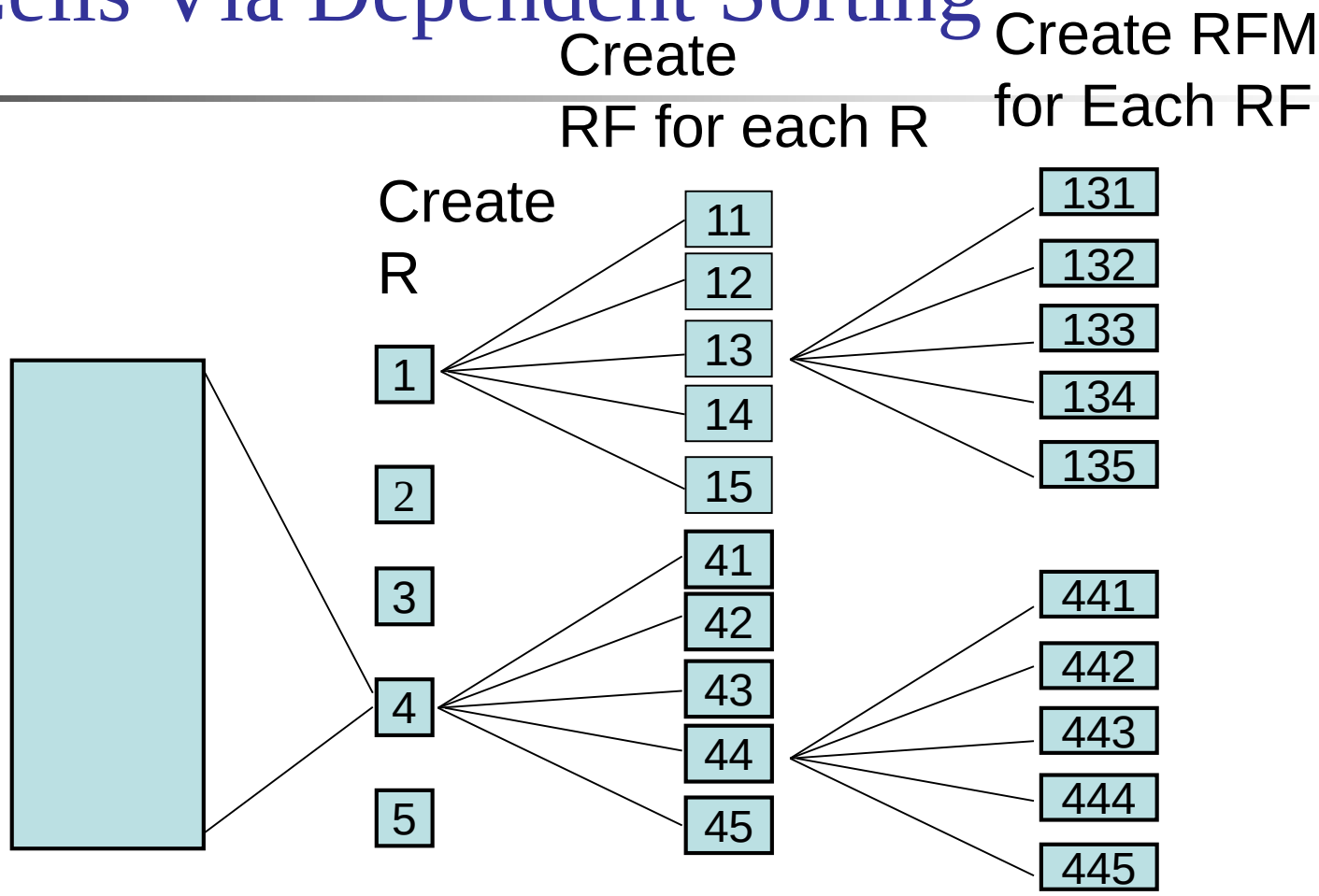
Computation of RFM Score (or, Cell)

- Two common methods:
  - Method 1: Sort customer transaction data based on R, F, and M values, and then combine R, F, and M into an RFM score (or, cell) for each customer. Sorting can be done in one of the following ways:
    - *Independent sorting* of R, F, and M columns
    - *Dependent sorting* of R, F, and M columns
  - Method 2: Compute relative weights for R, F, and M using regression type techniques by using R, F and M actual values as inputs in a response model.
    - These R, F, and M regression weights are then used in conjunction with the actual values of recency, frequency, and monetary to create an RFM score for each customer.

RFM Cells via Independent Sorting



RFM Cells Via Dependent Sorting



RFM Codes by Regression

- Regression is used to compute the relative weights of the R, F, and M metrics based on historical transaction data.
  - A dependent variable is usually a response to marketing stimuli.
  - Independent variables are R, F, and M values.
- Numerical points are assigned to each transaction of a customer, based on a historically derived formula.
- The numerical points are then multiplied by the relative weights of R, F, and M.
- RFM score for each customer is calculated as a summated, weighted index.
- A higher number generally indicates a better customer.

Issues to Consider in RFM Analysis

- While RFM continues to be used successfully by direct/database marketers for choosing to whom to mail offers, or to whom to send promotions, you must be careful about the following issues:
  - Arbitrary nature of splitting data is difficult to justify. Hence, always test and validate your results.
  - Be careful with operationalizing ***recency*** in RFM analysis for companies such as utility, phone, and others.
    - May need to think creatively…
  - Profile RFM segments with demographics and other variables to understand the segments.
  - RFM generally cannot be used to prioritize a prospect database because you do not have transaction data on prospects.

RFM Cells as Segments

- While customers in each RFM cell can be considered as belonging to a distinct segment, it is not practical (for strategic management of customers) to do so with 125 (5X5X5), 64 (4X4X4), or even 27 (3X3X3) RFM cells.
- In practice, sometimes the RFM cells are often reduced to a smaller number (between 2-10) and then profiles of customers are built for each of those smaller numbers of groups to better understand and manage those customer groups.

RFM Analysis

Demo using SAS

Catalog Case Study

- **Analysis Goal:** A mail-order catalog retailer wants to save money on mailing and increase revenue by targeting mailed catalogs to customers who are most likely to purchase in the future.
- They want you to create a 125 cells RFM code and explore how those relate to customer's response to catalogues
- Data set: **CATALOG_RFM**
- Number of rows: **48,356**
- Variables are:
  - Cust_ID, Recency in days, Frequency, Money and **Response**

RFM (Independent Sorting) Analysis of the Catalog Data

- Recode recency so that the highest values are the most recent before doing any binning
  - An easy way to do this is by multiplying recency with -1
- *If possible*, bin the R, F, and M variables into five groups (quantiles) each, numbered 1 through 5, so that 1 is the least valuable and 5 is the most valuable bin.
- Concatenate the RFM variables to obtain a single RFM "score."
- Find the response rates for the different groups.

SAS Code File

- **RFM Analysis**
- Look at analysis of recency, frequency and money
  - Be careful with large data with many distinct levels for each of these variables (output may become too large)
  - I will run only on the frequency variable
- Figure out quantiles for recency, frequency and money
- Create new variables using those quantiles
- Create RFM score for each observation

Reading

- Read the following article posted on class site
  - Making a Database Pay Off using RFM by Arthur Hughes

Which RFM Cells to Send Mail Offers to?

- ***Break-even response rate (read paper by Arthur Hughes)***=
- current cost of promotion per dollar of net profit.

  - Cost of promotion to an individual
    - Average net profit per sale

- Example: It costs $2.00 to print and mail each catalog. Average net profit per transaction is $30.

  - 2.00/30.00 = 0.067

Profitable RFM cells are those with a response rate greater than 6.7%.