



# Dr. - Ing Chalermpol Tapsai Ph.D.

• Information Technology :

King Mongkut's University of Technology North Bangkok, Thailand.

 Computer Engineering (Artificial Intelligence: AI) Fern University, Germany.

E-Mail: chalermpol.ta@ssru.ac.th Website: http://www.elcim.ssru.ac.th/chalermpol\_ta/



# Advanced research Introduction and fundamental knowledge



4,567

2,315

ROGER BOUGIE I UMA SEKARAN

7,325

2500

( m

6 uter

Additional Page

-

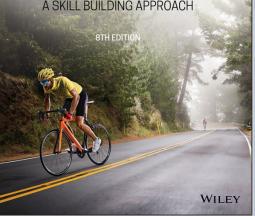
1000

1.51 Sec 2,500



VICKI L. PLANO CLARK - JOHN W. CRESWE

A CONSUMER'S GUIDE



# Advanced research Introduction and fundamental knowledge

4.567

ROGER BOUGIE I UMA SEKARAN

**RESEARCH METHODS** 

FOR BUSINESS A SKILL BUILDING APPROACH

1,325

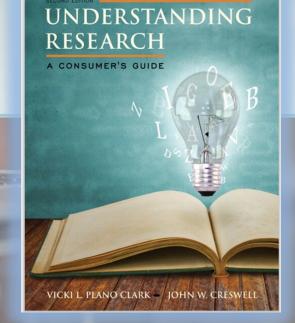
WILEY

Roger Bougie and Uma Sekaran. (2020). Research Methods for Business, A Skill-Building Approach (8th ed.). John Wiley & Sons. United States of America.

# Advanced research Introduction and fundamental knowledge

| Arthury Malays                | A Transmission     | O Property Long | ( & Total Youni | Theory is forward in the law from the state |                         |                  |
|-------------------------------|--------------------|-----------------|-----------------|---|-------------------------|------------------|
| Normal Address of the Indiana | 2500               | 1.51 Sec        | 2,500           | 4,567                                       | 2,315                   | 7,325            |
|                               | - Second Associate | - Sepa te       | weather the     |   | · · (10), from and them |                  |
| ==                            | 1.                 |                 |                 |   |                         | (1.11)           |
| 12 mm                         | 12                 |                 |                 |   |                         | See of Alto      |
| R uters<br>R ters             | 1                  |                 |                 |   |                         | Server (1997)    |
| Si Sastantan                  |                    |                 |                 |   |                         | Server and       |
|                               |                    |                 |                 |   |                         | Unix One Unix By |

Vicki L. Plano Clark and John W. Creswell. (2015). Understanding Research, A Consumer's Guide (2nd ed.). Pearson Education. United States of America.



### **Research** meaning

Contraves Contraves Of Forms Of Ultimores Of Letters Of Cost Properties

> R steps B schwein B carbunden B schwein B schwein B schwein B schwein

2500

The process of finding solutions to a problem after a targeted and systematic study and analysis of materials and sources.

(Roger Bougie & Uma Sekaran, p.1)

- A process of steps used to collect and analyze information in order to increase our knowledge about a topic or issue.
- consists of three steps:
  - 1. Posing a question.
  - 2. Collecting data about the question.
  - 3. Analyzing the data to answer the question.

(Vicki L. Plano Clark & John W. Creswell, p.4)

# **Research** design

1.51 Sec 2.

#### Dattand Dattand Dattand Di Udaran Di Udaran Di Sala Di Gastanan

R mayes

B Conference

-

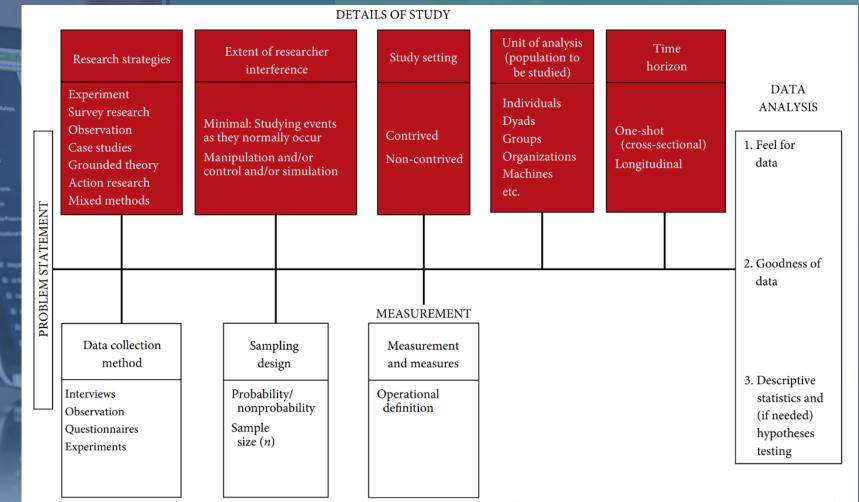
& unstan

2500

### A blueprint or plan for answering the research questions.

- data collection
- data measurement
- data analysis

(Roger Bougie & Uma Sekaran, pp.103-104)



**FIGURE 7.1** The research design

#### (Roger Bougie & Uma Sekaran, p.104)

### **Research** design

- The Research Design, 103
  - Elements of Research Design, 104
  - Research Strategies, 104
- Experiments, 104
- Survey Research, 105
- Ethnography, 105
- Case Studies, 106
- Grounded Theory, 106
- Action Research, 106
- Extent of Researcher Interference with the Study, 106
- Study Setting: Contrived and Non-contrived, 108
- Unit of Analysis: Individuals, Dyads, Groups, Organizations, Cultures, 110
- Time Horizon: Cross-Sectional Versus Longitudinal Studies, 112
- Cross-sectional Studies, 112
- Longitudinal Studies, 112

### **Other topics:**

di maun

C Uterate

E Sauth

Interviews, 118

Observation, 130

Questionnaires, 143

**Experimental Design** 164

Variables and Measurement 190-220

Population and Sampling 222-250

Quantitative data analysis 254-304

**Qualitative data analysis** 307-322

(Roger Bougie & Uma Sekaran)

### **Quantitative data analysis:**

na minang Minana

> R Mayon R utteren R Castronen R utteren R utteren

& unstan

#### **Data collection and preparation** 255-260

#### Preliminary Analysis 260-276

- Frequencies
- Central Tendency
- Dispersion = Relationships Between Variables: χ2 and Correlations
- Testing the Goodness of Measures: Reliability, Validity

#### **Hypothesis Testing**

- Means Analysis
- Regression Analysis: Coefficients, Multicollinearity
- Other Multivariate Tests and Analyses: Discriminant Analysis, Logistic Regression, Conjoint Analysis, Two-Way ANOVA, MANOVA, etc.

# **Qualitative data analysis:**

Analysis of the words-form data:

- interview notes
- transcripts of focus groups
- answers to open-ended questions
- transcriptions of video recordings,
- accounts of experiences with a product
- news articles

## **Qualitative data analysis steps:**

- data reduction
  - (selecting, coding and categorizing the data)
- data display
  - (ways of presenting the data: selection of quotes, a matrix, a graph or a chart illustrating)
- drawing of conclusions

#### (Miles and Huberman, 1994)

### **Qualitative data analysis methods:**

• Content analysis

• Narrative analysis

Analytic induction

2500

.....

.....