

CHAPTER II

RESEARCH METHODS

2.1 Limitation and scope

The Mekong Delta (MD) is one of seven economic zones of Vietnam, which are 13 provinces and cities, these are the following: Long An, Tien Giang, Ben Tre, Dong Thap, Vinh Long, Tra Vinh, Can Tho, Soc Trang, Hau Giang, Bac Lieu, Ca Mau, An Giang, and Kien Giang. In addition to the common features of the region, every province has its own characteristics. However, due to budget and time limitations, the study focused only on three provinces which have the biggest area of cultivation glutinous rice (about 74% of total area in MD), namely Long An, Tien Giang and An Giang (see figure 2.2: Map of Mekong Delta, Vietnam)

With the purpose of describing and analyzing the market performance as well as the marketing channel of GR in Mekong Delta, the study only focuses on three main items as follows:

1. Glutinous rice production
2. Marketing system of glutinous rice in Mekong Delta
3. The traders who participate only in the glutinous rice marketing channel.

(The traders handle both glutinous and non-glutinous rice are not included)

The information collected from interviews with a large number of participants engaged in glutinous rice production and marketing system, describes and analyzes distribution channels, marketing services, marketing cost and marketing margin and also profit margin. The marketing practices of all agents and price determination mechanism are also described.

2.2 Conceptual framework

2.2.1 The analytical framework of market structure-conduct-performance

Market structure, conduct, and performance (SCP) analysis was developed by Bain (1959, 1968), Clodius and Mueller (1961), Slater (1968), and Bateman (1976). This theory tells us that the market structure (the environment) will determine market conduct (the behavior of economic agents within the environment) and thereby sets the level of market performance. This is an attempt to negotiate between formal structures of economic theory and empirical observations of organizational experience in imperfect markets. This is a standard tool for market analysis. The description of structure, conduct and performance differs from this author with the others, depending on the sectors and regions being studied and the perception of the researcher. The key words used here are appropriate to the agricultural sector in developing countries and are based on Clodius & Mueller (1961), Van Tilburg (1988) and Lutz and Van Tilburg (1992).

Market structure is defined as “the characteristics of the organization of a market which seem to influence strategically the nature of the competition and pricing within the market” (Bain, 1959). Market structure also means the organizational characteristics that determine the relation of sellers and buyers established in the market to other actual or potential suppliers of goods including potential new firms that may enter the market. In general, market structure can be studied in terms of the degree of seller and buyer concentration, the degree of product differentiation, the existence of entry and exit barriers, and the power distribution. Clodius and Mueller (1961) add the distribution of market information and its adequacy in sharpening price and quality comparisons and in reducing risk. From an institutional viewpoint, market structure also encompasses all formal rules and/or regulations that coordinate market exchange. Every trader has to follow these rules, which we call the rules of the game

Market conduct refers to the set of competitive strategies that a trader or a group of traders use to run their business. Those strategies include the methods to determine prices and output; their behaviors towards grading, sorting, customer relationships and adopting of innovations; the means by which price and product policies of competing traders are coordinated and adapted with each other; and the extent to which predatory and exclusionary tactics are directed against established rivals or potential firms. In other words, market conduct focuses on traders' behaviors with respect to various aspects of trading strategies such as buying, selling, transport, storage, information and financial. In line with the literature on institutional economics, these are called the regulations that define the play of the game.

Market performance according to Stern *et al.* (1996) this is a multi-dimensional concept, the performance of marketing channels and institutions therefore can be assessed by considering a number of dimensions including effectiveness, equity, productivity, and profitability. Market performance refers to economic results: product suitability in relation to consumer preferences (effectiveness); rate of profits in relation to marketing costs and margins; price seasonality and price integration between markets (efficiency). In sum, market performance refers to the impact of structure and conduct as measured in terms of variables such as prices, costs, and volume of output (Bressler and King, 1979). By analyzing the level of marketing margins and their cost components, it is possible to evaluate the impact of the structure and conduct characteristics on market performance (Bain, 1968).

According to Scarborough and Kydd 1992; Scott 1995 one important approach to the study of market performance, namely, the study of market organization or market structure analysis, suggests that relationships exist between structural characteristics of a market and the competitive behavior of market participants and that their behavior in turn influences the performance of the market. Among the major structural characteristics of a market is the degree of concentration, that is, the number of market participants and their size distribution; and the relative ease or difficulty for market participants to secure an entry into the market. Market conduct refers to the

behavior of firms or the strategy they use with respect to, for example, pricing, buying, selling, etc., which may take the form of informal cooperation or collusion. Typical structure-conduct-performance (SCP) analysis tends to assess market performance largely in terms of:

- Whether marketing margins charged by various actors in the marketing system are consistent with costs and
- Whether the degree of market concentration is low enough and the number of firms operating in a market is large enough to ensure competition¹, in which is turn assumed to drive down costs to their lowest level.

The SCP approach postulates that as market structure deviates away from the model of perfect competition as characterized above, the extent the competitiveness of the market will decrease; and consequently a decline in market efficiency will take place (Scarborough and Kydd 1992; Scott 1995).

However, there are several shortcomings with these criteria for assessing market performance which should be kept in mind when reviewing the findings contained later in this study. There are 3 criteria such as:

First, the criterion that observed marketing margins should be consistent with costs does in no way indicate that the marketing system is performing adequately. Schultz's "efficient but poor" observation of low-resource farmers also characterizes the functioning of marketing systems in many developing areas (Shaffer *et al.* 1985).

¹ It is generally, assumed that a market is competitive if: (a) there are more than 2 buyers and sellers in the market, (b) there are no dominant market participants powerful enough to pressurize competitors or engage in unethical marketing practices, (c) there is no open or concealed complicity among market participants regarding pricing and other marketing decisions, (d) there are no artificial restriction that obstruct mobility of resources, (e) there is free entrance of buyers and sellers to the market with no special treatment to particular groups or individuals, and (f) there is a homogeneous product so that customers are indifferent between supplies offered by alternative channels.

Marketing margins may approximate costs, but these costs may be too high and unstable to encourage rapid investment in the marketing system to promote on-farm productivity growth. The technologies used on the farm and in the marketing system may be appropriate taking as given the risks and high costs within the system, but they would surely not be appropriate if more developed institutions and coordination arrangements were implemented to shift and absorb risks of investment in new technology and reduce transaction costs of exchange. Economic development can be largely viewed as a continuous process of institutional innovation in response to (and to facilitate the use of) new productive technologies, and technical innovation made possible (or constrained by) the risks, and costs of exchange within existing institutions governing market exchange. Therefore, assessments of market performance based on whether costs approximate marketing margins must be viewed as very static assessments, and fail to incorporate the longer-run dynamic issues of how incentives can be structured within the rules of economic exchange to reduce costs at the various stages of the production/marketing system (Jayne 1997).

The second criteria (establishing competition through number of firms in the market) are also problematic in the presence of scale economies. In food markets, scale economies may arise both from technology and from the existence of isolated thin markets. The high costs of transportation between a production region and a major regional market may result in very low producer prices in the remote production region. Low prices in turn depress the marketable grain surplus available for purchase. And the existences of small surpluses in turn limit the number of grain traders that can profitably operate in an area, particularly in the presence of scale economies in marketing activities (e.g., transportation). Therefore, the existence of few traders (high market concentration among grain buyers) would not necessarily point to lack of competition or artificial barriers to entry, nor would a large number of traders each handling very small volumes indicate that per unit marketing costs are being minimized.

Thirdly, the ability to capture the gains from specialization and commercialization is limited by the size of the market. The size of the market is in

turn influenced by transaction costs. These costs include the ex-ante costs of collecting the information necessary to decide whether to engage in exchange, negotiating the deal, and the ex-post costs of contract monitoring and enforcement. Where these expected costs exceed the expected gains from exchange, no transaction takes place. High transaction costs therefore prevent what would otherwise be beneficial trades and depress the dynamic development of exchange-based economic systems required for structural transformation. Therefore, market performance should also be assessed based on the range of activities that do not exist in addition to assessing the efficiency of existing exchange arrangements.

While a specific goal of policy is to reduce marketing costs, the evolution of more productive economies over the past two-hundred years has featured the development of more complex and costly marketing and contracting arrangements but which has facilitated investment in more technically efficient production processes (North 1994). The evolution of more productive economic systems may involve higher marketing costs, not less. In this regard, marketing systems performance should be evaluated not only to the extent that costs of the existing system are minimized (a static approach). One needs to consider those costs in relation to the set of services provided, and the effect of these services on technical innovation and productivity growth throughout the food system. For example, a complex contracting mechanism for exchange of product may involve high costs in terms of negotiation, legal services, monitoring, and related public resources to resolve contract disputes if necessary, but such mechanisms may provide the stability of returns to justify major investments in new technology that lead to productivity gains at other stages of the food system.

They stated that the SCP model is too deterministic to understand the functioning of imperfect markets. As most agricultural markets are imperfect markets, we need to develop more the models showing how structure, conduct and performance interact. It means that market structure and market conduct determines market performance. In turn, market performance will influence market structure and

market conduct in the long run. In this study, the interaction SCP model will be used as a framework for analyzing the GR market (figure 2.1).

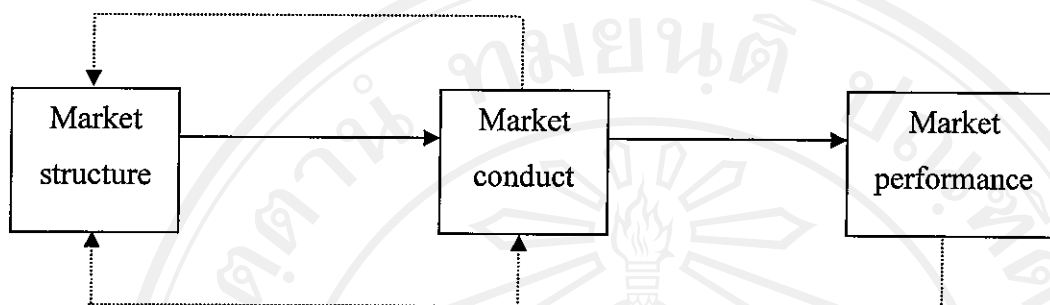


Figure 2.1: Interaction model of the Structure-Conduct-Performance approach

In general, there are three main levels that should be taken into account when applying SCP analysis: (1) the structure of the market, (2) the conduct of the market, and (3) the performance of the market. We integrated some concepts of the theory of institutional economics and the marketing channel approach in our analysis. Table 2.1 presents the principal aspects that will be dealt with.

Table 2.1: Elements of structure – Conduct – Performance

Structure	Conduct	Performance
<ul style="list-style-type: none"> • Intermediaries involved in the marketing system. • Barriers to entry and exit • Buyer and seller concentration • Distribution of market information • Structure of marketing channel • Factors affecting to price 	Conduct with respect to: <ul style="list-style-type: none"> • Buying • Selling • Transport • Storage • Negotiation • Processing • Financing 	Efficiency of marketing services: <ul style="list-style-type: none"> • Marketing costs • Marketing margin • Profit marketing • Storage cost • Price performance

Source: Modified from Hai, 2003

2.2.2 Marketing research approaches

Marketing is a subject, which bristles with wide and varied problems. It includes the services and functions of different specialized institutions and middlemen. Different commodities have special marketing problems therefore the results of the study of one commodity may not be applicable to other commodity. Also the same commodity will have different problems in different regions. Various approaches have been suggested and used to study marketing problems. These are functional, institutional, commodity and behavioral approaches.

i. Functional Approach

A marketing function is an act, operation or service by which the original producer and the final consumer are linked together. Marketing consists of many operations and an operation may be performed several times in the marketing process. The functional approach splits down the field of marketing into a few functions. This method analyses in detail the specific functions of marketing such as buying, selling, transportation, storage, standardization, grading, financing, risk taking and marketing research.

The advantages of the functional approach in the study of agricultural marketing problems are:

- (1) We can make inter functional comparison of the marketing costs.
- (2) Inter agency comparison of the cost of performing a marketing function can be made.
- (3) Inter commodity comparison of cost of performing the various functions can also be made.

The defects of this approach are

- (1) An undue emphasis on functions of marketing does not permit one to know how these functions are applied to specific business operations.
- (2) The marketing functions are so numerous that it is difficult to eliminate the unnecessary from the necessary functions

ii. Institutional Approach

The institutional approach to study of marketing problems implies a study of agencies and institutions, which perform various functions in the marketing process. The nature and character of various middlemen and other related agencies involved in the movement of the product are studied. The human element receives the primary emphasis. These agencies vary widely in size and ownership. They get their reward in the form of marketing margins. This approach helps us to find answers to the problems of 'who does what' in the marketing process, whether the margin of the agency is commensurate with the services rendered, which government regulations are necessary so that their unlawful activities may be curbed, and how to simplify the procedural system. The serious limitations of this method are that it leaves one with an inadequate understanding of marketing. Since the material presented is often largely descriptive and does not show effectively the inter-relations of the institutions studied.

iii. Commodity Approach

Under this approach, the commodity is the pivot around which all institutional and functional details are studied. The problems of marketing differ from commodity to commodity mainly because of the seasonality of production, the variations in its handling, storage, processing and the number of middlemen involved in them. For example potatoes are stored in cold storage, while wheat is stored in godowns. Paddy, pulses and oil seeds are processed at the miller's level. The main advantage of

this approach is that it is concrete since all work relates to a specific product but it is a time consuming process and often results in excessive repetitions.

iv. Behavioral System Approach

This approach refers to the study of behavior of firms, institutions and organizations, which exist in the marketing system for different commodities. The marketing process is continually changing in its organization and functional combinations. An understanding of the behavior of the individuals is essential if changes in the behavior and functioning of the system are to be predicted.

2.3 Data collection

2.3.1 Secondary data

Information such as demography, glutinous rice production and distribution, related policy, exchange rate will be collected from the following sources:

- Statistical Department at provinces and districts
- The department of Finance and Pricing,
- The department of Planning and investment,
- The department of Agricultural and Rural development
- Centers of extension of provinces and station of extension at districts
- The Institute of Agricultural Science for Southeast Vietnam, and other related offices

The consultations were done with some local leaders, company's managers, researchers and experts in glutinous rice production and marketing system.

2.3.2 Primary Data

The formal surveys for this study were applied in Long An, An Giang and Tien Giang provinces. The necessary data collect include.

- Farmer survey
 - General information about farm level, age and education of household head, labor available in the family, farm income, farm size, existing rice area etc
 - Production information: farmers with their characteristics, quantity inputs used, inputs price, outputs, output price, farmers intended idea on growing glutinous rice and other relevant to farmers' activities
 - Farmer's behaviors in the market, their selling activities, organization of storage, and relationship with various rice traders
- For assemblers, driers, millers/polishers and wholesalers:
 - Entry and exit barriers
 - Trade relationship
 - Changes in the market organization and
 - Buying and selling strategies
 - Organization of transport and storage
 - Investment and finance
 - Processing (for miller/polishers)
 - Operation cost, and scale of operation and marketing services.
- For state owned enterprises
 - Trade relationship
 - Buying and selling activities.
 - Export activities
 - Operation cost, and scale of operation and marketing services.

2.3.3 Sampling technique

To achieve the study objectives the multi – stage sampling methods was applied for selecting farmers and glutinous rice traders. Firstly, the provinces were selected based on their glutinous rice production, so Long An province, Tien Giang province and An Giang province were chosen. For each province, one district was selected as following the suggestions of the extension officers at provincial level based on what areas had the biggest the glutinous rice area cultivation. The total number of the dryers and millers in three districts is 113 and 39, respectively (Economics Department at district). The six major GR in the marketing channel were interviewed (table 2.2).

Table 2.2: Total of sample and method to choose and collect data

Order	Agents	Number of sample	Method of sampling and data collect
1	GR farmers	60	Random sampling, Interview with structured questionnaire
2	Assemblers	47	Stratified sampling, Interview with structured questionnaire
3	Dryers	39	Stratified sampling, Interview with structured questionnaire
4	Millers	24	Stratified sampling, Interview with structured questionnaire
5	Wholesalers	18	Stratified sampling, Interview with structured questionnaire
6	State Owned Enterprises	3	Interview with structured questionnaire

Source: Survey, 2006

2.4 Data Analysis

The market SCP analysis will help to consider in-depth how market processes direct the activities of producers from producing/processing raw products to final consumption of the products by the consumers.

2.4.1 Market Structure

Analysis of market structure in this study will include the following

- Characteristic of glutinous rice traders in Mekong Delta
- Measure the number and size of firms in the market
- Conditions for entry of new firms into the market
- The degree of seller and buyer concentration in the market

Traditionally, Lorenz curves are used for comparing income distributions. They are drawn with income on the horizontal axis and the cumulative distribution function of income on the vertical axis. An egalitarian distribution corresponds to a Lorenz curve that is a straight line at 45 degrees from the origin. By replacing income with number of traders and the cumulative distribution function of income with the cumulative distribution function for market share, Lorenz curves can be used to provide a graphical overview of the distribution of market shares in an industry. The 45 degree straight line corresponds to equalized market shares.

In this study, the Lorenz curve shows the quantitative relationship between the cumulative percentages of rice traders against the cumulative percentage of the volume of rice sold in the markets. To compute the cumulative percentage, the volume of rice sold will be arranged from highest to lowest. The GINI coefficient or concentration ratio will be derived from the Lorenz curve. This measures the inequity in sales distribution among the different producers and trader groups. Graphically, the

GINI coefficient is the ratio of the area between the diagonal of the Lorenz curve as compared to the area of the half-square in which the curve lies.

The GINI coefficient will be computed using the following formula:

$$G_r = 1 - \sum_{i=1}^{n-1} [(P_{i+1} - P_i)(S_i + S_{i+1})]$$

Where:

G_r : Concentration ratio of rice traders in the market

P_i : Cumulative percentage of GR traders

S_i : Cumulative percentage of the volume of GR bought

n : Number of sample

This ratio ranges from zero to one.

If $G_r = 0$, there exists perfect equality. The Lorenz curve is a 45° straight line.

If $G_r = 1$, there is perfect inequality. The Lorenz curve is a 90° rectangle.

- Distribution of market information
- Marketing channel
- Factors affecting to price

2.4.2 Market Conduct

The descriptions of the conduct of marketing intermediaries will be emphasized on their decisions regarding the following:

- Buying and selling strategies
- Transport and storage practices
- The negotiation process of the GR traders
- GR processing
- Credit and finance relationship of GR traders

2.4.3 Market Performance

The market performance refers to economic results.

- Marketing cost
- Marketing margins
 - Total marketing margin = average selling price – average buying price
- Profit margins
 - Profit margin = total marketing margin – total marketing cost
- Price performance

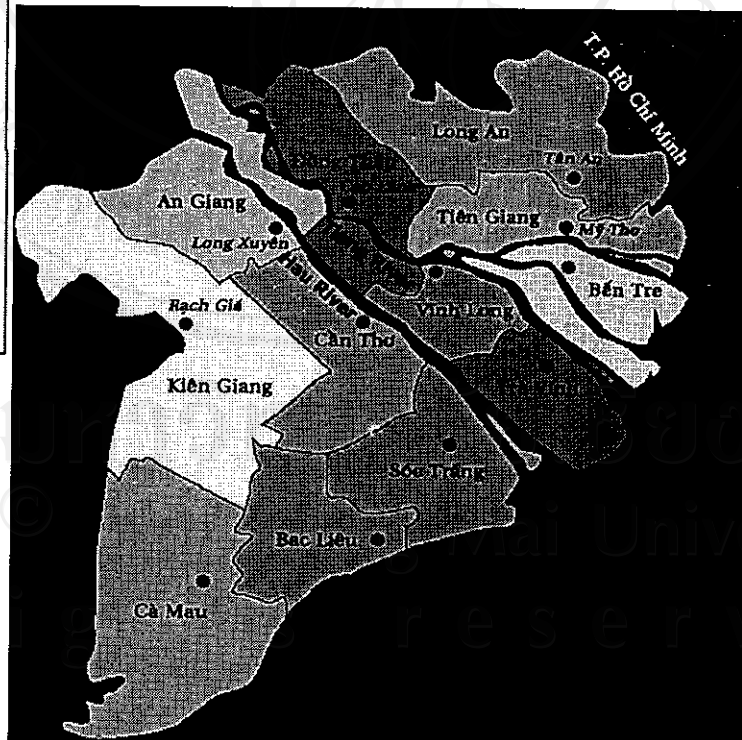
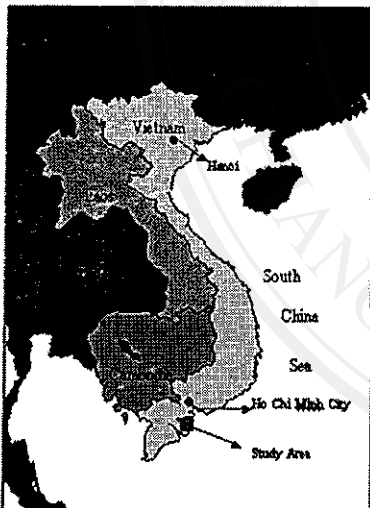


Figure: 2.2: Map of Mekong Delta.