PAK Publishing Group
Growing Knowledge for Future

Proceedings Book of ICEFMO, 2013, Malaysia
Handbook on the Economic, Finance and Management Outlooks
ISBN: 978-969-9347-14-6

An Adaptive Structuration Theory towards Price Transmission along Rice Value Chain

Maria Widyarini
School of Business and Management, Institut Teknologi Bandung
Togar M Simatupang
School of Business and Management, Institut Teknologi Bandung
Email: signati@bdg.centrin.net.id

Abstract

Rice is staple food for Indonesian people, thus the availability of rice is important. Indonesia Government has responsibility in controlling domestic rice supply and stability of rice price respectively. The instability of rice price is mainly due to the price transmission process in actors' interaction along rice supply chain. The price transmission process in actors' interaction will be of important factors since it often to be unfair, even though it managed by the government's regulation. It has been argued that Indonesia rice market is imperfect and inefficient with intermediaries frequently accused of reaping excessive and unjustified profits. Thus, the most critical problem in price transmission and determination phenomena lays on unbalance price transmission information due to bargaining and competitive process among rice actors on rice value chains.

This study attempts to develop a conceptual research by an adopting adaptive structuration theory to explain the dynamic network relationships and; to describe and analyze their interaction (behavior) in decision-making process of price transmission among actors in rice value chain. This study aims to get better understanding on issues regarding structuring among rice actors (action-structures) in social practices, which is changing over time. These conditions are critical to be analyzed in order to understand in what way price are transmitted and determined so that behavior can or cannot be predicted.

The output of this research is a conceptual research about how adaptive structuration theory approach can shed light on price transmission along rice value chain through multiple case studies. The Context Mechanism Ouput (CMO) are proposed to describe and examine the phenomena occurs on price transmission. Further, this research will be of important to become an input to formulate propositions. By capturing these processes and tracing their impacts, the complexity of price transmission can reveal. Moreover, the conceptual research provides exploring different views and tools to analyze of how the functioning of rice value chain can be studied using structuration theory, a research approach derived from sociology that has become well established in the study of value chain, will be contributed to that understanding. The use of institutional framework can be seen as the structures that also provide actors with rules and resources and facilitate agency to actors to get better understanding

of rice stock fluctuation. This research is the first to propose a framework of integrating the use of value chains, institutional economics and agency economic theory with structuration theory in Indonesia rice domestic market, which are able to explain the dynamic network relationship, describe and analyze their behavior in determining price transmission from producer to consumers.
Key words: Rice value chain, Decision-making process, Actors' interaction, Price transmission, Adaptive structuration theory.

1. Introduction

Indonesia is a one of progressive rice producers' country. It can produce 68.956.292 tons of rice from 13.471.653 hectare of rice fields (BPS, 2012). Many different kinds of technology have been applied, by means of rice cultivation and rice production. Indonesia farmers have knowledge on how to grow the paddy, but did not have enough land to plant nowadays (Timmer, 2004). The paddy field indicates decrease 0.36 % or equivalent to 40.000 ha per year (Deptan, 2011). Rice has a strategic role in strengthening food security, economic and national politics due to rice is Indonesian staple food. Thus, rice production is an important sector in Indonesia economic development; therefore, rice agricultural sector has a significant role to create food self-sufficiency, job opportunity, and to increase people's income, especially the peasants (Timmer, 2005) as well.

As actors of rice supply chain influence the stability of rice price, thus informal interaction, collaboration and exchange mechanism (regarding exchange product flow, information and financial arrangement) are important signals for Indonesia government to control the rice price transmission. Further, the efficiency of domestic rice market structure is influenced by price transmission of information and behavior among related actors. Prices are formed by competitive process (many buyers and sellers) or by bargaining process (a few participants on one or both sides of the transaction). By generating a conceptual framework of this study, the issues discuss concerns the factors influencing rice price transmission among rice actors. This research will focus more on the role and interaction of actors' behavior and market mechanism in rice value chains. The analytical tools will be used to study or investigate or to construct social interactions among actors related and how the interaction process constructed and reproduced start at farmer to end consume.

2. A Brief Literature Review

Michael Porter (1985) introduces an idea of "value chains" and responded by Keyser (2006) by employing these definition in terms such as "partnerships", "alliance" and "collaboration" among actors related and focus on adding value to increase market share or to satisfy consumer demand. Aramyan and Kuiper (2009) ; Hoekstra (2006); GTZ (2008) defines value chain is a mutually beneficial partnership among all players involved in the production of a product in which each partner contributes and shares knowledge, information and contributes expertise to improve (differentiate) the final product to better satisfy consumer demand relative to the chain' competitor.

The value chain must efficiently "add value" to the product for the benefit of all involved in the chain or to the activities which are required to bring a product or service from conception, through the different phases of production, delivery to final consumers, and final disposal after use (Kaplinsky and Morris, 2001). Considered in its definitions, the performance of a product value chains specifically in agriculture products relate to its structure and strategies of the actors operating these chains or channels. It means the product flows, information flows and management, and control of the products supply chains are part of analyzing value chain performance (Taylor, 2005 and Taylor and Fearne, 2009). Thus, the value chain goes beyond the common concept of supply chain, which is emphasize or focuses on the dynamic inter-linkage between its components or actors involved in (Caldihon et.al, 2003 and Kaplinsky and Morris, 2001).

Moreover, higher competition among rice actors in value chain contribute to the emergence patterns of inter-actor transactional (or organisational) relationship as part of strategic business collaboration. Thus, the agency theory use on this study in order to capture the structural significance of inter-organisational dependency of these networks relationships and to inform our understanding of the dynamics supply behaviours and relationship (Cheng and Kam, 2008; Zu and Kaynak, 2011;

Fayezi et.al., 2011; Whiple and Roh, 2010 and Kwon and Suh, 2005). O'Keeffe (1998) stated that one of the key elements of supply chain management (SCM) is co-operating to compete. It means that the competition were shifting from firm to firm become chain (system) to chain so that system can be better of by working together or co-operating among actors. The importance of uncertainty and information in the context of a principal agent framework become important in studying SCM. The intangible assets such as goals, value creation and commitment (trust) provides a strategy framework on the potential of supply chain relationships as a source of sustainable competitive advantage (Kwoh and Suh, 2005).

Kwon and Suh (2005) agrees that to capture and investigate network relationships among actors in supply chains can be studied using agency theory. The agency theory provides a better understanding in describing and analysing multi-actor supply chain operation; in understanding social and value relationship among actors such as trust, commitment and adaption which are believed affecting the outcome.

Agency theory is an important theory. It has been used by scholars in economics (Jack and Kholeif, 2007; Laffont and Martimort, 2001) and organization (Eisenhardt, 1999). Laffont and Martimort (2007) use agency theory in explaining the conflicting objectives (incentives theory) of the organization members. The social and norm behaviour are shaping organization members. While, Eisenhardt (1999) uses agency theory to its contribution to the organization theory; the research found that agency theory offers unique insight towards information system, outcome uncertainty, incentives and risk of the organization.

The integration agency theory with structuration theory has also been used to explain the interaction and social behaviour among actors (Hoekstra, 2006; Fayezi et al. 2012; Jackson, 2006 and Pullman and Dillard, 2010). Jack and Kholeif (2007) state that for structurationist, agency and structure present together to investigate the networks relationships. It is supported by Jackson (2006) shows that social contract theory discards the interaction of structure and agency.

One of actors involve in value chains is institution. The Institutions are the humanly devised constraint that is structure political, economic and social interaction (North, 1989 and Prasad, 2003). Institutions have been thought as guidelines for human action or appropriate behavior in society (March and Olsen, 1989; Bjerregaard, 2011). Thus Institutions can be seen as rules of behavior based on various important foundations, from culture and mental models to legislation and from social norms to political structures (Selznick, 1957). Hoffman (1999) supported by Powell and DiMaggio (1991) stated that institutional theory can be used to answer all questions related to the role of institutional influence on social choices (how social choices are shaped) ; how they behave, mediated and channeled by the institution environment and acting to the environmental pressure. In this study, attention will be paid to the rice actors involved in existing rice value chains (including government institution). Government is responsible to set up and to define the rules that have to be respected by all actors in the market (value chains). Thus, focus will pay to the existing institutions to portray the behavior of actors in the rice value chains.

Giddens (1984) argues in social life, people actions were shaped by social structure process and at the same time being shaped by their action. Action and structure operate as a duality, simultaneously affecting each other. Structure defines as 'rules and resources recursively implicated in social reproduction; institutionalized features of social systems have structural properties in the sense that relationships are stabilized across time and space. Giddens believes that people are free to act as they will. It means that every social actors known a lot about the way society works and when asked, only competent social agents can explain most of what they do.

Rules are implicit formulas for guiding participants on how to play the game (recipes for how "to get" in life. It is responsible for the constitution of meaning and carries possibility of sanctioning particular human conduct. While resources refer to all relevant personal traits, abilities, knowledge and possessions people bring to an interaction (resources are the modalities actors draw on to expert power over objects/actors build control strategies). This structuration theory provides an analysis to explain the nature of social institutions and a means to get better understanding of transmission conditions. Pullman and Dillard (2010) supported with Hoekstra (2006); Jack and Kholeif (2007) and Chang-Hung (2004) employ structuration theory framework into value chain models to identify value and get insights according actors networks relationship in supply chain. Giddens divides structural realm into three dimensions i.e. signification, domination and legitimating to analyze the processes involved in

the reproduction and change of practices and social systems a package of social relations. These three structural dimensions are present to the actor as what Giddens calls "modalities" of structuration to be invoked in situation of interaction.

The core of structuration theory lays on the system concept, thus system describes as regular social practices or activities among people/actors (regularly produced or reproduced by collecting social actors). Giddens only propose the concept of structuration from the duality of structure, but does not consider factors such as the influence of environment situations and structure of work tasks during interaction process. These factors affects actors behavior in the decision making process. Thus, Poole (2008) offers adaptive structuration theory (AST) to overcome Giddens limitation. AST is adopted from Giddens to observe members of task groups or actors related intentionally by adapting rules and resources in order to accomplish their decision-making goals. Moreover, Poole (2008) states that group members are "skilled and knowledgeable actors" who reflexively monitor their activities as they navigate a continuous flow of intentionally. The skilled and knowledgeable actors do not always on "agree" situation. It is because there always be "comfort zone" situation. There are three important issues in any social interactions (behaviors) of group actors namely morality, communication and power. Therefore, this study adopts adaptive structuration framework as a sensitizing device to analyze and understand price transmission process on Indonesia rice supply chain.

Food supply chain is defined as a set of interdependent companies that work closely together to manage the flow of goods and services along the value-added chain of agricultural and food products, in order to realize superior customer value at the lowest possible costs (Folkerts, 1997). Food supply chains links a system of highly varied processes performed by actors with complex relationships. This chain reflects the actors' behaviors in the food supply chain in order to manage the distribution flow of food supply chain. The maintenance and development of relationships, networks and interactions in food and agriculture chains with different stakeholders or actors is as important value as the attraction of relationships, networks and interactions (Lindgreen et al. 2008).

2.1. Actors in Rice Supply Chain

This study divides participant of actors in rice supply chain into three groups namely government, broker or trader and farmers. The study of rice distribution channels aim to provide a systematic knowledge of the flow of goods, money and information from one chain to another chain. Thus, the participants involve on distribution channels (someone or those who performs physical distribution functions in order to obtain economic benefits) are as follows:

2.2. Government (BULOG or state owned enterprise)

The role of Bulog (as regulator) is to stabilize rice stock, rice availability and rice price at domestic market. Thus, one of Bulog obligation to farmers are buying harvested paddy using government buying price schemes. However, the buying ability of Bulog does not competitive compare to broker/trader/retailers (including wholesalers). Bulog intervention happens when rice prices at domestic market increase 25 % so called market operation (Operasi Pasar/OP)[1]. Moreover, Bulog has no longer as a single rice importer (as operator). Private companies which appointed by government have the right to import rice when rice stocks are insufficient to meet national demand.

2.3. Broker or Trader

These agents are working for a profit (commission). They performed their job in every stages on rice distribution channel. They can start their activities during plantation period (as capital provider for farmers) until end customers. Typically, they work for percentage of different price of selling and buying (so-called as profit margin) activities. Broker or trader bring buyers and sellers together and assist in informal negotiations to get decision; but others may operate as auctioneers, on behalf of wholesaler or retailer (trader at village level, sub district and district levels). Mostly, purchasing or selling agents have a good social relationship among buyers. All transaction pays by cash. Thus, only trader or broker who has sufficient capital or cash is sustain in this transaction.

[1] OP based on Surat Menteri Perdagangan Nomor 07/M-dag/2006 dated 6 Januari)

2.4. Assembler or Transporter

Assembler or transporter links between rice farmers to intermediary (broker, traders or retailers). Transporter collects smaller amount or lots of rice production (rice crops) by his own capital from villages to intermediary. Sometimes he delivers rice crops to other province market (example from central java province to Pasar Induk Cipinang Jakarta).

2.5. Retailers

There are different functions of retailer namely retailer at villages or sub district area and retailer at provinces area (pasar induk). The main activities of retailer at sub district or villages are buying rice crops in certain quantity from farmers and sell to wholesaler. Retailer at province areas will buy wholesale rice and sell to consumers (warong, kiosk, hypermarket, etc) at convenient locations and times in various forms and quantities. Sometimes, retailers also travel to assemble in rice production areas. During harvest time, when the villages in the neighborhood of the market hold surpluses, retailers prefer to purchase directly from the farmers/millers.

2.6. Wholesaler

Wholesaler concentrates the various loads and put rice into large or uniform units. Most wholesaler warehouses are located in provinces area. Wholesaler calculates price formation based on qualities (rice grading) and type of rice. Wholesaler also provides information to suppliers (farmers, rural assemblers) and assumes to a varying degree of risks associated with the transfer of property rights attached to the goods and services being bought and sold. Sometimes, he provides and facilitates mass and specialized storage operations, transportation and in general, subsequent distribution operations which is involving retailers. The distinction between wholesaler and retailer is wholesaler concern with the activities of those persons, which sell to retailers or other merchants and commercial users, but do not sell in significant amounts to end consumers. However, sometimes-rural assembling traders accumulate rice production areas to sell and to collect by wholesalers, who carry the commodities to large towns.

2.7. Millers

Rice miller or processors are important actors in the distribution channels. They transform unhusk paddy become rice mill. The quality of rice in the market depends on the quality of rice (paddy) processing. In some areas, miller owners are also rice trader/ wholesaler. They buy paddy or unhusk paddy directly from the farmers or rural assemblers. The rice milled then will sell to intermediaries (wholesalers or retailers).

2.8. Rice Farmers

Rice agricultural sector has capacity to absorb a large number of workers. The number of human resources involved in agricultural sector from the production activity, postproduction (rice milling process, storage, transportation) up to rice distribution in the market will absorb more workers. Sidik (2004) states the absorption of unskilled workers in the village sector is potential to decrease the population density in the city. If government policy pro farmers thus the rice production is believed will increase. The availability of paddy land area is an important asset for farmers and also a key determinant of farmers wealth as farmers household is a net buyer or seller of rice (Timmer, 2004).

2.9. Giddens Structuration Theory

Giddens' structuration theory concept of actors and structures allows intepreting social interaction between actors in distribution rice channels. Thus, related to the study of price transmission among actors, Giddens' structuration theory use as theoretical framework in analysing behavior of actors in rice value chains. The heart of Giddens structuration theory lies on the concept of system, as practices or activities, which are regularly producing or reproduce by collective social actor interaction (rules and resources in interaction). Moreover, the word interaction Giddens believes that people are free to act, as they will. Rules and resources use interchangeably with the term structure. Rules are a guide for participants on how to play the game (rule of game or how to get on). Resources refer to all the relevant personal traits, abilities, knowledge and possessions people bring to an interaction (Poole,

2008). As the rule and resources are adapting with the situation (constantly changing) thus structuration is a fluid process. When people use rules and resources in interaction then production happens. So does reproduction, happens when actions reinforce features of existing system and maintain in status quo.

This research will study price transmission along rice value chain thus observing actors interaction intentionally adapting rules and resources in order to accomplish their decision-making goals. Therefore, Poole adaptive structuration theory will employ during this study. Poole states that when structuration applied to group or members or actor interaction, then structuration describes in interaction. Moreover, Poole highlighting adaptive structuration theory, which adopt Giddens structuration theory, hopes to empower people who treated as second-class citizens.

3. Dimensions of Structuration

All related actors of rice value chains in this study are involved in structuration through three dimensions of interactions (domination, signification and legitimation) in social systems. First, they exercise power over system resources (e.g. rice value chain). Second, they communicate and exchange meaning with other social actors' through market mechanism. Third, they perform social activities within accepted norms of behavior (e.g. regulation, roles, norms and trust). As this study adopts adaptive structuration theory, actions adjust rules and resources in interaction. In addition, when action is not adjust with rules and resources (remains the same), it means that the same structure is created and maintained in every actors' act.

3.1. Domination (Value Chain)

In social system, domination refer to how social actors exercise power over resources to apply their transformative capabilities. In rice value chain, price fluctuations assist actors as decision makers by tracking how resources and related costs accumulate through the production process leading to price transmission valuation (price formation).

3.2. Signification (Market Mechanism)

Signification refers to the way social actors make sense of the social world and exchange and communicate meaning of their understanding of the social world with other social actors. In study of rice value chains, market mechanism is represented by market rice, actors/agent behavior and negotiation process. Market information is the device through which actors communicate their understanding and interpretations of the economic impacts of price fluctuations on rice value chains.

3.3. Legitimation (Regulation, Roles, Norms and Trust)

Legitimate denotes accepted value standards for social behavior. This study considers rights, responsibility and rules; role of conduct and government or BULOG support. Controls, sanctions or incentives are aimed to ensure that rice value chains are carried of for legitimate purposes and provide sanctions only for activities that are carried on in accordance with the predetermined standards operating procedures, norm and regulation. Legitimation in this study means a normative frame with regard to behaviors that are appropriate in the context of price transmission. It also can a function as a means of signification, because it helps actors understand and interpret the meaning of price transmission. Legitimation may privilege some actors or approaches over others.

However, Poole (2008) convinced that real people making real decision. Thus, what people say and do makes a difference in many situations during interaction process. Consistent with Giddens that people in society are active agents (able to act otherwise) and have a capacity to make a difference through active communication and negotiation process, adapting rules and resources take places during this process (Poole, 2008). Adaptive means to tailor or to appropriate with situation/process. Thus, the adaptive structuration theory provides a detailed account of both the structure as well as the unfolding of social interaction (DeSanctis and Poole, 1994). Communication is matters. Because it is imposible to predict what decisions among actors will make without hearing what's been said. During the interaction process, as Giddens called as duality of structure concepts, possible occur. According to adaptive structuration theory, it means that decision not only is affected by structure of the actor

members but also at the same time has an effect upon the same rules and resources. According to Poole, it depends on how actor member appropriate rules and resources (can be stable and predictable or changing and unpredictable).

3.4. Institutional Theory

Institutional theory is a theory that studies how organizations can increase their ability to grow and survive in a competitive environment by satisfying their stakeholders (Jones, 2004). Institutions are a complex of working rules, are in a constant state of change and development. To some institutionalists, institutional economics is the study and analysis of economic situations.

Figure-1.1. Institutional Economic Theory (Williamson, 2000)

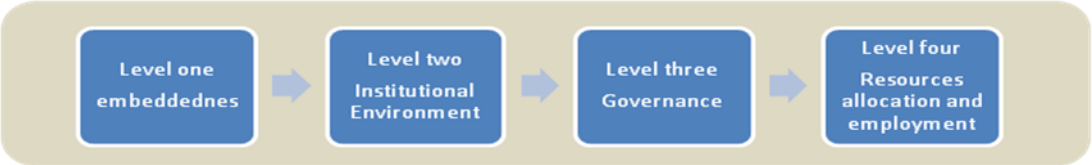


Figure 1.1 Institution defines rules and cost of transactions through the allocation of property rights and its influence to distribution channels organization (Williamson, 2000). Thus, the important task of Indonesia government is to define the rules that have to be respected by actors in the distribution rice channels and subsequently to enforce these rules in order to guarantee that the market is fair playing field. All contracts made by actors during transaction process differ in time and space and between types of intermediaries involved (Lutz, 2002). Therefore, this study will examine the existence of distribution channels should be able to coordinate contracts of selling-buying activities among actors efficiently and should be flexible in the sense easy to adapt to new opportunities occurs in the market. People believe that Government is responsible in supervisory all transactions contracts among actors in domestic rice market.

3.5. Agency Economic Theory

The agency theory can be used to capture the important structural of inter-organisational dependency of these networks relationships and to inform our understanding of the dynamics supply behaviours and relationship (Cheng and Kam, 2008; Zu and Kaynak, 2011; Fayezi et al. 2011). Agriculture supply chains consist of a productive sequence and commercial actions taken by rice stakeholders (farmers, thrasher, intermediaries and retailer) in social system. This research will study to the existing actor networks relationship to describe and analyze their behavior of in terms of cost transactions. The study will describe the dynamics of risk on rice supply chain, depends not only on the typology of networks but also on the functional role of each collaborator of the rice value chain. According to Hirshleifer and Glazer (1992) there are three actors related to decision making proces namely individuals, firms and governments. Those the three actors will be identified more in this study.

3.6. Price Theory

French (1997) defines price as someone willingness to pay (buyer) and willingness to sell (seller) for a particular asset (income distribution). It represents someone's view of what they perceived the future be at the date of sale. Moreover, French argues that as price represents value of asset to be sold today, thus price contains market information which can affect people's perception of the future. Supported by Friedman (1980) that in order to manage the economic activity, price has three roles: (1) to transmit information; (2) to provide an incentive to react to the information and the means to do so and (3) to determine income distribution.

The information transmit by the price is only important information for suppliers and demanders. Information regarding price at the market is shown by different set of prices. Thus, the people who transmit the information will get incentive to look for and to do so correctly. Moreover,

Friedman believes that prices inform two things: (1) output demand and (2) how to produce product efficiently.

Therefore, once the date of sale occurs, then the income distribution takes place. Practically, eventhough price is managed, still the income distribution can satisfy supplier and demander equally or otherwise. But, why someone has to receive less or more than others are not easy to understand and to explain. Price reflects cost of seller (in competitive market) and bargaining power of stronger side as well. The market structure will influence the expression of the price, as well as the transmission of information, incentives and income distribution.

3.7. Transaction Cost

Transaction cost occurs from physical distribution cost like transportation cost and storage and involve exchange coordination among the actors related. Transaction cost covers expenses for getting and processing market information (Beckman and Davidson, 1967). In more detail, the transaction cost covers disappeared profit that is unreliable because making the appropriateness between the buyer and seller is not perfect and useful transaction is fail. The transaction cost occurs from farmers until end consumers. This research will explore the dynamic decision-making process in terms of transaction cost.

4. Market Structure

Market structure defines as a social organization that exists between buyers and sellers in a given market. Schrer and Ross (1990) supported by Hai (2002) state that market structure refers to certain characteristics of an industry, such as the level of concentration (a number relation of consumers and buyers) and the degree of market powers (the existence of entry and exit barriers and power distribution. Thus, when a firms in a market hold sufficiently large market share, their actions can change the market price of a product – producing more results in a falling equilibrium price, producing less leads to a rise in equilibrium price) and the degree of product differentiation can be found in market structure (Scherer and Ross, 1990; Doyle, 2005).

4.1. Price transmission

The efficiency of market structure may influence price dynamics through price behavior among related actors. Prices can be formed by competitive process (many buyers and sellers) or by bargaining process (a few participants on one or both sides of the transaction). Price formation process occurs in every stage of value chain starts from producer until end consumer. The formation price process is called by price transmission. Price transmission is about the relationship between prices at the respective stages of the supply chain; therefore, price transmission can occur perfect or imperfect depends on market power. Moreover, price transmission is also an indicator on how markets are connected and integrated among actors related.The market power corresponds to conditions where the providers of service/products can consistently charge prices above price that set up by market competition (Aranyam and Kuiper, 2009).

The issue regarding price transmission process typically addresing the asymetry of the price adjusment (including the magnitude and the speed). Perfect price transmission corresponds to competitive price formation process while imperfect price transmission occurs when there are welfare losses at both ends of the chain due to market power. Asymmetric rice price transmission is important due to its presence is considered for policy purposes as an evidence of market failure. There will be an asymmetry between the reaction to price increases and decreases in other stage (European Commissions, 2011; Blazkova and Syrotvatka, 2012).

The price reactions (increase or decrease) among actors may differ depends on market power and adjustment costs (Aramyan and Kuiper, 2009). Price transmission in regional market links through the competitive profit-seeking activities of the products. Moreover, in competitive markets, a margin or profit relates to retail prices, farm prices and the cost of distributing inputs (Lyon and Thompson, 1993; Ruttan, 1969). Pindyck (2004) states that volatility may also affects prices transmission hence production and inventories. The consumer margin is understood as producer price plus a proportion of

margin determined by consumer. Perfect price transmission, margin consists of processing plus distribution (marketing) cost, correspond with competitive price formation process.

Consequently, this studies focus on price information transmission and determination among actors related will be elaborated thoroughly. The increase in price volatility raises the opportunity costs among actors, therefore analyzing all-important intermediaries; institutions that operate in different channels of distribution as well as the availability of infrastructure (irrigation channels, transportation, storage etc) are important factors in this research.

4.2. Information asymmetry

Information economy is an important aspect for contract relation or cooperation between two or more related parties (Stadler and Castrillo, 1997; Rachmat et al. 2006). Therefore, when one party gets more information than others do, then contract relations become inefficient. This situation is called as information asymmetry. Economics theory states that information asymmetry is reflecting one of market failures. Information asymmetry occurs when there are no complete information between two related parties (buyer and seller do not have same information); so that one parties gets disadvantage than others. Information asymmetry can occur in rice transaction among related actors (Timmer, 1996; Marks, 2009). Therefore, information on distribution activities becomes important to study in this research.

4.3. Rice Market Integration

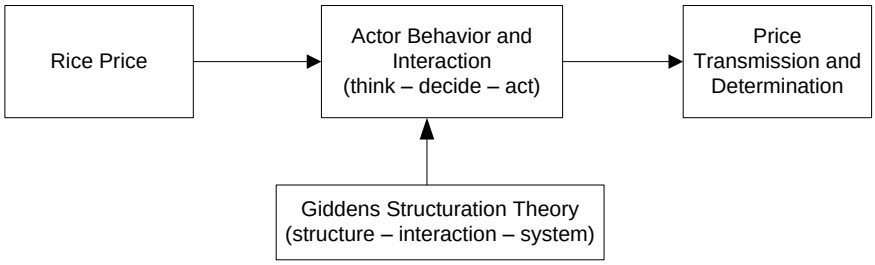
The characteristic of agricultural market is price taker. A large number of spatially dispersed farmers does price taker due to raw product production. The raw product is bulky and sometimes perishable, thus costly to transport. Few distribution channel actors (Sexton, 1990) do processing of the raw products. This situation causes agricultural reform in most developing countries. Market agriculture reforms done in many developing countries aim to manage the agricultural actor behavior. The successful market reform is a reformation that is able to improve market efficiency, creates integration among the markets and evenly income for market actors (producers, traders and customers) (Mulyo Sidik, 2004; Yuli Haryati and Joni M Aji, 2005; Lyon and Thompson, 1993). The weakness of free rice market structure in Indonesia is the weakness of consequences from market integration, the information difficulty to access and rice trading stream that is spreading in Indonesia provinces. So, the successful of market reform process needs to be counted on how the price integrate and transmit among the actors in Indonesia rice markets.

5. Conceptual Framework

This study are not trying to weight variables and then calculate the values for various alternatives to determine rice price transmission process as has been done by Indonesian rice researchers (Lantarsih, et al. 2010; Ismet et al. 1998) . The research aims to identify factors that influencing rice actors behaviors and to describe how actors interact and behave dealing and determining rice price transmission on rice value chain. As this study adopts adaptive structuration theory to answer research questions, then qualitative multiple case study research is recommended. In fact, some researchers tried already to address the weaknesses on quantitative methods in explaining social actors relationship movement through qualitative methods by implementing of the Giddens structuration theory (Hoekstra, 2006; Davis, 2010; Lewis and Suchan, 2002; Majunath et al. 2011) in several context case studies.

However, to date these theories have not been applied in rice industry, which has a number distinct and possibly unique or characteristics to study further by adopting Giddens. This research aims to better understanding on issues regarding structuring among rice agency process (action-structures) on price transmission of information and price determination, which is changing eventually. These conditions are critical to analyze and to understand in what way price are transmitted and determined among actors on Indonesia rice value chains. Lewis and Suchan (2002) support that behavior can be predicted and that cause-effect relationship are clear and pervasive to understand the individual and organizational interactions that shape and control behavior.

Figure-1.2. Qualitative Approach – Adaptive Structuration Theory



As the adaptive structuration theory emphasizes on the role of actors behavior and their responsibility within society, expectantly this theory will be able to explain the phenomena and the cause of rice price transmission in Indonesia. In addition, as this research does not only describe the process of rice price transmission in values but also to describe the set of decision rules and resources, information and learning processes of social relationships among actors with an unpredictable and changing environment in real time. Thus, the conceptual and methodological tools suitable on this study to investigate rice price transmission in Indonesia rice market among actors in social interaction and behavior of rice value chains and how the institutional as well as market mechanism constructed are discussed and elaborated based on adaptive structuration theory is qualitative approach (see Figure 1.2).

The methodology employed in this study will discuss throughout the entire research. This chapter will elaborate why the multiple case study approach is the most appropriate research strategy to answer all research questions of this study (Eisenhardt and Graebner, 2007; Yin, 2003 and Eisenhardt,1989). Then, the conceptual model will be constructed as part of research map. The conceptual model aims to structure the problem, identify the relevant factors and provide connections to facilitate mapping the research problems in order to answer all research questions. The adoption of Yin and Eisenhardt approach to this multiple case studies propose two stages:

(1) Stage one: to structure well in producing a compelling statement that can be most impressive and logic to explain description findings (Yin, 2003)
(2) Stage two: to get deep insight of building theories of price transmission among actors on rice value chain (Eisenhardt, 1989 and Eisenhardt and Graebner, 2007).

Thus, the sequence stages follow theory building logic in which stages should reveal a new part of the theoretical argument would be made. In the first stage (initial stage), the phenomena occurs on this phase will be examined independently. This stage will examine the separate cases as if they belong to a series of single case studies. Next, the results from the first stage will become an input towards making a comparative analysis of the coherent body of all multiple cases studies on the second stage. The second stage, aims to find explanations for the similarities and differences between the various cases that have emerged from the first stage.

6. Research Method

6.1. Theoretical Paradigm

The positivist paradigm fit well with the research problem of this study. Smith (1998) states the basic belief system of positivist is searching that reality is “real” and apprehensible (offering an objective and true account of nature and society). Thus the epistemology of the research is objectivist on findings true. Smith argues with the benefit of observation, positivist has two remarkable social sciences work in two ways: ability to explain (explanatory power) human power and ability to translate cultural values and prejudices into objectives facts. Bacon cited by Smith (1988) argued that it was possible to construct scientific knowledge simply through accumulating observational evidence. As this study aims to build theory by adopting Eisenhardt multiple case study method, thus the positivist research paradigm will employ.

6.2. Case Study Research

The case study research method is considered by Miles and Huberman (1998), Eisenhardt (1989) and Yin (2003) suitable for the following objectives (1) to answer the research question on how and why, (2) researchers can not manipulate the behavior involved during the process; (3) researchers want to get a picture of the contextual conditions associated with the phenomenon. A case study research method complemented with a meta-theory (theories whose subjects matter is to explain a theory) is employed in this research. Taylor (2005), Fernie and Thorpe (2007) and Holweg and Pil (2007) stated that this method appropriate with structuration theory. In this study, adaptive structuration theory and his concept about actors and structure and agency takes place through social interaction among rice actors. Thus, the structuration theory will use to analyze and describe how the behavior and social interaction among rice actors and why they behave. The case study research method can be employed to achieve the objective of structuration theory.

The research framework is developed using the case study research method as proposed by Miles and Huberman (2008) and Yin (2003). The two research stages are implemented in these studies. First stage is conducted to analyze rice price fluctuations phenomena, understand the processes and environment of "the current state" of the rice value chain, and identify some key factors relevant to the rice price transmission through descriptive study. The phenomenon of rice price transmission and determination will study using a research framework as defined in Figure 4.2. Second stage is confirmatory study. Since the process of social interactions among actors and its influence of the important aspects on studying rice value chain will not sufficiently examined, an in depth exploratory research is required as second stage in this study. The explorative research is aiming to obtain insight into what goes on in a real life situation. Thus, the propositions are formulated and will be tested in multiple case studies (Rao and Bargerstock, 2011; Eisenhardt and Graebner, 2007)). The confirmatory study takes into account to test the propositions matrix through the lens of adaptive structuration theory. The two stages within the research framework are outlined as follow:

6.3. First stage : Descriptive study

First stage is intended to investigate rice price transmission phenomena on rice value chain empirically (Yin, 2003) and interviewes, observation and FGD to relate actors (farmers, trader, government and consumer) are conducted during data collection. The rice phenomena shows that the increasing of rice price depends on several situations such as rice stocks at traders, paddy productivity tends to grow stagnant and ability in setting price at the domestic market by wholesaler (Perdana and Avianto, 2012; Sutiarso et al. 2012; Dwidjono, 2011).

Descriptive study is employed to figure out the rice price transmission and actors' behaviors on rice value chains as described in Figure 1.3.a and 1.3.b. These Figures indicate two components, namely rice value chain and price transmission among rice actors ' behavior and interaction. In this stage, observations and interviews are conducted in order to get better understanding and to investigate with emphasizing on factors affecting price transmission and social interactions on rice value chains. All qualitative data collects in this stage are explained and analyzed using CMO (Context-Mechanism-Output) pattern configuration (Pawson and Tilley, 2007). CMO is a contextual approach in which qualitative investigation in a selected of case studies promote a conceptual model. This conceptual model provides great importance to contextual factors in understanding causality on price transmission and actors interactions on rice value chain (Pawson and Tilley, 2001; Gill and Turbin, 2001).

The CMO helps reveal how transmission and social interaction occur on rice value chain, with a specific context triggers reactions (mechanisms) cause certain outcomes to occur. The CMO outcomes use to design data collection protocol (Yin, 2003). The aims of this study are (1) to get more information according price transmission among actors interaction; (2) to identify social relationship of actors in rice value chains. and (3) to investigate selected variables to be analyzed further. The core element of this research is that the outcome and means lies between direct contact among actors (including interaction flow of material, money and social networks). Therefore, the result will explains as a descriptive findings about how the processes involved in the reproduction and behavioral change of practice and social systems among rice actors' supply chain based on Figure 1.3.a and 1.3.b

Figure-1.3.a. Rice Value Chain

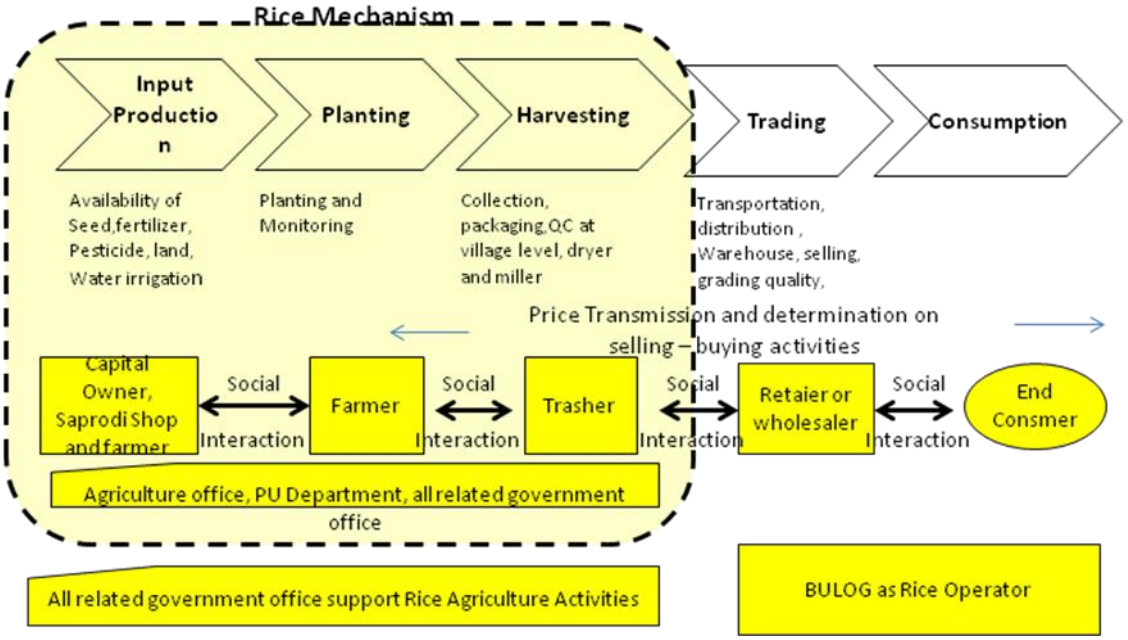
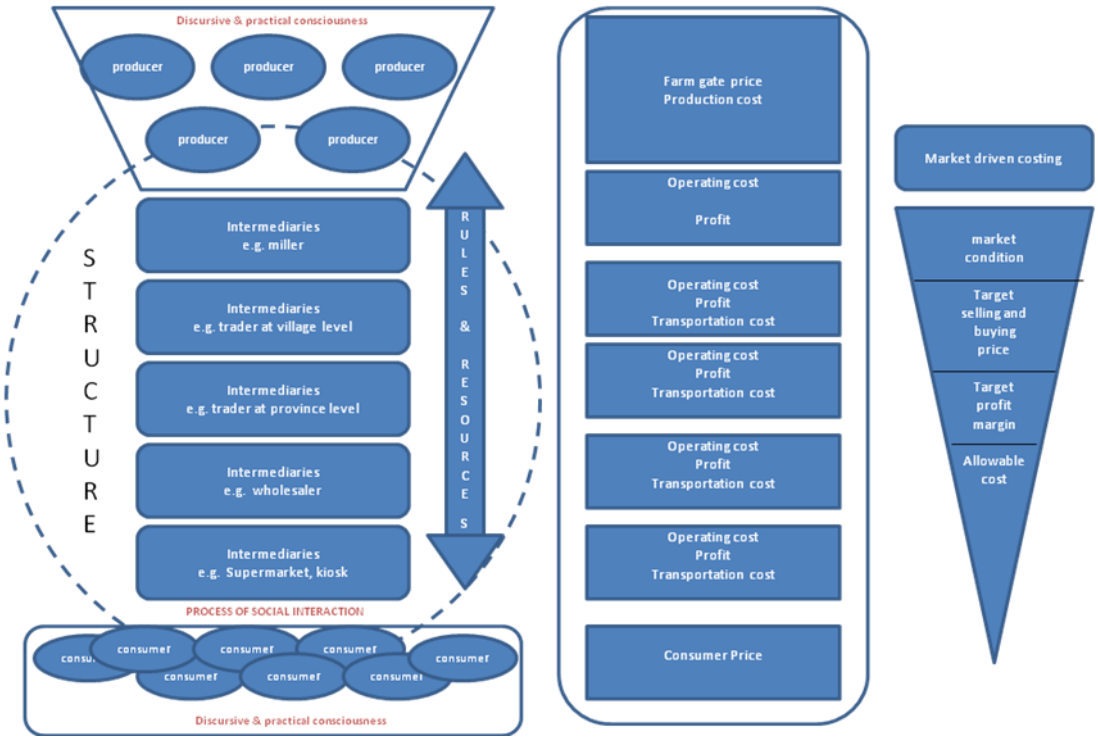


Figure 1.3.b Price Transmission among Rice Actors (RQ 1)



The price transmission will observe and calculate start from producer (farm gate price) until end consumer (consumer price). How and why actors in rice value chains determine the price will give significant factors in studying price transmission phenomena. The discursive and practical consciousness of actors' behavior in determining their role will observe during this study.

This research employs multiple case study, based on Eisenhardt (1989), some cases (with extreme or unique circumstances) were explored to describe rice price transmission phenomena, understand the processes of social interactions among rice actors and environment of "the current

state" of the rice value chain, and also identify some key factors relevant to the rice price transmission mechanism.

The output of stage one is descriptive findings of rice price transmission and determination on rice value chain, which is, analyzed using pattern matching analysis, within case analysis and enfolding literature. Thus, the three main phenomena, which will describe in stage one, are:

1. Rice price transmission reveal how rice price information transmit and determine among rice actors
2. Rice price actors' behavior and Interaction describes how actors interact and behave (think-decide-act) in their selling-buying activities (interaction flow of material, information, money and social relationships and decision making process).
3. Rice price transmission mechanism identifies factors that govern rice price setting in market (time and place), which include supply demand conditions, government influence of rice trade, the nature and extent interactions through rice value chains, the storage availability and the use of technology and innovation in rice farming.

6.4. Second stage : Confirmatory study

Based on descriptive findings in the first stage, nine propositions are formulated into a structuration matrix form (Rao and Bargerstock, 2011). Confirmatory study takes into account to test the propositions matrix by applying the adaptive structuration theory (see Table 1.1). Table 1.1 explains rice supply chains actors' behavior and interactions (how they interact, behave, communicate and exchange information) which involve such as competition, coordination and leverage among actors (Miles, 1992). Adaptive structuration theory of actors and structures allow interpreting social interaction between actors (selling and buying activities) and between consumption and production practices. Furthermore, the adaptive structuration theory explains the nature of interactions (rules and resources), behavior and price transmission process among actors' in rice supply chain. Marc and Olsen (1989) stated that institution is a guideline for human action or appropriate behavior in society. Institutions describe as rules or norms of behavior based on various important foundations, from culture and mental models to legislation and from social norms to political structures. Institution theory is employed in this study to express norms behavior and interactions among actors in rice supply chain.

The project will be carried out in the form of a multiple cases study (Eisenhardt, 1989). Since the problem is to some extent obvious, it is important to implement a number of assessment criteria to clarify as employs adaptive structuration theory. The most preferred strategy is making theoretical propositions that will lead during the research (Yin, 2003). The objectives, multiple case study designs and data collections will shape and guide by the propositions. Below is nine propositions that are developed from an interpretation of rice price transmission and determination on rice value chain and contextual theory:

Table-1.1. Elements of Structural Dimensions and Propositions

Core Concepts	**Structural Dimensions**	**Operational Variables**	**Propositions**		
			Measure	Interaction of rice supply chain behavior	Institutional Relations
	DOMINATION (Value Chain)				
Structure	Domination Structure	Price Fluctuation	Price transmissio n	High	High
System	Resources/Facility	Infrastructure	Logistic support	Limited	Less coordination
Structuratio n	Influence	Value Added	Cost and Benefit	High (low)	High (low)
	SIGNIFICATION (Market				

	Mechanism)				
Structure	Signification Structures	Market Rice	Market Integration	Good	Good
System	Interpretative Scheme	Actors/Agent Behaviors	Information Flow	Good	Moderate
Structuration	Communication	Negotiation Process	Social interactions	High competitive	High competitive
	LEGITIMATION (Regulation/Role/ Norm/Trust)				
Structure	Legitimation Resources	Rights, Responsibility and Roles	Norm and regulation	Obey to the norm and implement the regulation	Clean institution
System	Norms	Role of Conduct	Standard and operating procedure	Observing and considering the SOP	Good institution.
Structuration	Sanction	Government/ Bulog Support	Sanction and incentive	Aware with the sanction	Obey with sanction and incentive

7. Domination

Domination Structure refers to resources over which agents use their influence

This study analyzes and explains how price transmit among actors related. During price transmission activities, the interaction among actors will high as well as of the institutional relations. The agents (actors) reactions on price transmission between actors may differ depends on their influences and ability to adjust the costs (Aramyan and Kuiper, 2009). Price transmission in regional market links through the competitive profit-seeking activities of the products.

Proposition 1:

In rice value chain, where market influence is competitive, an increase in price volatile raises the opportunity costs among actors.

Resources/Facility refers to the agents (actors) uses "facilities" to control resources through their transformative capabilities.

In rice value chains, infrastructures might consider as a "facility" through which agents exercise transformative capabilities over their activities. Facility includes logistic supports such as place (market), road (transportation), warehouse and infrastructures (irrigation channels, seed – fertilizer – pesticide factory). In rice value chain, availability of facilities are important and crucial links start from planting until selling output (Arifin 2004; Amrullah, 2003; Malian et al. 2004). Therefore, second research proposition is:

Proposition 2:

In rice value chain, where the logistic support is limited into availability and accessible of infrastructure, then causing less coordination among institution.

Influence refers to the capability of agents to bring about transformative capabilities

In adaptive structuration theory, influence represents the capability of agents to measure cost benefit in rice value chains. The agents use their influence over price transmission by applying appropriate operational strategies. With this understanding, the third proposition is:

Proposition 3:

In rice value chain, if the price fluctuation is high, the probability of cost and benefit occurs among actors behavior is considered high and institutional relations cost to maintain price transmission is also high

Signification

Signification structures refer to a code or mode to communicate meaning

In adaptive structuration theory, signification structures are described as codes or modes of coding to communicate meaning (Hoekstra, 2006; DeSancties and Poole, 1994) in the rice market. The successful of rice actors' interaction (rules and resources) process needs to be counted on how the communication affects price transmission among the actors in rice markets (Ratya, 2004). Moreover, Ratya (2004) supported by Schroeter and Azzam (1991) state that the skill and knowledge helps in observing price transmission. It can be used to predict price transmission decision-making process among actors in different time, place and distance, so the government able to determine regulation which has an impact on national rice production performance. With this understanding, the fourth proposition is:

Proposition 4:

In rice value chains when communication about price transmission among actor is good then the probability of institution relations to rice actors is also good.

Interpretative scheme refers stock of knowledge applied by actors in production of meaning/to get common understanding

Interpretative schemes are at the core of mutual knowledge that actors use to understand interactions. Actors apply interpretative schemes to signification codes to arrive at a common understanding in activity (Hoekstra, 2006; Cheng and Wu, 2005). With this understanding, the fifth proposition is:

Proposition 5:

In rice value, chains where the information flows among actors is good then the probability of understanding communication directly by the government official will be better.

Communication refers to regular reproduction takes place across time and space through communication.

Applying communication in price transmission context, strategies to respond price transmission can be sustained only when the structural properties of price transmission are reproduced regularly within actors in rice supply chains (Hoekstra, 2006; Lutz et al. 1999). With this understanding, the sixth proposition is:

Proposition 6:

In rice value chains when the negotiation process among actors is competitive then the probability of institutional relations communication will become tight/intensive.

Legitimation

Legitimation structures refer to accept value standard of behavior in social system, appeal to the sense of what is right, and what is wrong in social actors.

The concept legitimation in price transmission on rice value chains are consider rights, responsibility and roles accepted and implemented among actors and institutional (Hai, 2002). With this understanding, the seventh proposition is:

Proposition 7:

In rice value chains, if actors' behavior and interaction obey to the norm and implemented regulation, then the probability having good institution will occur.

Norms refer to rules and behavior.

The concept of norms in rice value chains refers to the how actors behave and interact by considering role of conduct that implemented among actors' (Hai, 2002). With this understanding, the eighth proposition is:

Proposition 8:

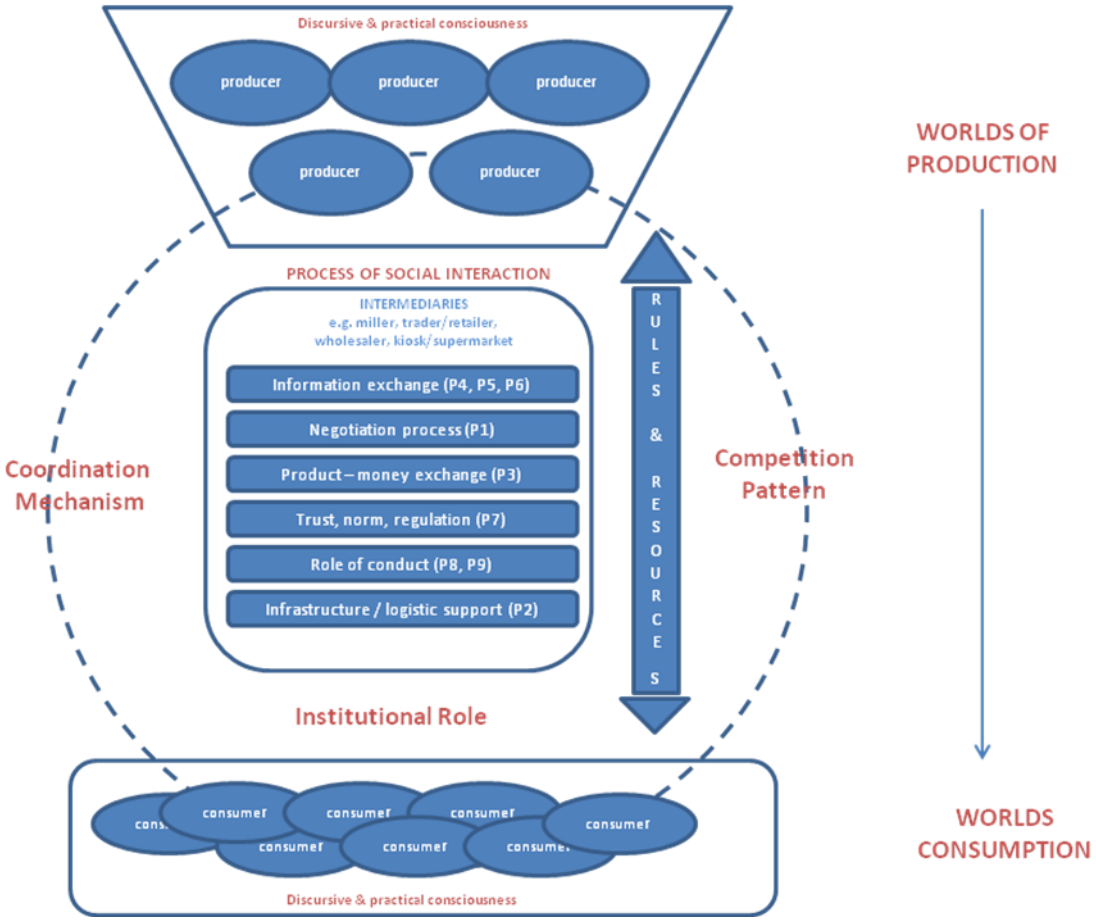
In rice value chain, if the awareness and level of consideration of role of conduct (standard operating procedure) among actors in rice value chain is moderate then clean institution are possible to occur.

Sanctions refer to a mode of reward or punishments that reinforces expected forms of behavior. In rice value chains, government is responsible in delivering sanctions and incentives for actors related (Arifin, 2004; Arifin, 2005). With this understanding, the ninth proposition is:

Proposition 9:

In rice value chains if actors in value chains aware on sanctions and incentives in their relationship, then the probability of government official obey in giving sanctions and incentives is good.

Figure-1.4. Summary of Major Constructs and Propositions of AST



8. Conceptual Model

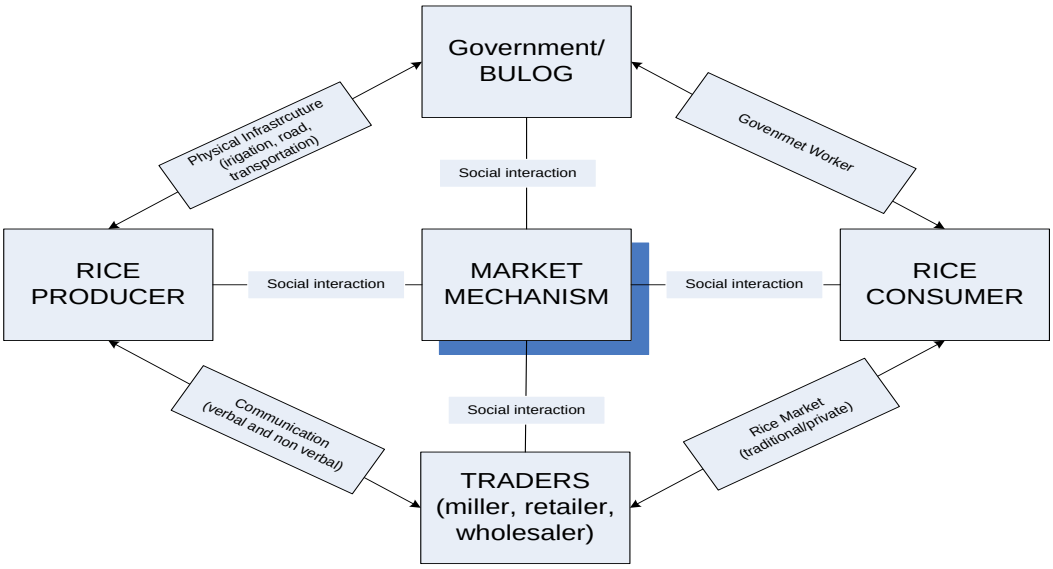
In this study, the analytical tools to unravel the price transmission along rice value chains will be employed three main theoretical approaches that allow interpretation of social interaction among rice actors related on rice value chains namely value chain, institutional theory, agency theory and adaptive structuration theory. The first approach is based on the actors' interaction on rice value chains (social interactions between rice producer and consumer on rice value chains). The second approach employs institutional framework as the structures that provides actors with rules and resources and facilitate agency to actors. The social interactions among actors related (producer, consumer, traders and government) could be observed through market mechanism.

Agency theory as the third approach will be used to describe the structural significance of inter-organizational dependency of the networks relationships (the functional role of each collaborator of

the rice value chain) and to analyze actors' behavior in terms of cost transaction. The fourth approach is adaptive structuration theory, which is inspired by Giddens and his concepts about actors, structure and agency taking place through social interaction.

This theory will be used to describe the interaction, system and structure among the actors in rice value chains. The roles and interest of actors begin from rice producer to rice consumer through rice market mechanism. The rice market mechanism reflects the interaction of rice information, trader (marketing actor intermediaries) and government (Bulog, Ministry of Agriculture, Ministry of Public Works and Ministry of Trade and Creative Economy).

Figure-1.5. Rice Actors Interaction

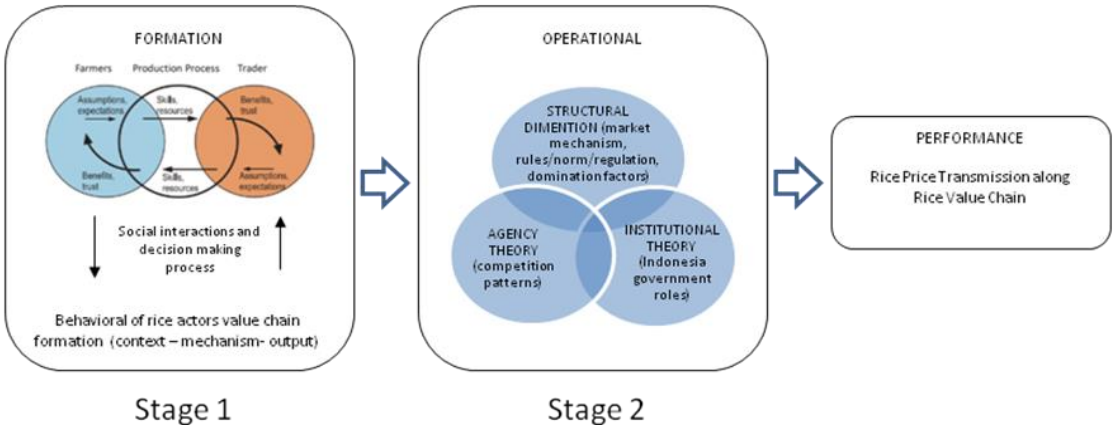


The structuration theory is believed will contribute better understanding of the behavior and managerial issues implemented in logistics research; social interactions, market mechanism and coordination among actors related (Majunath et al. 2011; Hoekstra , 2006; Lewis and Suchan, 2002; Davis, 2010). How related actors think, decide and act to improve value chains performance, profitability and relationships will be studied by implementing adaptive structuration theory. This study will provide an explanatory experience in applying an alternative conceptual framework in studying Indonesia rice value chain as well as to overcome the weaknesses on studying price transmission using aggregate data approach. Thus, the choice of adaptive structuration theory become significant on this research, because that approach provide a rich description of social, cultural and political contexts in determine price behavior among related actors by integrating with other theories (value chain, agency economics and institutional theory).

9. Conclusion

The conceptual research model of this study as follows:

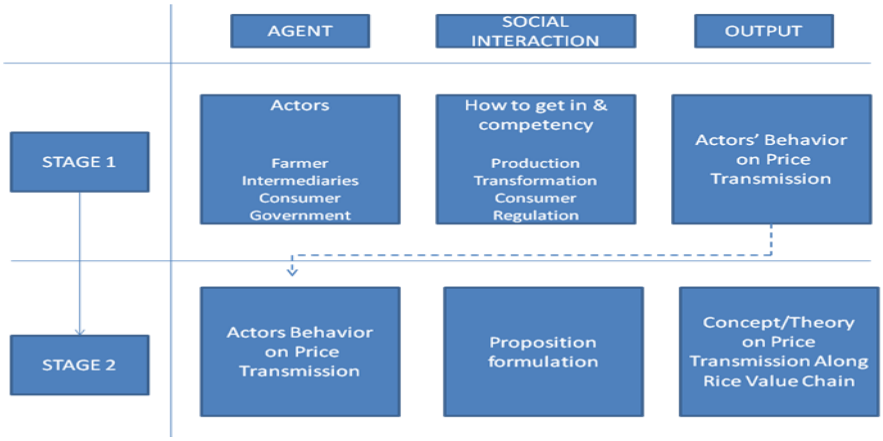
Figure-1.6. Conceptual Model of Rice Price Transmission



This study integrates two research stages of rice price transmission. During the first stage, rice actors behavior are clarified using CMO (context-mechanism-output) pattern, then literature studies undertake to identify important concepts and relationships among actors behaviors in rice value chains. The outcome is descriptive finding that provides a basis for the design of the data collection protocol, which will be tested and refined. Based on descriptive findings in the first stage, nine propositions are formulated into a structuration matrix form (Rao and Bargerstock, 2011). The adaptive structuration theory will explains the nature of interactions, behavior and price transmission among actors in rice supply chain. Marc and Olsen (1989) stated that institution is a guideline for human action or appropriate behavior in society. Institutions describe as rules or norms of behavior based on various important foundations, from culture and mental models to legislation and from social norms to political structures as well as agency economics theory.

Institution theory and agency theory are employed in this study to express norms behavior and interactions among actors in rice supply chain. The project will be carried out in the form of a diagnostic practice-oriented research project. The basis of comparing some case studies is based on the development and use of an explicit theoretical framework. Therefore, the analytic generalization approach can be drawn and similar results from individual cases are argued to reflect form of replication. The output of this stage is confirmatory study about rice price transmission along rice value chains in Indonesia.

Figure-1.7. The Relationship of Research Stages



References

Acosta, L. A and Kagatsume, Masaru. (2003), "ASEAN Rice Sector in the WTO: Analysis of Demand and Supply in a Liberalized Trade Environment". ASEAN Economic Bulletin, Vol. 20 No. 3, pp. 223 - 243

Awokuse, T.O. (2007), "Market Reforms, Spatial Price Dynamics and China's Rice Market Integration : A Causal Analysis with Directed Acyclic Graphs". Journal of Agricultural and Resource Economics, Vol. 32 No. 1, pp. 58 – 76.

Matopoulos, A., Vlachopoulou, M., Manthou, V. and Manos, B. (2007), "A conceptual framework for supply chain collaboration: empirical evidence from the agri-food industry", Supply Chain Management: An International Journal, Vol. 12 No. 3

pp. 177 – 186.

ASIADHRRA. (2008). Value Chain Analysis Report : Cambodia, Philippines, Vietnam.

Balaam, D and Dillman, B. (2010). Introduction to International Political Economy. Pearson 5th ed.

Batt, Peter J. (2003). "Examining the performance of the supply chain for potatoes in the Red River Delta using a pluralistic approach". Supply Chain Management: An International Journal, Vol. 8 No. 5, pp. 442 - 454

Blein, R and Longo, R. (2009). "Food Price Volatility - how to help smallholder farmers manage risk and uncertainty, Discussion paper prepared for the Round Table organized during the Thirty-second session of IFAD's Governing Council".

Brorsen, B.W., Chavas, J-P. and Grant, W.R. (1991), "Market Structure and Spatial Price Dynamics". Southern Journal of Agricultural Economics, Vol. 23, pp. 65 -73

Bustanul Arifin. (2004). Analisis Ekonomi Pertanian, Kompas Gramedia.

Bustanul Arifin (2005). Pembangunan Pertanian : Paradigma, Kebijakan dan Stategi Revitalisasi. PT Grasindo

Box, G.E.P., Jenkins, G.M., and Reinsel, G (1994). Time Series Analysis, Forecasting and Control. Prentice-hall, Englewood Cliffs, NJ.

Broger, Daniel (Dissertation). "Structuration Theory and Organization Research". University of St Gallen, School of Management, Economics, Law, Social Sciences and International Affairs. 2011

Blazkova, I and Syrovatka, P. (2012), "Price Transformation and Transmission Along the Food Commodity Chain". Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis, Vol LX, No. 4, pp. 31 – 35

Cozby, P.C. (2009). Methods in Behavioral Research. McGraw Hill

Cadilhon, J-J., Fearne, A.P., Moutsier, P. and Poole, N.D. (2003), " Modelling vegetable marketing systems in South East Asia : phenomenological insights from Vietnam". Supply Chain Management : An International Journal, Vol. 8 No. 5, pp. 427 - 441

Cadilhon, J-J., Moutsier, P., Poole, N.D., Tam, Phan Thi Giac., and Fearne, A.P. (2006). "Traditional vs Modern Food Systems? Insights from Vegetable Supply Chains to Ho Chi Minh City (Vietnam)". Development Policy Reviews, Vol. 8 No. 1, pp. 31 -49

Chen., I.J and Paulraj. (2004). "An Understanding Supply Chain Management : critical research and a theoretical framework". International. Journal of Production. Res, Vol. 42 No. 1, pp. 131 - 163

Cromme, N., Prakash, A.B, Lutaladio, N and Ezeta, F. (2010), Strengthening Potato Value Chains. Technical and Policy Options for Developing Countries, The Food and Agriculture Organization of the United Nations and the Common Fund for Commodities. Rome

Cheng, TCE and Wu, YN. (2005), "The Impact of Information sharing in a two-level supply chain with multiple retailers". Journal of the Operational Research Society, Vol. 56, pp. 1159 – 1165.

Darshana, Sand Nor Hidayati, Z: Adaptive Struturation Theory View of Post Implementation Knowledge Management For Enterprise Systems. Queensland Holweg Universitty of Technology, Brisbane, Australia

De Vries, E (1949). "Problems of Agricutlure in Indonesia". *Pacific Affairs*, Vol 22 No. 2, pp. 130 – 143

Darwanto, D.H. (2001), Perilaku Harga Beras dan Gabah di Indonesia dalam Bunga Rampai Ekonomi Beras, LPEM-FEUI.

Doyle, E. (2005), The Economic System. John Wiley and Sons, Ltd.

Davis, Paul (Thesis) : Development of a Framework for the Assessment of the Role and Impact of Technology on the Public Procurement Proces : an Irish Healt Sector Study. Dublin Institute of Technology, 2010

DiMaggio, P.J. and Powell, W.W. (1983), "The iron cage revisited: institutional isomorphism and collective rationality in organizational fields", American Sociological Review, Vol. 48, pp. 147-60.

Davies , B and Downward , P. (1996), "The structure, conduct, performance
paradigm as applied to the UK hotel industry". Tourism Economics, Vol. 12 No. 2, pp. 151- 158.

DeSancties, G. and Poole, M.S. (1994), "Capturing the Complexity in Advanced Technology Use: Adaptive Structuration Theory". Organization Science, Vol. 5 No. 2, pp. 121-147

Erwidodo and Pribadi,N. (2003), "Permintaan dan Produksi Beras Nasional : Surplus atau Defisit?", Departemen Pertanian.

Fernie, Scott and Thorpe, A. (2007), "Exploring Change in Construction : Supply Chain Management. Engineering". Construction and Architectural Management, Vol. 14. No 4, pp. 319-333

French, N. (1997), "Market Information Management for better valuations Part I – Concepts and Definitions of Price and Worth". Journal of Property Valuation and Investment, Vol. 15 No. 5, pp. 403 - 413

Eisenhard, K.M. (1989), "Agency Theory : An Assessment and Review". The Academy of Management Review, Vol. 14 No. 1, pp. 57 - 74

Eisenhardt, K.M .(1989), "Building Theories from Case Studies Research". The Academy of Management Review, Vol. 14 No. 4, pp. 532 - 549

Eisenhardt, K.M . and Graebner, M.(2007). "Theory Building from Cases: Opportunities and Challenges". Academy of Management Journal, Vol. 50 No. 1, pp. 25 - 32

Eisenhardt, K.M. (1989), "Making Fast Strategic Decisions in High-velocity Environments". The Academy of Management Journal, Vol. 32 No. 3, pp. 543-576

Fernie, S. (Doctoral Dissertation). Making Sense of Supply Chain Management in UK Construction Organizations: Theory versus Practice. 2005.

Gill, M. and Turbin, V. (2001), "Evaluating " Realtistic Evaluation" : Evidence from study of cctv". Crime Prevention Studies, Vol. 10, pp 179-199

Gilpin, R. (2001). Understanding Global Political Economy. Princenton University Press

Gray, D.I. (Doctoral Dissertation). The Tactical management processes used by pastoral-based dairy farmers: a multiple case study of experts. 2001

Gregor, S. and Johnston, R.B. (2000),"Developing an Understanding of Interorganizational Systems : Arguments for multi level analysis and structuration theory"

Giddens, A. (1995), The Constituion of Society: The Outline of the Theory of Structuration. Cambridge-UK

Folkerts, H. and Koehorst, H. ,(1998), "Challenges in International Food Supply Chains: vertical co-ordination in the European agribusiness and food industries", British Food Journal, Vol. 100 N0. 8, pp. 385-388

Hoekstra, Grietsje. (Thesis). Two Worlds Meeting at the Market. Wageningen - The Netherlands. 2006

Holweg, M. and Pil, F.K., (2008). "Theoretical Perspectives on the coordination of supply chain". Journal of Operations Management, Vol. 26 No. 3, pp. 389 - 406

Hung, Shih-Chang (2004). " Explaining the Process of Innovation : The Dynamic reconcilliation of action and structure". Human Relations, Vol. 57 No. 11, pp. 11 - 22

Hai, Luu Thanh Duc. (Dissertation). The Organization of the Liberalized Rice Market in Vietnam. Centre for Development Studies. University of Groningen. 2002

Hak, T. and Dul, Jan. "Theory-Building With Cases". ERIM Report Series in Research Management.., Erasmus School of Management., June 2009.

Ismet, M., Barkley, A.P. and Llevelyn, R.V. (1998). Government Intervention and Market Integration in Indonesia

Kajisa, Kei and Akiyama, Takamasa. (2005). "The Evolution of Rice Price Policies over Four Decades : Thailand, Indonesia and the Philippines". Foundation for Advanced Studies on International Development. Tokyo Japan. Oxford Development Studies. Vol. 33 No. 2, pp. 325 - 309

Keyser, John C. (2006). Competitive Commercial Agriculture in Sub-Saharan Africa (CCAA) Study. Worldbank.

Lyon, C.C and Thompson, G.D.(1993), "Temporal and Spatial Aggregation : Alternative Marketing Margin Models". American Journal of Agricultural Economcis,. Vol .75 No. 3, pp. 523 -536

Lutz, C. and Bassolet, B. (1999), "Information Service and Integration of Cereal Markets in Burnika Faso". Journal of African Economies, Vol. 8 No. 1, pp. 31 – 51.

Lambert, D. M., and Cooper, M. C. (2000). "Issues in supply chain management". Industrial Marketing Management, Vol. 29 No. 1, pp. 65-83.

Lewis, Ira and Suchan, Jim. (2003). "Structuration Theory : Its potential impact on logistics research". International Journal of Physical Distribution and Logistics Management, Vol 33 No. 4, pp. 296 - 315

Lindgreen, A., Hingley, M., Trienekers, J. (2008), "Relationships, networks and interactions in food and agriculture business to business marketing and purchasing". British Food Journal, Vol. 110 No. 4/5, pp. 346 - 360

Aramyan, L.H and Kuiper, M. (2009), "Analyzing price transmission in agri-food supply chains: an overview". Measuring Business Excellence, Vol. 13 No. 3, pp. 3 - 12

Miles, Theresia. (1992). Agribusiness Subsector Assessments

Miles, M.B. and A.N Huberman (1994). Qualitative Data Analysis. Thousands Oaks : Sage Publications

Morana, R. and Seuring, S. (2011), "A Three Level Framework for Closed-loop Supply Chain Management - Lingking Society, Chain and Actor Level". Sustainability, Vol. 3 No. 4, pp. 678 – 691

Newing, H. (2011). Conducting Research in Conservation. A social science perspective. Routledge Publishing

Pawson, R. and Tilley, N. (2004). Realist Evaluation

Price Determination in the Australian Food Industry - A Report. (2004). Australian Government - Department of Agriculture, Fisheries and Forestry.

Pindyck, R.S. (2004), "Volatility and Commodity Price Dynamics". The Journal of Futures Markets, Vol. 24 No. 11, pp. 1029 – 1047

Powell, W.W. and DiMaggio, P.J. (1991), The New Institutionalism in Organizational Analysis, University of Chicago Press, Chicago, IL.

Poole, M.S. (2008), "Adaptive Structuration Theory" in Griffin, E.A. A First Look at Communication Theory. 7th ed. McGraw Hill, New York

Rao, M.H.S and Bargerstock, A. (2011), "Exploring The Role of Standard Costing in Lean Manufacturing Enterprises: A Structuration Theory Approach". Management Accountingn Quarterly, Vol 13. No 1, pp. 47 - 60

Reimer, J.J. (2006). "Vertical Integration in the Pork Industry". American Journal Agriculture Economics, Vol. 88 No. 1, pp. 234 - 248

Natawidjaja, R.S. (2001), Dinamika Pasar Beras Domestik dalam Bunga Rampai Ekonomi Beras, LPEM FE UI

Loader,R. (1997), "Assessing transaction costs to describe supply chain relationships in agri-food systems". Supply Chain Management: An International Journal, Vol. 2 No. 1, pp. 23 – 35

Ruttan, V.W. (1969)." Agricultural Product and Factor Markets in Southeast Asia". Economic Development and Cultural Change, Vol. 17 No. 4, pp. 501-519

Sachchamarga, K. and Willimas, G.G. (2004), "Economic Factors Affecting Rice Production in Thailand". TAMRC International Research Report, No IM-03-04, March

Smith, M.J. (1998). Social Science in question. SAGE Publication in association with The Open University

Saragih, B. (1997). Transformasi Sektor Pertanian : Mencari Paradigma Baru, dalam buku "Mencari Paradigma Baru Pembangunan Indonesia", CSIS, Jakarta

Satriawan, I. K. (1993). Prospek Swasembada Pangandi Propinsi Bali dengan Pemodelan System Dynamics, Tesis, Program Magister Teknik Industri ITB.

Scott, J. (2001). Social Network Analysis : A Handbook.

Sekaran, U. (2003). Research Methods for Business : A Skill Building Approach. 4th ed New York : John Wiley and Sons.

Shang, H., Huang, P. and Guo, Yan. (2010), "Managerial cognition : the sources of sustainable compeitive advantage in hypercompetition", Nankai Business Review International, Vol 1 No 4, pp. 444-459

Singh, I., Squire,L. and Strauss, J. (1986). Agricultural Household Models. The John Hopkins University Press : Baltimore, 1986.

Sushil. (1993). System Dynamics : a Practical Approach for Managerial Problems. Wiley Eastern Limited, New Delhi.

Study on the Competitiveness of the European Meat Processing Industry. (2011): Luxembourg: Publications Office of the European Union.

Sexton, R. J. (1990). "Imperfect Competition in Agricultural Markets and the Role of Cooperatives :A Spatial Analysis". American Journal of Agricultural Economics, Vol. 72 No. 3, pp. 709 -720

Sherer F.M, and Ross, D (1990). "Industrial Market Structure and Economics

Performance". 3rd edition, Houghton Mifflin Company, Boston

Taylor, D.H. and Fearne, A. (2009). "Demand management in fresh food value chains : a framework for analysis and improvement". Supply Chain Management : An International Journal, Vol. 14 No. 5, pp. 379 -392

Taylor, D.H. and Fearne, A. (2006). "Towards a framework for improvement in the management of demand in agri-food supply chains". Supply chain management : An International Journal, Vol. 11 No 5, pp. 379 -384

Taylor, D.H (2006). "Demand management in agri-food supply chains". The International journal of Logistics Management, Vol. 17 No. 2, pp. 163 - 186

Taylor, David H. (2005). 'Value Chain Analysis : an approach to supply chain improvement in agri-food chains". International Journal and Physical Distribution and Logistics Management, Vol. 35 No. 10, pp. 744 - 761

Timmer, C. P. (2004). "Food Security in Indonesia : "Current Challenges and The Long Run Outlook". Center For Global Development, Working Paper Number 48, November

Trochim., W.M.K. (1989). "Outcome Pattern Matching and Program Theory". Evaluation and Program Planning, Vol. 12, pp. 355-366

Van Der Vorst, J. G.A.J and Beulens, A. J.M. (2002). " Identifying sources of uncertaintity to generate supply chain redesign strategies". International Journal and Physical Distribution and Logistics Management, Vol 32 No. 6, pp. 409 - 430.

Vennix, J.A.M. (1996). Group Model Building : Facilitating Team Learning Using System Dynamics.John Wiley and Sons Ltd. : Chicester.

Walliman, N. (2006). Social Research Methods. Sage Publication Ltd

Weimer, D.L and Aidan, R.V (2010) . Policy Analysis Concept and Practice. Prentice-Hall International Inc., Englewood

Widyarini, M. (2007). Ketahanan Pangan di Negara Agraris, Kompas daily newspaper

Widyarini, M. and Pawitan, G. (2011). "The Effect of Exchange Rate Fluctuations on Rice Import in Indonesia ",GSTF Journal. Singapore

Yin, R.K.(2003). Case Study Research, Design and Method. 3rd edition. Thousand Oaks, California : SAGE Publications.

The Indonesia Central Bureau of Statistics (2012). Downloaded from www.bps.go.id (accessed 2012)