<u>RAB</u>
A Computer Simulation for
Marketing Research and Consumer Behavior

by

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<u>Introduction</u>

Traditional methods of instruction such as lectures, group discussions, case methods, and major "term" projects lack the ability to adequately familiarize the student with "hands on" experience with any but a few of the techniques discussed in marketing research and/or consumer behavior courses. Course projects have come the closest but time, money, and experience on the part of the students have restricted the breadth of content.

RAB is a computer based simulation which has attempted to overcome this problem. This has been accomplished through varied exposure to experiential learning situation which apply a wide selection of marketing research techniques. It has been designed to give an even and continual base of reference for the topics generally discussed in a junior to graduate marketing research or consumer behavior course.

The simulation covers the application of some of the more advanced statistical techniques which include the following.

Chi-square test of independence Statistical Inference
    Estimation
        Interval Estimation for a Population Mean
        Interval Estimation for a Population Proportion
        Sample Size Estimation for Means
        Sample Size Estimation for Proportion Hypothesis Testing
        About a Mean
        About a Proportion
        About Differences Between Two Means
        About Differences Between Two Proportions Analysis of Variance
    Completely Randomized Design
    Randomized Complete Block Design
Simple Linear Regression and Correlation
Multiple Regression and Correlation
    Time Series
    Cross-Sectional
Non-Parametric Statistic
Store Image Profiles
Life Style (AIO) Studies
Feasibility Study
Demographic Studies

The simulation is designed around a situation involving a recent business school graduate and his employment with a major research firm which happens to be owned and operated by his family. Each student is to play the role of the recent graduate.

During the "time of employment" the student will be faced with designing research which is (1) systematic, (2) logical, (3) empirical, and (4) replicable. In addition, it will be suggested that each student follow the same steps in the research process.

(1)   Define the problem
(2)   Construct a literature review
(3)   Formulate a hypothesis
(4)   Identify and label the variables
    (a)   Independent
    (b)   Dependent
    (c)   Moderator
    (d)   Interviewing
(5)   Construct an operational definition of the variables

(6)   Decide on the research design
         (a) Secondary data
         (b)   Primary data
                 Nature of research
                 Area of measurement
                 Sample size
                 Method of analysis
(7)   Collection of the data (some of the secondary and all the primary data is supplied by the simulation)
(8)   Analysis of data
(9)   Report writing

The amount of classroom time devoted to the game is optional, depending upon course content and objectives and upon the level of student preparation.

Example

One assignment might be to develop a research project to gather data on shoppers, heavy shoppers, and non-shoppers of a major retail department store in regard to:

(1)   Demographics
(2)   AIO (Life Style).

The following is the input statement by the instructor and a portion of the output received by each student.

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1  DATA SHOWMEHOW,111121,1500
*2  DATA SHOWMEAGAIN,31111,1000
*RUN
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                    R A B
                   *****

   WELCOME TO RAB (RESEARCH AIN'T BAD).  I HOPE YOU
   HAVE READ THE INSTRUCTORS MANUAL BEFORE NOW.  IF
   NOT, MOST OF WHAT I'LL ASK YOU WON'T MAKE ANY SENSE.
   IF YOU HAVEN'T YOU HAD BETTER STOP NOW.

   WELL -- GO OR NOGO?GO


WHICH PROBLEM IS TO BE RUN?

  -1 = INITIALIZE SYSTEM
   0 = FIRST SURVEY FOR RICHDAY
   1 = SECOND SURVEY FOR RICHDAY
   2 = ANOVA FOR DULLABY
   3 = FEASIBILITY STUDY FOR RICHDAY DEPARTMENT STORE
   4 = TIME SERIES FOR HAMILTON HARDWARE INC.

  WHICH ONE?1


HOW MANY STUDENTS?2

FOR WHAT YEAR IS THE DATA DESIRED?1975

IS YOUR DATA ENTERED, (YES OR NO)?YES


      STUDENT FIRM      RND NUMBER      SAMPLE SIZE

      SHOWMEHOW          111121            1500
      SHOWMEAGAIN         31111            1000
*
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SHOWPROW   RESEARCH INC.

THIS IS A STUDY WHICH WAS CONDUCTED BY SHOWPROW
RESEARCH INC.   THE BASIS FOR THIS REPORT IS A PERSONAL
IN-THE-HOME PROBABILITY SAMPLE OF THE HOMEMAKERS IN THE
HOUSEHOLDS IN 7-COUNTY METROPOLITAN COMMONTOWN.

SPECIFICALLY THE STUDY AIMED TO MEASURE VARIOUS CHARACTERISTICS
OF METROPOLITAN COMMONTOWN HOUSEHOLDS AND THEIR INTERRELATION-
SHIP WITH THE CLIENT'S STORE.

A STUDY CONDUCTED FOR RICHDAY DEPARTMENT STORE INC.
AMONG METROPOLITAN COMMONTOWN HOMEMAKERS
CONDUCTED BY SHOWPROW   RESEARCH INC.

DATE 1975
SAMPLE SIZE 1500
SAMPLE COST $ 1500.00

INCOME
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INCOME	TOTAL MARKET	TOTAL SHOPPERS	HEAVY SHOPPERS	NON SHOPPERS
UNDER 2500	8	2	0	6
2500 TO 4999	45	13	2	27
5000 TO 7499	111	49	6	62
7500 TO 9999	206	95	14	111
10000 TO 12499	331	192	38	139
12500 TO 14999	380	175	32	205
15000 TO 17499	198	78	12	118
17500 TO 19999	169	25	1	144
20000 AND UP	54	3	0	51

SIZE OF HOUSEHOLD
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SIZE	TOTAL MARKET	TOTAL SHOPPERS	HEAVY SHOPPERS	NON SHOPPERS
1	175	39	1	137
2	366	116	7	250
3	391	148	22	243
4	326 215	171	35	155
5	213	141	33	72
6 OR MORE			7	

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AGE OF YOUNGEST CHILD LIVING AT HOME
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AGE	TOTAL MARKET	TOTAL SHOPPERS	HEAVY SHOPPERS	NON SHOPPERS
UNDER 2	79	25	1	54
2 TO 6	293	136	26	160
7 TO 10	337	183	45	154
11 TO 14	230	106	19	122
15 TO 18	131	51	8	80
OVER 18	46	14	1	32
NO CHILDREN	379	118	5	261

AGE OF FEMALE HEAD OF HOUSEHOLD
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AGE	TOTAL MARKET	TOTAL SHOPPERS	HEAVY SHOPPERS	NON SHOPPERS
UNDER 25	66	15	1	51
26 TO 30	211	118	8	93
31 TO 35	211	118	17	93
36 TO 40	178	119	29	59
41 TO 45	137	83	23	54
46 TO 50	161	80	19	81
51 TO 55	90	30	3	60
56 TO 60	77	17	1	60
61 TO 65	96	27	2	69
66 AND OVER	273	30	2	243

RACE
****

RACE	TOTAL MARKET	TOTAL SHOPPERS	HEAVY SHOPPERS	NON SHOPPERS
WHITE	1211	545	99	666
NON-WHITE	289 216	24	6	195

RIGSBY DEPARTMENT STORE SHOPPER PROFILE: PERCENTAGE OF NON-SHOPPERS AND HEAVY SHOPPERS WHO GENERALLY OR DEFINITELY AGREE WITH EACH AID QUESTION

LIFE STYLE (AID) QUESTIONS	HEAVY SHOPPER N=105 (%)	NON SHOPPER N=63 (%)
THE SWINGING PARTY-GOER		
I LIKE PARTIES WHERE THERE IS LOTS OF MUSIC AND TALK	33.84	35.29
I LIKE TO THINK I AM A BIT OF A SWINGER	19.72	23.04
I DO MORE THINGS SOCIALLY THAN DO MOST OF MY FRIENDS	12.94	2?.24
I LIKE TO DO THINGS THAT ARE BRIGHT AND EXCITING	35.94	47.72
NOT A HOMEBODY IN A RUT		
I AM A HOMEBODY	39.02	54.79
OUR DAYS SEEM TO FOLLOW A DEFINITE ROUTINE	71.63	6?.66
I WOULD LIKE TO HAVE A MAID TO DO THE HOUSEWORK	27.32	44.8

OPTIMISTIC MOBILES

Statement		
MY GREATEST ACHIEVEMENTS ARE STILL AHEAD OF ME	35.55	48.29
FIVE YEARS FROM NOW, THE FAMILY INCOME WILL BE A LOT HIGHER	44.12	62.21
I WILL PROBABLY HAVE MORE MONEY TO SPEND NEXT YEAR	39.51	58.05
WE WILL PROBABLY MOVE ONCE IN THE NEXT FIVE YEARS	21.76	41.02

FASHION AND PERSONAL APPEARANCE CONSCIOUS

Statement		
I OFTEN TRY THE LATEST HAIRDO STYLES WHEN THEY CHANGE	14.41	24.48
I WOULD LIKE TO BE A FASHION MODEL	14.71	31.26
WOMEN WEAR TOO MUCH MAKEUP THESE DAYS	51.19	42.16
I LIKE TO FEEL ATTRACTIVE TO MEN	34.91	56.11
I LIKE THE NATURAL COLOR OF MY HAIR	64.87	37.75

CREDIT, BORROWING, AND INVESTMENT

Statement		
I BUY MANY THINGS WITH A CREDIT CARD OR CHARGE CARD	28.4	48.7
IN THE PAST YEAR WE HAVE BORROWED MONEY	21.51	48.96
I LIKE TO PAY CASH FOR EVERYTHING I BUY	65.29	57.28
INVESTING IN THE STOCK MARKET IS TOO RISKY FOR MOST FAMILIES	50.25	48.56
WHEN SHOPPING I FIND MYSELF CHECKING THE PRICES EVEN FOR SMALL ITEMS	78.75	55.18