

Lebanese University

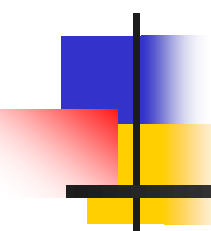
Faculty of Information (BRANCH II)

MARKETING RESEARCH

DATA SCIENCE PROGRAM

1st Semester 2023-2024

Dr. Ziad F. Haddad



Chapter Three

Research Design, Secondary and Syndicated Data



Chapter Outline

- 1) Overview**
- 2) Research Design: Definition**
- 3) Research Design: Classification**
- 4) Exploratory Research**
- 5) Descriptive Research**
 - i. Cross-Sectional Design**
 - ii. Longitudinal Design**
 - iii. Advantages and Disadvantages of Longitudinal and Cross-Sectional Designs**
- 6) Causal Research**
- 7) Relationships Among Exploratory, Descriptive, and Causal Research**



Chapter Outline

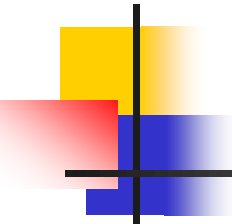
8) Potential Sources of Error

- i. Random Sampling Error**
- ii. Non-sampling Error**
 - a. Non-response Error**
 - b. Response Error**

9) Budgeting and Scheduling

10) Marketing Research Proposal

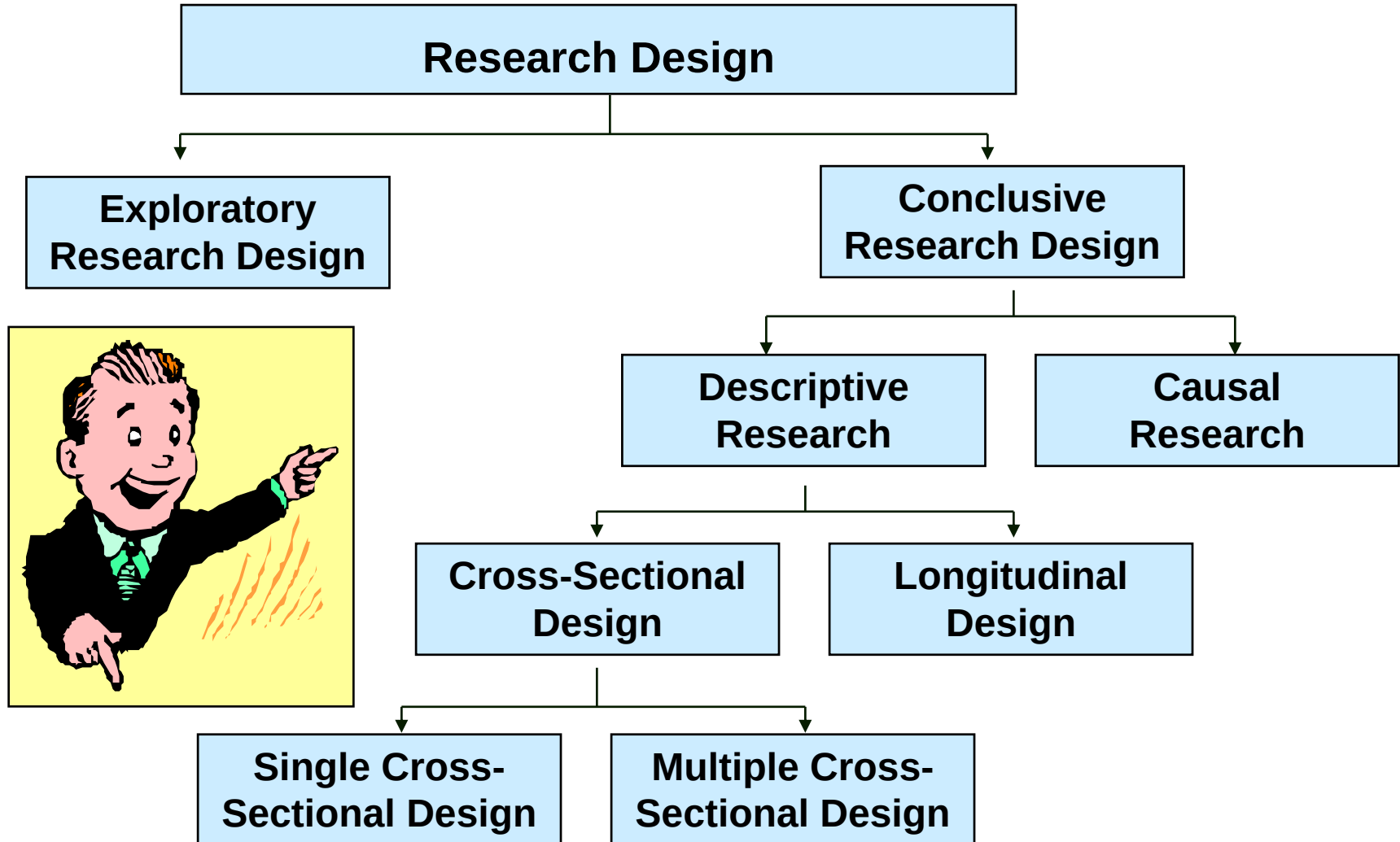




Research Design: Definition

- A **research design** is a framework or blueprint for conducting the marketing research project. It details the procedures necessary for obtaining the information needed to structure or solve marketing research problems.

A Classification of Marketing Research Designs



Exploratory & Conclusive Research Differences

Exploratory

Conclusive

Objective:

To provide insights and understanding.

To test specific hypotheses and examine relationships.

Characteristics:

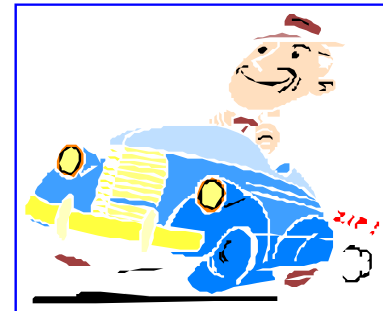
Information needed is defined only. Research process is flexible and unstructured. Sample is small and non-representative. Analysis of primary data is qualitative.

Information needed is clearly defined. Research process is formal and structured. Sample is large and representative. Data analysis is quantitative.

Findings /Results:

Tentative.

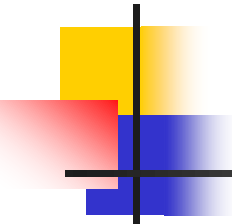
Conclusive.



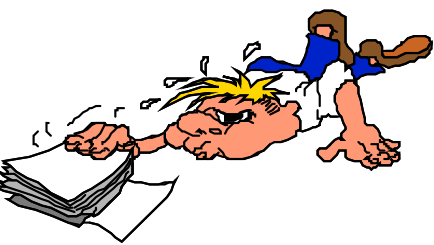
Outcome:

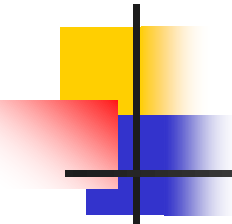
Generally followed by further exploratory or conclusive research.

Findings used as input into decision making.



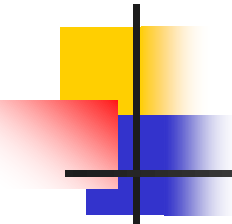
A Comparison of Basic Research Designs

Objective:	Exploratory Discovery of ideas and insights	Descriptive Describe market characteristics or functions	Causal Determine cause and effect relationships
Characteristics:	Flexible,  Often the front end of total research design	Marked by the prior formulation of specific hypotheses Preplanned and structured design	Manipulation of one or more independent variables Control of other mediating variables
Methods:	Expert surveys Pilot surveys Secondary data Qualitative research	Secondary data Surveys Panels Observation and other data	Experiments Questionnaires



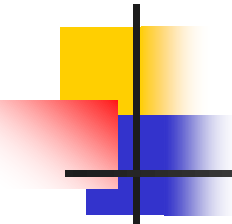
Uses of Exploratory Research

- **Formulate a problem or define a problem more precisely**
- **Identify alternative courses of action**
- **Develop hypotheses**
- **Isolate key variables and relationships for further examination**
- **Gain insights for developing an approach to the problem**
- **Establish priorities for further research**



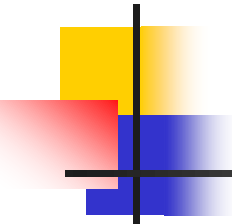
Methods of Exploratory Research

- **Survey of experts**
- **Pilot surveys**
- **Secondary data analyzed in a qualitative way**
- **Qualitative research**



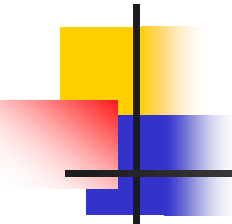
Use of Descriptive Research

- **To describe the characteristics of relevant groups, such as consumers, salespeople, organizations, or market areas.**
- **To estimate the percentage of units in a specified population exhibiting a certain behavior.**
- **To determine the perceptions of product characteristics.**
- **To determine the degree to which marketing variables are associated.**
- **To make specific predictions**



Methods of Descriptive Research

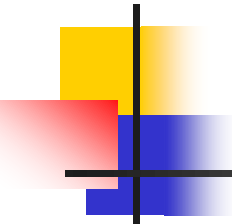
- **Secondary data analyzed in a quantitative as opposed to a qualitative manner**
- **Surveys**
- **Panels**
- **Observational and other data**



Uses of Descriptive Research

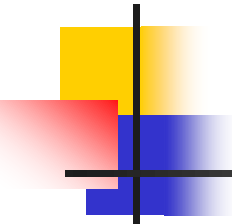
Descriptive Research aims to answer the 6 W's:

- **Who? Are the respondents to be selected?**
- **What? Information should be collected?**
- **When? Should information be obtained?**
- **Where? Should information be collected?**
- **Why? Is information obtained? Why to conduct this marketing research?**
- **Way? What is the proper way of obtaining information from respondents? Direct or indirect way?**



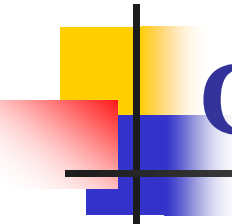
Cross-sectional Designs

- Involve the collection of information from any given sample of population elements only once.
- In **single cross-sectional designs**, there is only one sample of respondents and information is obtained from this sample only once.
- In **multiple cross-sectional designs**, there are two or more samples of respondents, and information from each sample is obtained only once. Often, information from different samples is obtained at different times.



Longitudinal Designs

- A fixed sample (or samples) of population elements is measured repeatedly on the same variables
- A **longitudinal design** differs from a cross-sectional design in that the sample or samples remain the same over time



Cross-Sectional vs. Longitudinal

***Cross-
Sectional
Design***

**Sample
Surveyed
at T_1**

***Longitudinal
Design***

**Sample
Surveyed
at T_1**

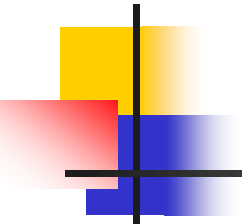
**Same
Sample also
Surveyed at
 T_2**

Time →

T_1

T_2





Relative Advantages and Disadvantages of Longitudinal and Cross-Sectional Designs

Evaluation Criteria

Cross-Sectional Design	Longitudinal Design
------------------------	---------------------

Detecting Change	-	+
Large amount of data collection	-	+
Accuracy	-	+
Representative Sampling	+	-
Response bias	+	-

Note: A “+” indicates a relative advantage over the other design, whereas a “-” indicates a relative disadvantage.

Cross-Sectional Data May Not Show Change

Brand Purchased

Time Period

Period 1 Survey

Period 2 Survey

Brand A

200

200

Brand B

300

300

Brand C

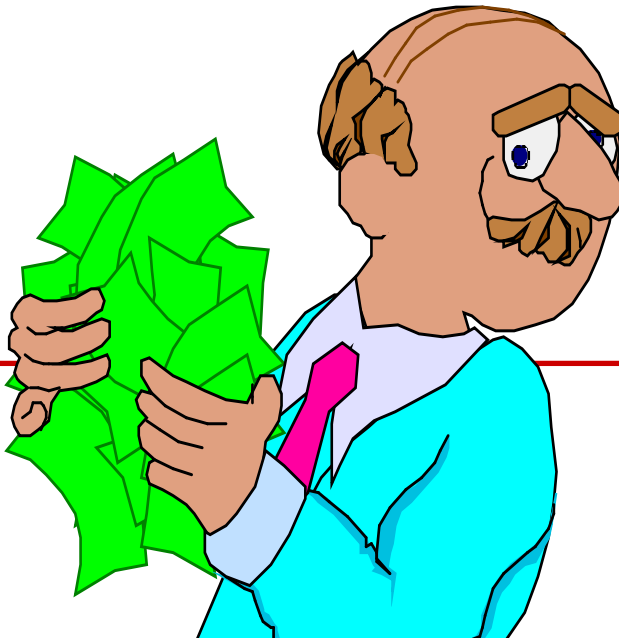
500

500

Total

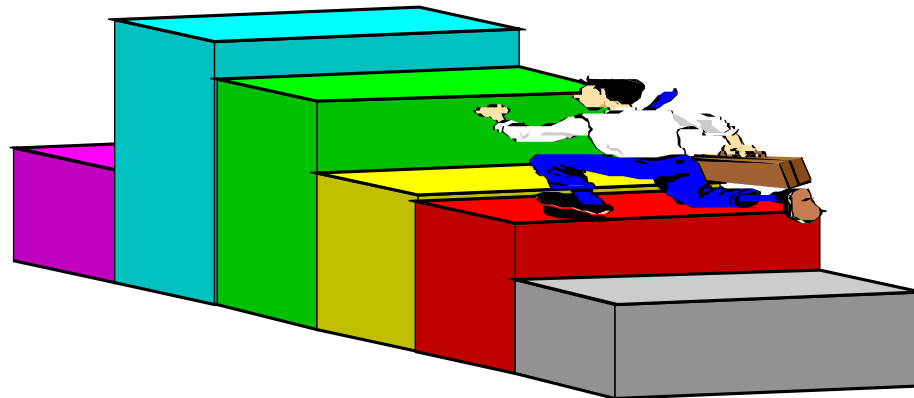
1000

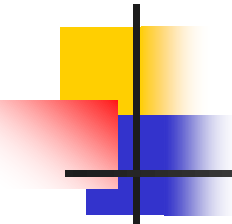
1000



Longitudinal Data May Show Substantial Change

Brand Purchased in Period 1	Brand Purchased in Period 2			Total
	Brand A	Brand B	Brand C	
Brand A	100	50	50	200
Brand B	25	100	175	300
Brand C	75	150	275	500
Total	200	300	500	1000





Primary vs. Secondary Data

- **Primary data** are originated by a researcher for the specific purpose of addressing the problem at hand. The collection of primary data involves all six steps of the marketing research process.
- **Secondary data** are data which have already been collected for purposes other than the problem at hand. These data can be located quickly and inexpensively.

A Comparison of Primary & Secondary Data

Primary Data

Secondary Data

Collection purpose

For the problem at hand

For other problems

Collection process

Very involved

Rapid & easy

Collection cost

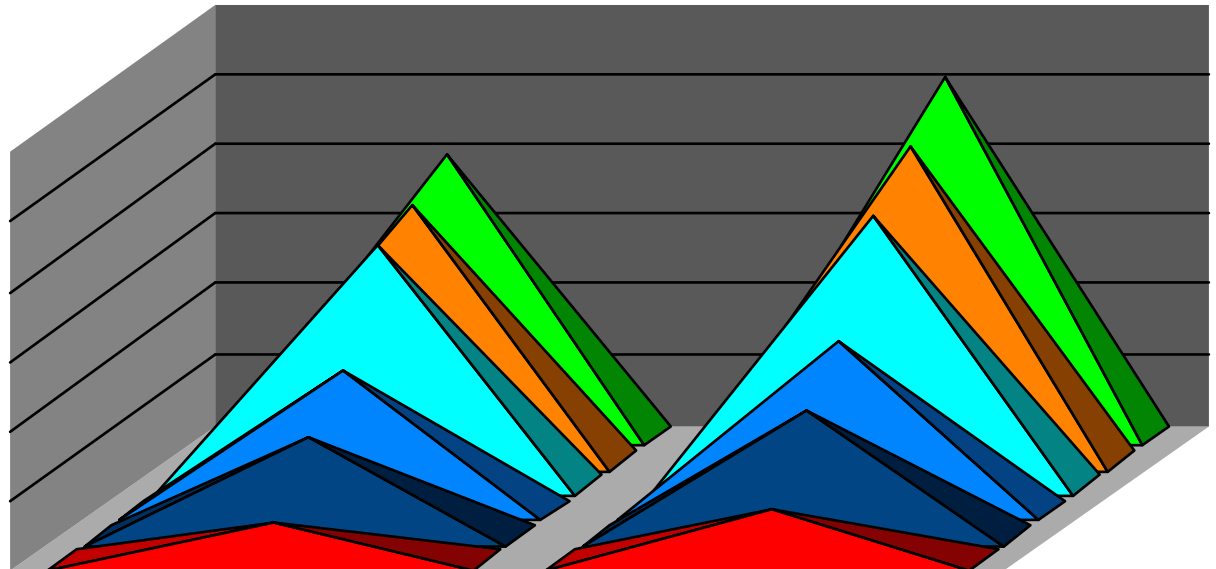
High

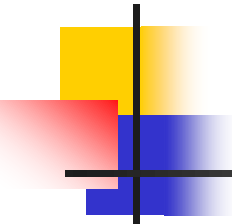
Relatively low

Collection time

Long

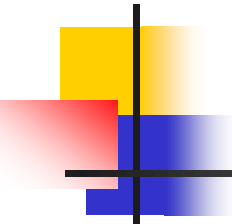
Short





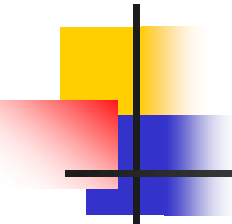
Uses of Secondary Data

- **Identify the problem**
- **Better define the problem**
- **Develop an approach to the problem**
- **Formulate an appropriate research design (for example, by identifying the key variables)**
- **Answer certain research questions and test some hypotheses**
- **Interpret primary data more insightfully**



Criteria for Evaluating Secondary Data

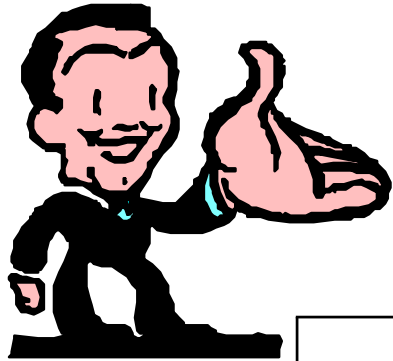
- **Specifications:** Methodology Used to Collect the Data
- **Error:** Accuracy of the Data
- **Currency:** When the Data Were Collected
- **Objective(s):** The Purpose for Which the Data Were Collected
- **Nature:** The Content of the Data
- **Dependability:** Overall, How Dependable Are the Data



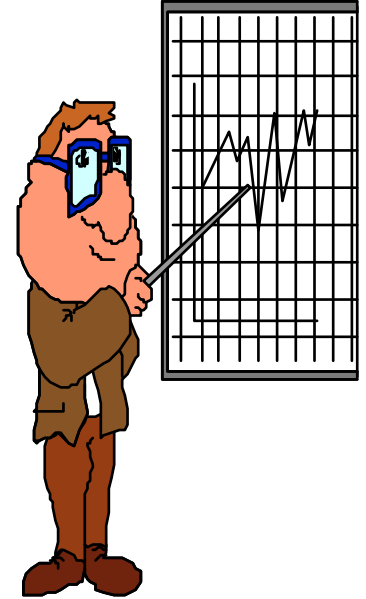
Criteria for Evaluating Secondary Data

Criteria	Issues	Remarks
Specifications & Methodology	Data collection method, response rate, quality & analysis of data, sampling technique & size, questionnaire design, fieldwork.	Data should be reliable, valid, & generalizable to the problem.
Error & Accuracy	Examine errors in approach, research design, sampling, data collection & analysis, & reporting.	Assess accuracy by comparing data from different sources.
Currency	Time lag between collection & publication, frequency of updates.	Census data are updated by syndicated firms.
Objective	Why were the data collected?	The objective determines the relevance of data.
Nature	Definition of key variables, units of measurement, categories used, relationships examined.	Reconfigure the data to increase their usefulness.
Dependability	Expertise, credibility, reputation, & trustworthiness of the source.	Data should be obtained from an original source.

A Classification of Secondary Data



Secondary Data



Internal

External

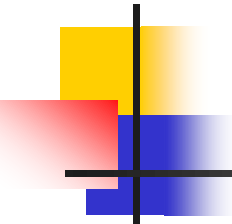
**Ready to
Use**

**Requires
Further
Processing**

**Published
Materials**

**Computerized
Databases**

**Syndicated
Services**



Internal Secondary Data

Department Store Project

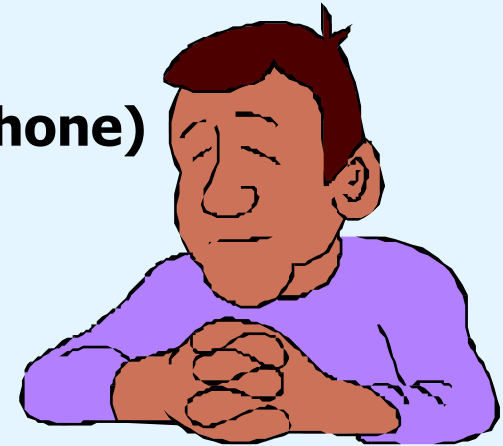
Sales were analyzed to obtain:

- **Sales by product line**
- **Sales by major department (e.g., men's wear, house wares)**
- **Sales by specific stores**
- **Sales by geographical region**
- **Sales by cash versus credit purchases**
- **Sales in specific time periods**
- **Sales by size of purchase**
- **Sales trends in many of these classifications were also examined.**

Type of Individual/Household Level Data Available from Syndicated Firms

I. Demographic Data

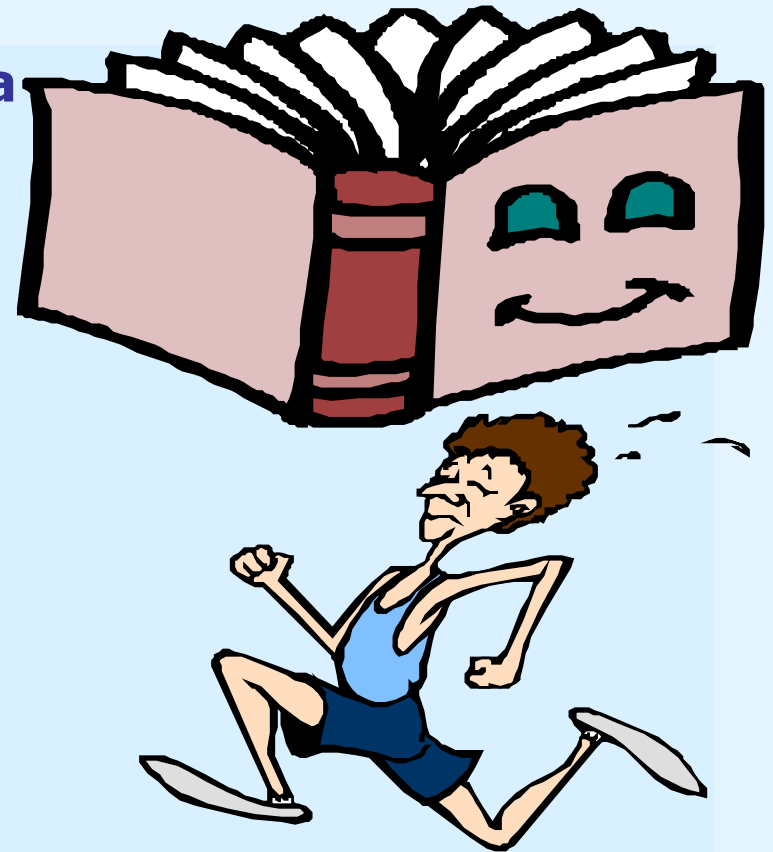
- Identification (name, address, telephone)
- Sex
- Marital status
- Names of family members
- Age (including ages of family members)
- Income
- Occupation
- Number of children present
- Home ownership
- Length of residence
- Number and make of cars owned



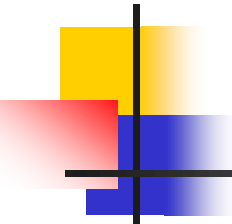
Type of Individual/Household Level Data Available from Syndicated Firms

II. Psychographic Lifestyle Data

- Interest in golf
- Interest in snow skiing
- Interest in book reading
- Interest in running
- Interest in bicycling
- Interest in pets
- Interest in fishing
- Interest in electronics
- Interest in cable television



There are also firms which collect demographic data on businesses.



A Classification of Published Secondary Sources

Published Secondary Data

General Business Sources

Government Sources

Guides

Directories

Indexes

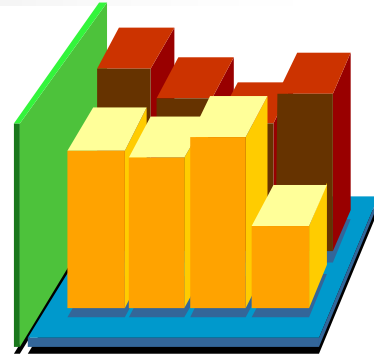
**Statistical
Data**

**Census
Data**

**Other
Government
Publications**



A Classification of Computerized Databases



**Computerized
Databases**

Online

Internet

Off-Line

**Bibliographic
Databases**

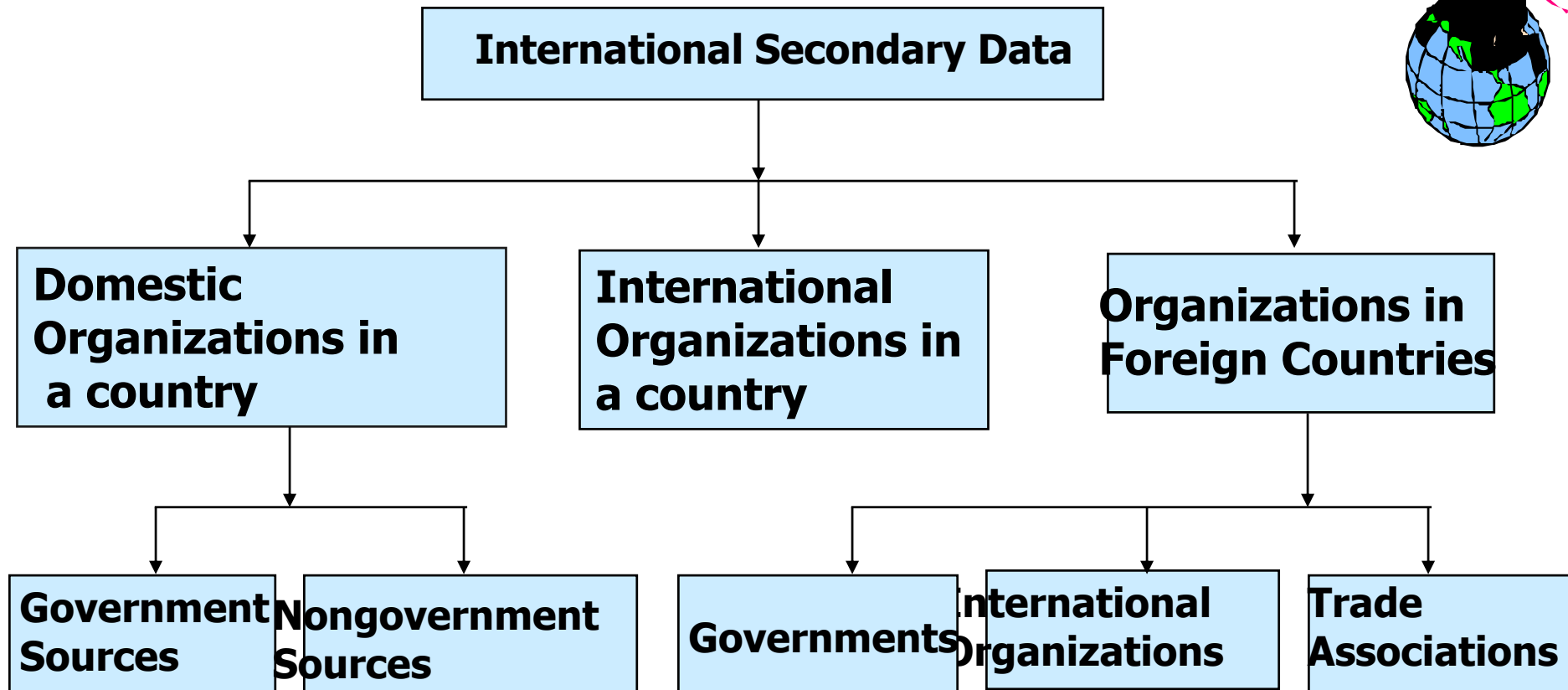
**Numeric
Databases**

**Full-Text
Databases**

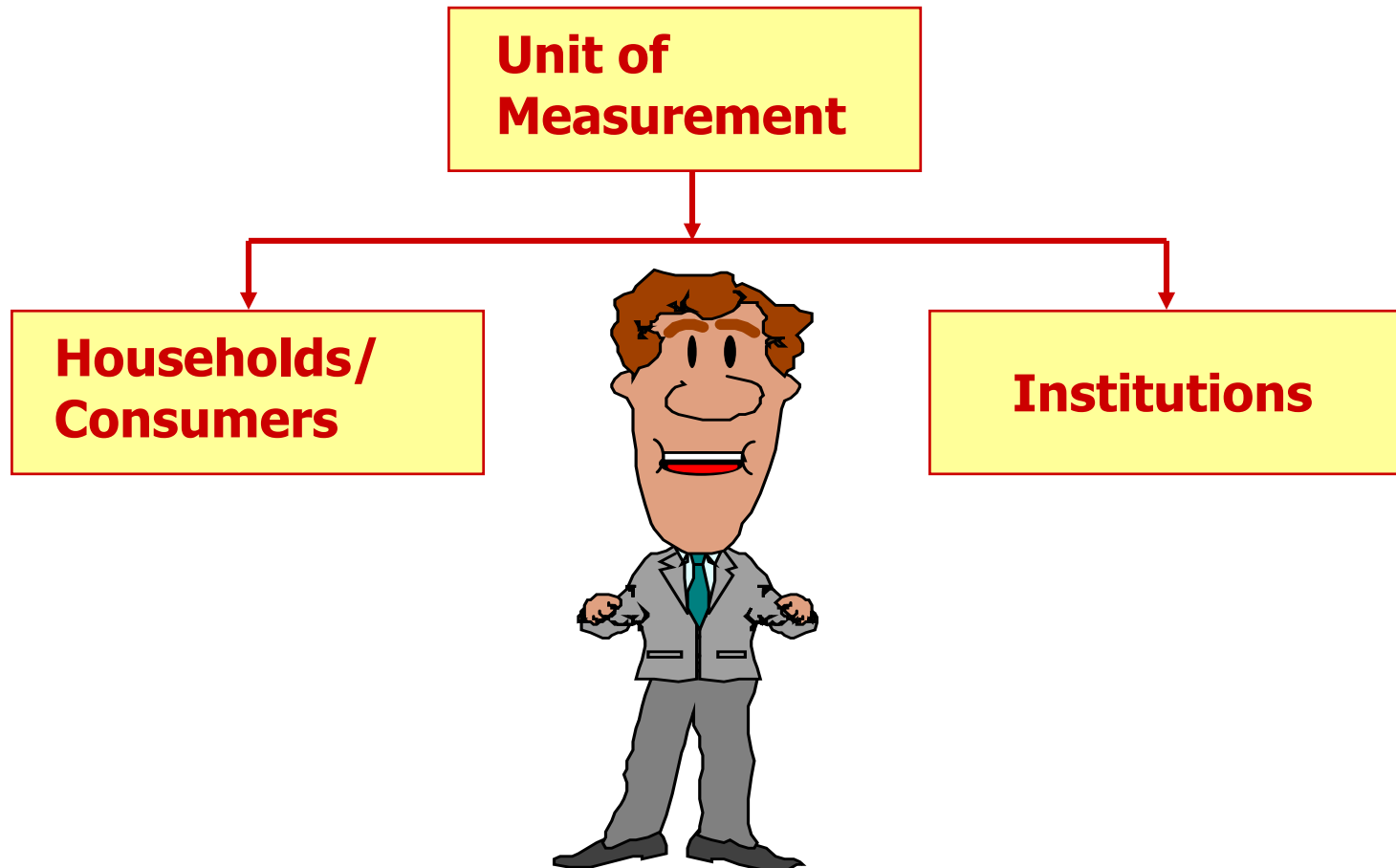
**Directory
Databases**

**Special-
Purpose
Databases**

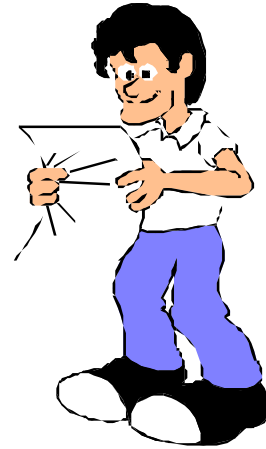
A Classification of International Sources



A Classification of Syndicated Services



Syndicated Services: Consumers



**Households /
Consumers**

Panels

Purchase

Media

**Electronic
scanner services**

**Volume
Tracking Data**

**Scanner
Panels**

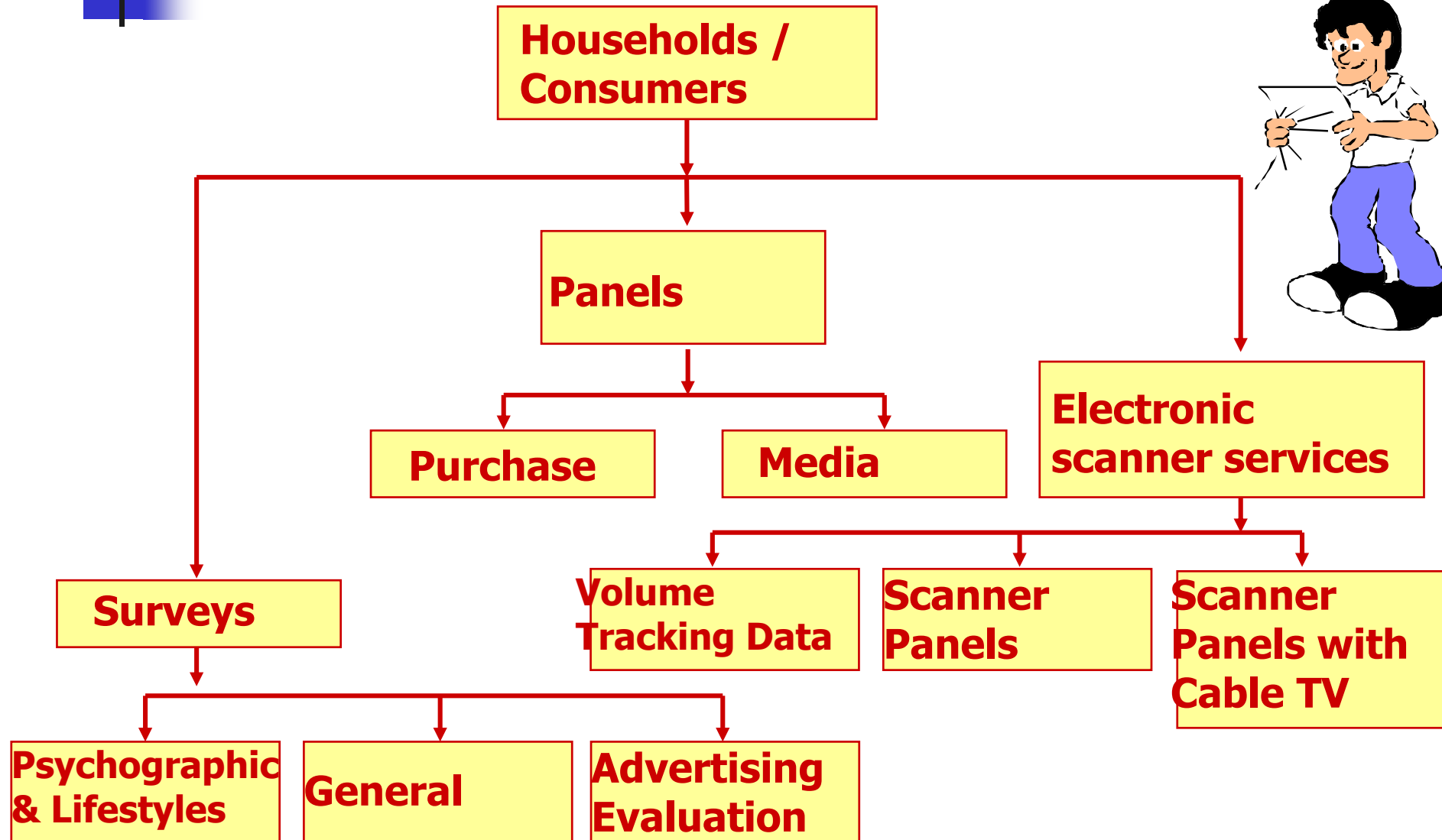
**Scanner
Panels with
Cable TV**

Surveys

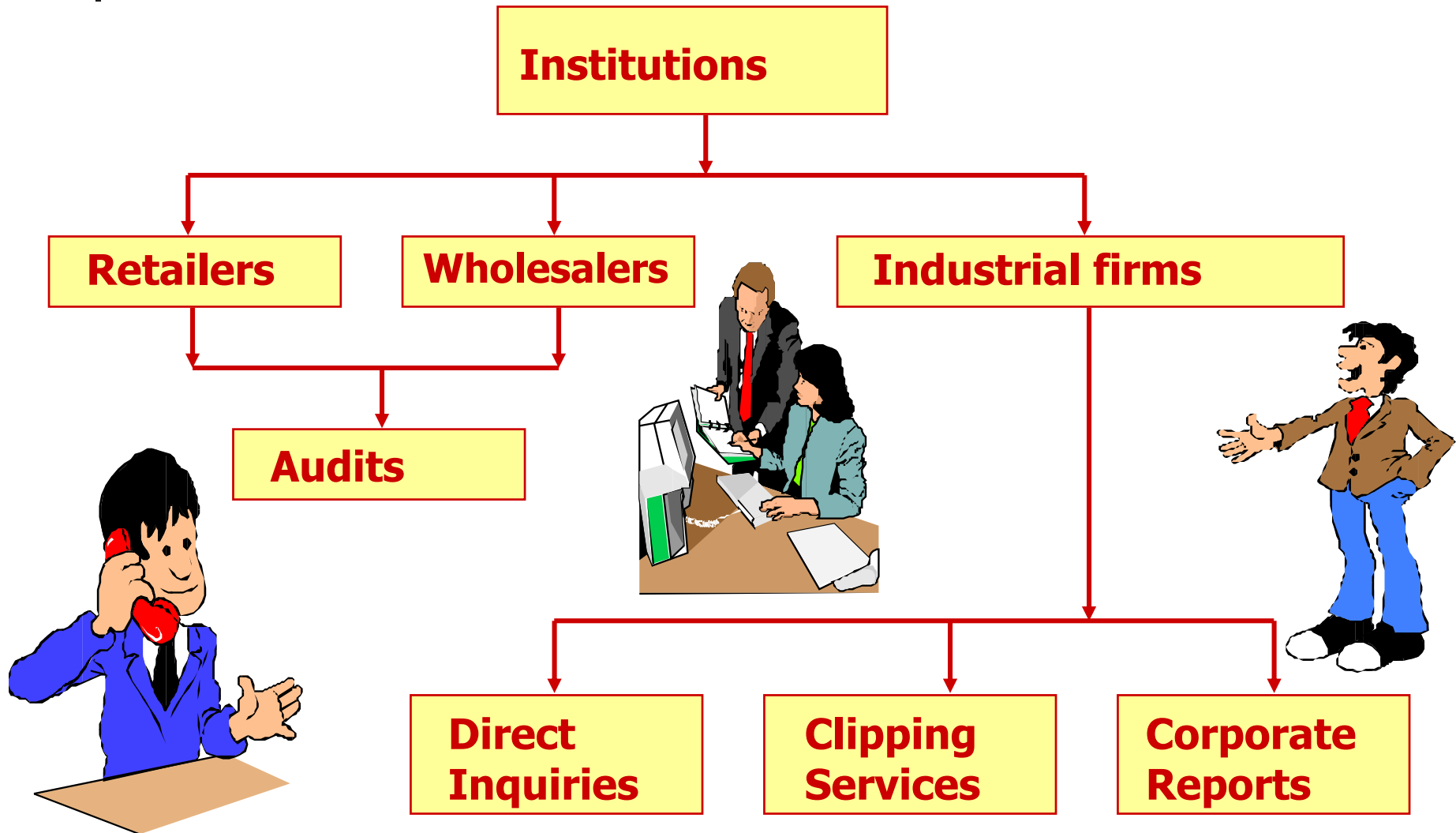
**Psychographic
& Lifestyles**

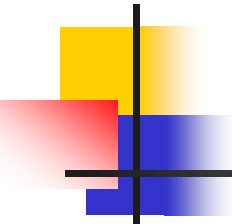
General

**Advertising
Evaluation**



Syndicated Services: Institutions





Single-Source Data

Single-source data provide integrated information on household variables, including media consumption and purchases, and marketing variables, such as product sales, price, advertising, promotion, and in-store marketing effort

- Recruit a test panel of households and meter each home's TV sets
- Survey households periodically on what they read
- Grocery purchases are tracked by UPC scanners
- Track retail data, such as sales, advertising, and promotion

A Classification of International Sources



International Secondary Data

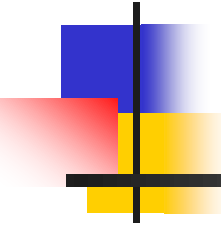
Domestic Organizations in the United States

International Organizations in the United States

Organizations in Foreign Countries

Government Sources
Nongovernment Sources

Governments
International Organizations
Trade Associations



Next: Chapter Four

**Exploratory Research Design:
Qualitative Research**