

**COURSE SYLLABUS
FOR FULL-TIME UNDERGRADUATE PROGRAMS**

(Issued under Decision No.1380/QĐ-ĐHKTQĐ on 15/8/2016 by the University President)

1. COURSE NAME: Statistics in marketing research

Code: TKKD1110

Number of Credit: 3

2. DEPARTMENT IN CHARGE OF INSTRUCTION:

Business Statistics

Office: Room 401- 402 Building 7 – National Economics University

Office Hours: 8a.m – 5p.m

Office Telephone: (04-3) 869 3275

3. PRE-REQUISITE: Principles of Statistics

4. COURSE DESCRIPTION:

Statistics is one of the most important methods in collecting sufficient data so as to make analyses and build up marketing strategies. There appear various types of information about the market and it is not easy to acquire all of them in a correct way. The course “Statistics in marketing research” focuses on some basic issues related to marketing research, provides knowledge and skills of researching, and includes not only earlier stage of planning and organizing the research but also the methods of collecting and aggregating information as well as writing market analyzing report. “Statistics in marketing research” has close and direct relationship with other courses such as marketing, behavior study and study of customers’ satisfaction.

5. COURSE OBJECTIVES:

By the end of this course, students are expected to be able to:

- Understand the basic notions of market and the necessity of for marketing research.

- Understand and improve skills of making marketing research plans, from defining the problems to designing research content, selecting methods of collecting information and implementing the plans

- Build a survey plan and design tools to collect appropriate information according to the objects of study and the practical conditions.

- Be proficient in data collecting skills by using some basic methods like interviewing, observing and data analysis.
- Apply efficiently different statistical methods in presenting and analyzing the market from collected data.
- Practice writing different kinds of reports presenting results of the research and interpreting.

6. COURSE CONTENT:

TENTATIVE SCHEDULE

| <i>No</i> | <i>Contents</i> | <i>Total hours</i> | <i>In details</i> | | <i>Notes</i> |
|------------------|------------------------|---------------------------|--------------------------|---|---------------------|
| | | | <i>Theory</i> | <i>Practice, Discussion, Exams</i> | |
| 1 | Chapter 1 | 6 | 4 | 2 | |
| 2 | Chapter 2 | 7 | 5 | 2 | |
| 3 | Chapter 3 | 8 | 5 | 3 | |
| 4 | Chapter 4 | 3 | 2 | 1 | |
| 5 | Chapter 5 | 3 | 2 | 1 | |
| 6 | Chapter 6 | 6 | 3 | 3 | |
| 7 | Chapter 7 | 6 | 3 | 3 | |
| 8 | Chapter 8 | 6 | 3 | 3 | |
| | Total | 45 | 26 | 19 | |

CHAPTER 1: GENERAL INTRODUCTION TO STATISTICS IN MARKETING RESEARCH

Marketing research is one of the most important factors, which play an essential role in achieving success of any business unit/association in any sector of the economy. In order to efficiently apply statistical techniques in marketing research, it is necessary to understand some fundamentals of marketing research and build up an appropriate research process to qualify and analyse the market based on these notions. This chapter clarifies the above-mentioned contents.

1.1. Brief introduction about marketing research

1.1.1. What is marketing research?

1.1.2. The contents of marketing research

1.2. Process of marketing research

Texts and readings for the chapter:

1. Tran Minh Dao (2011), *Principles of Marketing Coursebook*, National Economics University Publishing House.

2. World Bank (2006), *The power of survey design*, National Politics Publishing House.

3. Phan Van Thang, Nguyen Van Hien, *Marketing Research* (translated and compiled from David L.Luck / Ronald S.Rubin), Ho Chi Minh City Publishing House.

CHAPTER 2: METHODS OF DATA COLLECTION IN MARKETING RESEARCH

With Statistics, in general, and Statistics in marketing research, in particular, there appear lots of methods to collect information and each of which has its own features. The decision of which methods to be used depends on the advantages and disadvantages of the methods as well as the demand of information and the ability of the researchers. According to this, the researchers can choose either one particular method or a combination of different methods. This chapter presents different methods of collecting data and their specific contents including definitions, pros and cons, detailed practical techniques with research purposes and practising guidelines.

2.1. Primary data and secondary data

2.2. Collecting secondary data

2.2.1. *Sources of secondary data*

2.2.2. *Methods of collecting secondary data*

2.3. Collecting primary data

2.3.1. *Sources of primary data*

2.3.2. *Methods of collecting primary data*

2.4. Sampling method

Texts and readings for the chapter:

1. Tran Thi Kim Thu (2011), *Surveys in Social Research Coursebook*, National Economics University Publishing House.

2. World Bank (2006), *The power of survey design*, National Politics Publishing House.

3. Phan Van Thang, Nguyen Van Hien, *Marketing Research* (translated and compiled from David L.Luck / Ronald S.Rubin), Ho Chi Minh City Publishing House.

4. General Statistics Office - *Documents for training: "Design of survey for households and enterprises"* – March 2010

5. Tu Dien (1996), *Survey public opinion*, Statistical Publishing House.

6. Emile Durkheim (2006), *The rules of sociological methodology*, Social Science Publishing House

7. Tran Ngoc Phac, Tran Thi Kim Thu (2006), *Principles of Statistics*, Statistical Publishing House.

8. Tran Thi Kim Thu (2011), *Principles of Statistics*, National Economics University Publishing House.

CHAPTER 3: DESIGN MEASUREMENTS IN MARKETING RESEARCH

Data collecting process is a decisive factor in marketing research since sensible decisions should refer to a reliable base of sufficient and correct information. It is important to make sure that all the technical issues in collecting information are carried out in the correct way, starting with building up primary measurements such as scales and scores; then, the information collecting tools, for instance, questions and questionnaires; and finally, the collecting techniques with fundamental methods like interviewing, observing and analysing existing information. This chapter presents all of those techniques.

3.1. Measuring and building up measurements in marketing research

3.1.1. General issues about measurement

3.1.2. Types of scales

3.1.3. Itemized rating scale

3.2. Questionnaire Technique

3.2.1. Questions making technique

3.2.2. Questionnaire designing technique

Texts and readings for the chapter:

1. Tran Thi Kim Thu (2011), *Surveys in Social Research Coursebook*, National Economics University Publishing House.

2. World Bank (2006), *The power of survey design*, National Politics Publishing House.

3. Phan Van Thang, Nguyen Van Hien, *Marketing Research* (translated and compiled from David L.Luck / Ronald S.Rubin), Ho Chi Minh City Publishing House.

4. Tu Dien (1996), *Survey public opinion*, Statistical Publishing House.

5. Tran Thi Kim Thu (2011), *Principles of Statistics*, National Economics University Publishing House.

6. Pham Van Quyet, Nguyen Quy Thanh (2001), *Methodology in Social Research* (translated and compiled from David L.Luck / Ronald S.Rubin), Hanoi National University Publishing House

7. Therese L. Baker (1998), *Social Research Practicing* (translated), National Politics Publishing House

8. Statistics Sweden (2004), *Design your questions right (how to develop, test, evaluate and improve questionnaires)*, Statistiska centrallbyran

CHAPTER 4: DATA PREPARATION AND DESCRIPTIVE STATISTICS IN MARKETING RESEARCH

This chapter presents raw data processing techniques and data analysis techniques. They are methods of correcting and encoding data, presenting data by tables and statistical graphs. Besides, it also provides techniques of describing data using parameters and statistical analysing methods usually used in marketing analysis.

4.1. Preparing and correcting data

4.1.1. Checking data

4.1.2. Correcting data

4.1.3. Preparing data

4.2. Data presentation

4.2.1. Graphs

4.2.2. Tables

4.3. Numerical descriptive technique

4.3.1. Measure of central location

4.3.2. Measure of variability

Texts and readings for the chapter:

1. Tran Thi Kim Thu (2011), *Surveys in Social Research Coursebook*, National Economics University Publishing House.

2. World Bank (2006), *The power of survey design*, National Politics Publishing House.

3. Phan Van Thang, Nguyen Van Hien, *Marketing Research* (translated and compiled from David L.Luck / Ronald S.Rubin), Ho Chi Minh City Publishing House.

4. Tu Dien (1996), *Survey public opinion*, Statistical Publishing House.

5. Tran Thi Kim Thu (2011), *Principles of Statistics*, National Economics University Publishing House.

6. Pham Van Quyet, Nguyen Quy Thanh (2001), *Methodolody in Social Research* (translated and compiled from David L.Luck / Ronald S.Rubin), Hanoi National University Publishing House

7. Therese L. Baker (1998), *Social Research Practicing* (translated version), National Politics Publishing House

8. Statistics Sweden (2004), *Design your questions right (how to develop, test, evaluate and improve questionnaires)*, Statistiska centrallbyran

CHAPTER 5: ESTIMATION AND STATISTICAL HYPOTHESIS TESTING IN MARKETING RESEARCH

In marketing research, data collected are often used to estimate the result for the whole market or customers, facilitate the process of making appropriate business decisions. Also, the use of statistical hypothesis testing techniques helps to provide scientific base for managing decisions.

5.1. Estimate the results of survey

5.1.1. Estimate the mean

5.1.2. Estimate the proportion

5.2. Statistical hypothesis testing

5.2.1. Testing the mean

5.2.2. Testing the proportion

Texts and readings for the chapter:

1. Tran Thi Kim Thu (2011), *Surveys in Social Research Coursebook*, National Economics University Publishing House.

2. World Bank (2006), *The power of survey design*, National Politics Publishing House.

3. Phan Van Thang, Nguyen Van Hien, *Marketing Research* (translated and compiled from David L.Luck / Ronald S.Rubin), Ho Chi Minh City Publishing House.

4. Tu Dien (1996), *Survey public opinion*, Statistical Publishing House.

5. Tran Thi Kim Thu (2011), *Principles of Statistics*, National Economics University Publishing House.

6. Pham Van Quyet, Nguyen Quy Thanh (2001), *Methodology in Social Research* (translated and compiled from David L.Luck / Ronald S.Rubin), Hanoi National University Publishing House

7. Therese L. Baker (1998), *Social Research Practicing* (translated version), National Politics Publishing House

8. Statistics Sweden (2004), *Design your questions right (how to develop, test, evaluate and improve questionnaires)*, Statistiska centrallbyran

CHAPTER 6: PRINCIPAL COMPONENT ANALYSIS IN MARKETING RESEARCH

Principal Component Analysis – PCA is one of the multi-variable analyses often used in statistics. PCA analyses the relations and interactions among a massive set of variables and converts them into a smaller set called principal components. On the same time, it helps to reduce the loss of original information. This chapter introduces principal component analysis technique applied in marketing research.

6.1. Data summarizing techniques

6.2. General introduction to Principal Component Analysis

6.2.1. Definition

6.2.2. Advantages and disadvantages

6.2.3. Application of Principal Component Analysis

6.3. Process of Principal Component Analysis

6.3.1. Determining research purposes, selecting the variables for analysis

6.3.2. Building up correlation coefficient matrix

6.3.3. Determining the number of Principal Components

6.3.4. Rotating the Principal Components Axes

6.3.5. Naming and explaining Principal Components

6.3.6. Interpreting multiplier matrix.

6.3.7. Presenting the variables in a plane created by Principal Components

6.3.8. Defining multipliers

Texts and readings for the chapter:

1. Mario Mazzocchi, *Statistics for Marketing and Consumer Research*, SAGE Publications Ltd (2012)

2. Hoang Trong, Chu Nguyen Mong Ngoc – *Data Analysis with SPSS (part 2)*, University of Economics Ho Chi Minh City Publishing House (2008)

3. Nguyen Cao Van (2012), *Principles of probability and mathematical statistics*, National Economics University Publishing House

4. Phan Van Thang, Nguyen Van Hien, *Marketing Research* (translated and compiled according to David L.Luck / Ronald S.Rubin), Ho Chi Minh City Publishing House.

5. Tu Dien (1996), *Survey public opinion*, Statistical Publishing House.

6. Tran Thi Kim Thu (2011), *Principles of Statistics*, National Economics University Publishing House.

CHAPTER 7: CORRESPONDENCE ANALYSIS IN MARKETING RESEARCH

Correspondence analysis is a visual method to analyze multivariate data. The result of correspondence analysis is a cognitive map which illustrates the position of all variables' features in the same plane. In marketing research, correspondence analysis is frequently applied to locate the position of brands/products... in properties comparing space.

7.1. Correspondence Analysis with two variables

7.1.1. General introduction

7.1.2. Some notions used in Correspondence Analysis

7.1.3. Procedure of Correspondence Analysis

7.2. Multiple Correspondence Analysis

7.2.1. Definition

7.2.2. Procedure of Multiple Correspondence Analysis

7.2.3. Rules in Explanation of Multiple Correspondence Analysis

Texts and readings for the chapter:

1. Mario Mazzocchi (2012), *Statistics for Marketing and Consumer Research*, SAGE Publications Ltd
2. Hoang Trong, Chu Nguyen Mong Ngoc (2008), *Data Analysis with SPSS (part 2)*, University of Economics Ho Chi Minh City Publishing House
3. Nguyen Cao Van (2012), *Principles of probability and mathematical statistics*, National Economics University Publishing House
4. Phan Van Thang, Nguyen Van Hien, *Marketing Research* (translated and compiled from David L.Luck / Ronald S.Rubin), Ho Chi Minh City Publishing House.
5. Tu Dien (1996), *Survey public opinion*, Statistical Publishing House.
6. Tran Thi Kim Thu (2011), *Principles of Statistics*, National Economics University Publishing House.
7. Brigitte Le Roux, Frederic Lebaron, Johannes Hjellbrekke (2012) *Multiple Correspondence Analysis (MCA)*, Workshop GDA in Social Science , Berkeley, October 1-5.
8. Brigitte Le Roux, Frederic Lebaron, Johannes Hjellbrekke, *Multiple Correspondence Analysis (MCA)* (2010), QASS series No 163; SAGE.
9. Ngo Van Thu (2005), *Applied Statistics Coursebook*, Science and Technology Publishing House.

10. Ludovic Lebart, Marie Piron, Mireille Razafindrakoto, François Roubaud and Jean-Pierre Cling (2008), *Documents for training in Tam Dao: Data analysis level 2: Consolidate and apply to analyse job market and informal sector in Vietnam*.

11. Vu Nguyen, Dao The Anh (2005): *Documents for training about applying multivariate statistical analysis on restructuring of agricultural and rural economy*, Vietnam Academy of Agricultural Sciences.

12. ALVIN C. RENCHER (2002), *Methods of Multivariate Analysis*, Brigham Young University, A JOHN WILEY & SONS, INC. PUBLICATION Second Edition.

13. Jacqueline J. Meulman, Willem J Heiser (2004), *SPSS Categories® 13.0*, SPSS Inc.

CHAPTER 8: CLASSIFICATION AND CLUSTER TECHNIQUE IN MARKETING RESEARCH

Classification and clustering are one of the popular techniques applied in marketing research. They help to categorize the individuals (so-called observations) or variables into groups based on some of their similar features. With the purpose of categorizing observations, classification and clustering are used to carry out market segmentation or classify customers into groups according to differences in demand, characteristics or behaviours. With the purpose of categorizing variables, they are used to gather the same features into the same groups. This chapter focuses on introducing classification and clustering technique with the purpose of categorizing individuals/observations.

8.1. Discriminant Analysis

8.1.1. Discriminant Analysis and application in marketing research

8.1.2. Procedure of Discriminant Analysis

8.2. Cluster Analysis

8.2.1. Cluster Analysis and application in marketing research

8.2.2. Procedure of Cluster Analysis

8.2.2.1. *Selecting the variables*

8.2.2.2. *Selecting the coefficient to measure distance*

8.2.2.3. *Selecting cluster method*

Texts and readings for the chapter:

1. Mario Mazzocchi (2012), *Statistics for Marketing and Consumer Research*, SAGE Publications Ltd

2. Hoang Trong, Chu Nguyen Mong Ngoc (2008), *Data Analysis with SPSS (part 2)*, University of Economics Ho Chi Minh City Publishing House
3. Nguyen Cao Van (2012), *Principles of probability and mathematical statistics*, National Economics University Publishing House
4. Phan Van Thang, Nguyen Van Hien, *Marketing Research* (translated and compiled from David L.Luck / Ronald S.Rubin), Ho Chi Minh City Publishing House.
5. Tu Dien (1996), *Survey public opinion*, Statistical Publishing House.
6. Tran Thi Kim Thu (2011), *Principles of Statistics*, National Economics University Publishing House.

7. REQUIRED TEXTBOOK & COURSE MATERIALS

Tran Thi Kim Thu - Do Van Huan (2016), *Lectures of Statistics in Marketing research*

8. RECOMMENDED TEXTS & OTHER READINGS

1. Tran Thi Kim Thu (2011), *Surveys in Social Research Coursebook*, National Economics University Publishing House.
2. Tran Minh Dao (2011), *Principles of Marketing Coursebook*, National Economics University Publishing House.
3. World Bank (2006), *The power of survey design*, National Politics Publishing House.
4. Phan Van Thang, Nguyen Van Hien, *Marketing Research* (translated and compiled from David L.Luck / Ronald S.Rubin), Ho Chi Minh City Publishing House.
5. General Statistics Office - *Documents for training: "Design of survey for households and enterprises"* – March 2010
6. Tu Dien (1996), *Survey public opinion*, Statistical Publishing House.
7. Emile Durkheim (2006), *The rules of sociological methodology*, Social Science Publishing House
8. Tran Ngoc Phac, Tran Thi Kim Thu (2006), *Principles of Statistics*, Statistical Publishing House.
9. Tran Thi Kim Thu (2011), *Principles of Statistics*, National Economics University Publishing House.
10. Pham Van Quyet, Nguyen Quy Thanh (2001), *Methodology in Social Research* (translated and compiled from David L.Luck / Ronald S.Rubin), Hanoi National University Publishing House
11. Therese L. Baker (1998), *Social Research Practising* (translated version), National Politics Publishing House
12. Statistics Sweden (2004), *Design your questions right (how to develop, test, evaluate and improve questionnaires)*, Statistiska centralbyran

9. ASSESSMENT & GRADING POLICY

Comply with the current regulations of National Economics University, for details:

- Teachers' evaluation: 10%
- Mid-course test: 30%
- Final exam: 60%

(Students are eligible to sit the final exam if: minimum teachers' evaluation of 5, minimum mid-course test score of 3)

Hanoi, 2016

HEAD OF DEPARTMENT

PRESIDENT

(signed)

(signed)

MSc. Do Van Huan

Prof.Dr. Tran Tho Dat