3. Conceptual Framework

This chapter presents the comprehensive conceptual framework of this study, which guides the empirical portion and is based on the literature review in the previous chapter. Several theories provide the theoretical foundations for this study: industrial district literature, Giddens’s duality theory, new institutional economics, new economy sociology, interpersonal and interorganizational trust, reciprocal relationships, leadership theory, and notions of firm performance.

Figure 3.1 depicts the framework, which contains three sets of elements related to the dynamics of interfirm relationships in a cluster. The first set refers to the simultaneity of competition and social embeddedness, which constitute the socioeconomic structures of a cluster. The second set focuses on actors, including the types of leadership they display. The third set includes elements of firm performance. However, before presenting each element, we offer some pertinent definitions.

Thus, the structure of this chapter is as follows: Section 3.1 considers three possible definitions of industrial clusters and chooses an appropriate one. The following sections discuss the three parts of the framework: socioeconomic structures (Section 3.2), the role of actors (Section 3.3), and firm performance (Section 3.4). Section 3.5 reveals the complete framework; Section 3.6 concludes this chapter.

3.1 Definition of an Industrial Cluster

As explained in Chapter 2, not all-encompassing conceptual and analytical framework explores the functions of a regional industrial cluster. The term instead is used indiscriminately to refer to a broad range of business arrangements. Most literature uses “industrial district” instead of “industrial cluster.” For the purposes of this study, these terms are interchangeable, but I prefer “industrial cluster” as a better known term that also is used by the Indonesian government and in Indonesian literature. According to Schmitz (1999), the term “cluster” also has the advantage of referring to a sectoral and geographical concentration of firms.
My study adopts the first definition of a cluster mentioned in Chapter 2 because it examines the cluster’s function as a dynamic process, in which a group of firms, which manufacture the same products in close vicinity, engages in multiple interactions. The process includes face-to-face communication between different economic players, which is strongly influenced by their community identities. For the purposes of this research, the first definition therefore is the most suitable and appropriate; it not only covers forward and backward links between firms inside a cluster but also acknowledges a sociocultural identity as made up of common values and the embeddedness of local actors in a local milieu, based on trust and reciprocal relationships.

Accordingly, this study defines the following key features of an industrial cluster:

1. An industrial cluster is a business and living area that comprises a large variety of firms that are relatively homogenous in production activities and constituted by socioeconomic structures.
2. A community of firms in the area is embedded socially as a community of people, in support of trust and reciprocal relationships, that gets involved in transactions. Market relations between firms can be organized on the basis of just mutual cooperation.
3. Local economic institutions, such as local business associations and informal groups, complement the social mechanism to ensure conformity to the relational norms of social embeddedness and as a medium for collective bargaining among participating firms through decision-making processes.
4. In the decision-making process in local business associations, local actors who are acknowledged by local people as leaders push the cluster community to solve common business problems and coordinate joint actions among members.

3.2 Socioeconomic Structures of a Cluster: Simultaneity of Competition and Social Embeddedness between Firms

As Figure 3.1 shows, the dynamics of a cluster contain interfirm relationships, or the connections between and among participating firms in a cluster as they conduct their daily business. They also encompass relationships between local people at different stages and the same stages of production activities. Interfirm relationships in clusters depend on both local structures and actors.

As discussed in Chapter 2, Italian literature on industrial districts suggests a means to explore two different approaches to analyzing an industrial district: that is, focusing on the economic relationships in the districts or dealing with the social and institutional structure that frame the economic context. In my conceptual framework, in line with Italian district literature, I assume that socioeconomic structures influence a cluster.
This study defines the socioeconomic structures of a cluster as the simultaneity of competition/market relations, social embeddedness, and some unwanted actions of those relations. On the one hand, the links between the firms in a cluster are governed by the advantages of the economic/market mechanism. This mechanism exists because there are many specialized firms for each production stage in the manufacturing cluster, and a local market develops in which firms demand or supply a given product or service.

On the other hand, the structures are influenced by the social embeddedness that emerges in a cluster when trust and reciprocal relationships determine interfirm cooperative arrangements. The simultaneity of market and social mechanisms in interfirm relationships has an important role for actual cluster survival. If market or embedded ties are kept separate, they do not create tension. It is vital to strike a balance between competition and cooperation to attain firm development in a cluster.

Furthermore, it is important to recall that in both relations, the same mechanisms that give rise to appropriate and advantageous resources can also constrain actions or even derail companies from their original goals. Thus, an analysis of unwanted actions in interfirm relationships is useful for understanding the functioning of socioeconomic structures in a cluster. This study considers three kinds of unwanted actions that can occur simultaneously: opportunism, free-riding behavior, and inward-looking behavior.

The following subsections present the elements of socioeconomic structures, that is, competition/market mechanisms in interfirm relationships (Section 3.2.1) and social embeddedness (Section 3.2.2). The analysis of social embeddedness includes the role of both trust and reciprocal relationships as relational dimensions. To provide a complete picture of socioeconomic structures, unwanted actions between firms in a cluster also are described.

### 3.2.1 Competition/market relations in a cluster

Markets provide the most important governance structure; specific institutional arrangements enforce pricing mechanisms (Williamson, 1991; Menard, 1995). Exchange partners are mainly connected by price factors through arm’s-length ties. I define competition or a market relation as a situation in which firms attempt to produce and sell products at a lower price and acceptable level of quality to attract paying customers. Thus, competition can take place along price and/or quality. Price and quality offer the main routes for outcompeting rivals in clusters (Schmitz, 1995; Rabelotti, 1996).

Thus, firm operations connect through a market, and their behavior is determined by price and cost signals. Market relationships rely on the price mechanism to coordinate competing producers and anonymous buyers. Competition based on price is possible in a cluster because clustering encourages low search and matching costs. To maintain the required quality level of their products, producers also rely on their subcontractors to provide
Firms try to build linkages, based on their interest in improving quality. The main risk for a company is reliability, which also is a critical factor for gaining market share. Suppliers make transaction-specific investments, and final producers rely on suppliers to meet tight schedules and produce high quality offerings. Thus, price and quality play leading roles in market exchanges.

Firms that can fulfill market demands win the market and attain superior returns. To validate this definition, we asked respondents in a pilot project to indicate which factors they considered most important for outcompeting their rivals in a cluster. The three options in the questionnaire were lower price, high quality and delivery speed; the respondents also could rank them next to each other. Delivery speed is added as this item is mentioned as a major issue of competition besides price and quality. The result was most respondents put quality as the most important factor.

Therefore, for this study, a cluster consists of a multitude of formally independent, highly specialized enterprises that engage in a high density of mutual transactions. The effects of the market mechanisms on a firm’s linkages classify the influence of the business environment on firm development. Competition based on less expensive, higher quality products is the most favored way for firms to beat rivals and obtain superior sales returns. If competition based on price induces firms to sell products at lower prices, the products should become more affordable to customers, leading to higher sales returns. Competition based on quality also may force firms to improve their innovation and manufacturing capabilities and thus enable them to produce better quality products.

3.2.2 Social embeddedness between firms in a cluster

The literature review showed that social embeddedness of enterprises in communities and the sociocultural ties that facilitate trust and reciprocal relationships help firms reduce risk. I agree with this concept of social embeddedness and apply the same concept to explain it herein.

I primarily focus on the relational dimension of social embeddedness, which involves characteristics such as friendships, reciprocal relationships, and trust that people develop with one another. There are three main reasons for this focus. First, the relational approach is an important starting point for understanding the influences of network structures on economic behavior and aims to explore informal mechanisms of interdependencies among clustered firms. That is, it focuses on the behavior of the exchange parties, in terms of their trust and information sharing.

Second, the relational approach can reveal whether multiple linkages in a cluster are affected by the deliberate interfirm cooperative arrangements that influence the behavior of firms. Social ties between local people may provide a basis for trust in interfirm linkages within a cluster.
Third, the structural dimensions of social embeddedness, or size and density, are inherent to an analysis of relational embeddedness that includes trust and reciprocal relationships. The more the members of a cluster trust one another, the denser their social ties will be. Reciprocal relationships also indicate a dense social network.

Therefore, I define social embeddedness as a situation in which interfirm relationships are influenced by the role of trust and reciprocal relationships. Social embeddedness among firms within a cluster creates economic opportunities for three reasons. First, it increases expectations that a firm’s exchanges will be reciprocated. Second, it reduces the complexity of risk of individual firms. Third, it links local people in multiple ways (e.g., business partners, friends, neighbors, supervisors) and provides a means by which resources from one relationship can be engaged in another. In summary, social embeddedness in interfirm relationships improves the ability of each partner to adapt its actions to those of its interdependent partners. It also discourages free-riding and supports mutual trust, due to evolving social norms and procedures guiding collective action.

A. Trust

As explained in Chapter 2, I distinguish interpersonal and interorganizational trust. Interpersonal trust is important in this study because in a clustered business community, most members live in the same location that they have their business. The role of interpersonal trust also is important when the interconnections among economic behavior and social life are clearly visible in the societal norms and values that guide behavior and beliefs about social life. Trust affects people’s personal lives when they are part of a community that lives together in the same neighborhood; it stimulates participating firms to establish mutual commitments to achieve better results in personal life. In an embedded community, trust allows people to manage the uncertainty or risk associated with their interactions, so they can jointly optimize the gains that result from cooperative behavior. This situation may reduce transaction costs and thus result in cost advantages. Cost advantages in turn may stimulate firms to improve their new product development and other production capabilities to earn better returns.

This study defines interpersonal trust as that which occurs in personal relationships when someone trusts that the other will not lie but instead will generally do what he or she promised. Interpersonal trust thus entails the trust among a community of people in a cluster who interact in their daily lives. Accordingly, the pertinent questionnaire items and interview questions attempt to determine if the respondents trust their partners as friends because they generally do not lie and do what they promise.

In addition, this study notes the role of trust in facilitating coordinated activities between firms, or interorganizational trust. An analysis of interactions
between firms within a cluster reveals the importance of interorganizational trust. I define three kinds of interorganizational trust: expectations (the 1st kind), the other party’s capability (the 2nd kind), and the other’s party proof (the 3rd kind). Trust emerges through a process whereby one party considers the costs and/or rewards that would result if the other party cooperated or cheated in their relationship, similar to the concept of trust in transaction cost economics (TCE). One party trusts another based on a prediction or expectation about that other actor’s future behavior (the 1st kind). For this dimension, the questionnaire and the interviews asked respondents whether they trusted their partners because they would keep mutual cooperation in the future.

The other dimensions of interorganizational trust mirror the concept of trust in social exchange literature: based on capability (the 2nd kind) and proof source (the 3rd kind). Social exchange literature suggests that trust is based on the capabilities of another party, such that it results from an assessment of the ability of others to meet obligations and expectations. For this dimension, the question items involve whether the respondents trust their partners because they can accomplish assignments or orders.

In addition, trust can be transferred from a trusted “proof source” to another individual or group with which the firms have little or no direct experience. In dealing with other people, an actor should be cautious until it obtains evidence from past experience that the new potential partner is trustworthy. To initiate this cooperation, one firm might perceive and learn from the experience of neighbors and then copy their behavior. The question in the questionnaire and interviews related to whether the respondents trust their partners because they have shown reliable cooperation with other partners in the cluster in their past experience.

Thus, in this study, interorganizational trust encompasses expectation, capability, party proof. Trust based on capability and party proof gives exchange partners confidence in the outcomes of mutual cooperation. Partners in relational exchanges likely give each other the benefit of the doubt and allow greater leeway in mutual dealings. Such leeway tends to reduce the scope, intensity, and frequency of dysfunctional conflict. Moreover, interorganizational trust mitigates information asymmetries inherent in interfirm exchanges by allowing more open and honest information sharing. Each exchange partner is more flexible because of its expectation that the other exchange partner can be trusted.

B. Reciprocal relationships

Also as discussed in Chapter 2, this study applies the concept of reciprocal relationships in social ties. A network is reciprocal if as much support is received as is given. Individual firms benefit from their network if they receive more support (in any form) than they give; they suffer if they give more support than they receive. I thus distinguish between relationships that are to the
respondent firm’s advantage (more support received than given), reciprocal relationships (same amount of support received and given), and relationships to the respondent firm’s disadvantage (more support given than received).

With regard to the norm of reciprocal relationships, Indonesia exhibits a culturally defined tendency to value reciprocal above nonreciprocal relationships. To include both participants in dyads, questions therefore should ask both parties what they give and receive, or else ask one about what it gives and receives and what the other participant gives and receives.

The role of reciprocal relationships consists of two levels: cluster and firm. They differ in terms of the information available in the various relationships. Relationships in this study should be reciprocated in an unspecified manner at some unspecified time in the future. This concept differs from reciprocal relationships in a market exchange, as discussed in Chapter 2, which explicitly pertains to money. In a sales contract for example, the buyer reciprocates by giving the seller money.

Reciprocal relationships at the cluster level indicate whether specific support from the cluster goes to one or more cluster members and is received from the cluster’s other members. In the questionnaire, the respondents evaluated their participation in the cluster. The analysis of reciprocal relationships at the firm level depends on how the cluster members value their relationships with other firms, that is, beneficial, reciprocal, or not beneficial relationships. Accordingly, the question items asked “Are your relationships with other firms over-benefiting or reciprocal or under-benefiting relations?” and “Are your relationships with business organizations within clusters over-benefiting or reciprocal or under-benefiting relations?”

Hence, reciprocal relationships exist when a participating firm receives as much as it gives. Without reciprocal relationships, social embeddedness may not affect the way local people develop firms and stimulate the cluster. Reciprocal interdependencies create a comfortable and effective business environment, such that local people feel satisfied with the advantages of their collaborations with other firms and the cluster. The members of local associations receive benefits from their collective actions if those actions solve common business problems. Intensive interactions in local associations should increase the internal harmonization of conflicts and produce an array of norms and social processes that help preserve interfirm relationships. This situation creates an effective local business environment that enables firms to pursue better performance.

3.2.3 Unwanted actions in interfirm relationships in a cluster

Although the focus of this study is on the simultaneity of market and social ties, there might be negative effects of the combination of market and embedded ties. These negative effects include unwanted actions, such as opportunistic behavior, free-riding, and isolated behavior. Opportunistic
behavior may hinder firm performance, because it increases transaction costs, primarily due to information manipulations before, during, or at the end of a transaction. The more lopsided the relations between parties, the greater the benefit (cost) that the less substitutable (more dependent) party enjoy (suffers) from opportunistic behaviors. The existence of free riders also likely discourages other parties from exhibiting innovative behavior that will just be imitated by the free riders within the cluster. Inward-looking behavior also may constrain business activity in a cluster, because no information is available about changes in production technology, markets, or external business environments.

A. Opportunism

As noted in Chapter 2, one of TCE’s primary contributions is its thesis about the existence of opportunism among transaction partners. The foreseeable length of economic relations has an important influence on opportunistic behavior. Because firms have a limited capacity to collect, store, and process information, and these processes all incur costs, exposure to opportunism is high for the firms in this study.

I define opportunistic behavior as that conducted by one party to take advantage of its relationships with other parties, based on a self-profit orientation and a disregard for the suffering of others. The questionnaire explored such behavior by asking whether firms in the cluster take advantage of interfirm relationships while seeking business profits, regardless of the other parties’ losses.

B. Free-riding

In line with the arguments in Chapter 2, free-riding behavior occurs when social embeddedness between firms exists and allows one firm to copy others’ innovations, without contributing anything to the innovation processes. In the questionnaire, the respondents indicated whether some firms in their cluster imitated product designs without contributing anything to the product development process.

In a cluster, free-riding often prevails obviously in the context of product innovation or new production methods (see chapter 2). Competition among the firms at the various stages of production ensures that there will always be some actors willing to try to manufacture a new product or use a new technique. When they are successful, other firms will try to copy their innovations. Some firms benefit from a situation in which the close relationships among participating firms enable them to copy product designs other parties create to improve their business profits.

C. Inward-looking behaviors
Again referring to prior literature from Chapter 2, this study defines inward-looking behavior as those behaviors that do not encourage participant firms to contact external environments, such as government or nongovernment institutions. Respondents thus indicated whether they had any contacts with government or nongovernment institutions.

Embeddedness among participant firms may help companies feel more secure and comfortable living and doing business together within a cluster. They believe they can obtain everything they need within the cluster, including information about new machines, new ways of production, new product models, and business activities. Local business associations or other informal business groups likely provide facilities for innovation, as well as new information about market opportunities. In addition, relationships with neighboring firms reveal new market demands and induce the firm to improve products. As a result, firms are less interested in making contact with external institutions.

3.3 The Role of Actors

In line with the arguments in Chapter 2, actors are persons acknowledged by local people as influential persons who determine the code of conduct for organizations and manage collective actions through decision-making process to achieve the main purpose of the business organizations within the cluster. They are not necessarily formal leaders of organizations but rather mainstream the decision-making process in local business associations. The members of the association therefore acknowledge their role in organizing and making important decisions in associations.

For this study, local business associations represent economic institutions in which some actors play a significant role and coordinate interfirm relationships and collective actions. Local actors use the local business association as a forum for making changes related with the development of a cluster and its firms. Thus, the presence of actors in local business associations determines a cluster’s dynamic. Local business associations can support members with a range of market-complementing and -enhancing functions, such as horizontal coordination among producers, vertical coordination of upstream and downstream linkages, setting and enforcing product standards, and providing information or technical training.

Therefore, in this study, a local business association is defined as the medium through which participant firms coordinate to undertake collective actions with respect to the development of firm’s business, as well as the cluster. In so doing, some actors adopt a significant role in decision-making processes. The associations can be either formal or informal, as long as they have been effective for at least several years.

I take seriously the idea that an “actor” is a historical, ongoing social construction. Therefore, actors should be acknowledged as leaders by the people who live near them and the organizations in a cluster. The success of a
cluster also depends on how local actors coordinate the cluster’s community; they take a lead role in identifying cluster issues and developing a successful strategy. Therefore, actors differ from agents. I focus on the leadership types of actors in pluralistic and dynamic organizations, such as local business associations in a cluster. Therefore, this study applies the concept of leadership to assess the way local actors behave and organizes the cluster through local business associations.

Specifically, the leadership types of actors reflect the different facets of strategic leadership in Chapter 2, namely, collective influential actors, rule-making actors, and open perspective actors. The first type is a function of a group of actors rather than an individual characterized by personal traits or a function of a bureaucratic system. The group mainstreams the decision-making process in a cluster to pursue collective objectives. Therefore, a group of actors, from the amongst local population, is indispensable in a cluster that consists of many local producers who belong to different functional and technical subgroups or organizational units and operate at different levels, which grants them different forms of authority. This study therefore focuses on settings in which the structural demands for collective local actors are very strong and includes collective local actors from various levels of the cluster organization.

The second type of leadership pertains to rule-making actors who define rules (for themselves, the group, and/or the organization) and allocate task responsibility and resources to accomplish personally identified goals. This study focuses primarily on what actors do to mobilize others in a system of interrelationships rather than on what they are. I explore the tactics actors use to influence the course of events, as well as the types of organizational actions they promote. This function differs from rule-taking leaders, who only adopt predefined rules or assume rules that reflect task requirements, guided by the bureaucracy or larger social system. During association meetings, to measure this type, I asked members to identify a range of decisions, influenced by collective actors, about the rules of the game (code of conduct) in interfirm relationships within the cluster. Rule-makers may have arranged the ways members of the associations perform concerted actions or coordinated interfirm relationships for the sake of collective achievement.

Finally, the third type of leadership includes open-perspective actors who are open to cooperation with external institutions. They mediate for participating firms in collective bargains with external institutions and promote the development of a cluster. They are sensitive to the possibility of dynamic growth, enhance network linkages across local borders, and incorporate external events and energies into the local learning process. During the meeting of the associations, I asked members whether local actors whom they identified were concerned about developing networks with public or private institutions outside a cluster or helped establish collaborations with institutions for the sake of the collective interests.
It is relevant to assess how leading local economic actors behave, develop a cluster, and organize firms in local business institutions within a cluster. The leadership types explain the role and influence of local actors on the decision-making processes, as well as the alignment of the local business organizations in a cluster community.

3.4 Firm Performance

Theories on the measurement of firm performance suggest two kinds (see Chapter 2): financial and operational. Financial performance refers to growth in sales, profitability (e.g., return on investment, return on sales, return on equity), or earnings per share, whereas operational performance indicates market share, new product introduction quality, marketing effectiveness, manufacturing value additions, and other measures of technological efficiency.

The resource-based view also identifies three key forms of performance for small and medium-sized enterprises that depend on the capability to which they relate principally. Specifically, new product development performance comprises technological and managerial performance; manufacturing performance consists of quality, dependability, and cost; and marketing performance refers to brand awareness, brand reputation, and customer loyalty.

Similarly, this study defines firm performance according to the results of the firm’s ability to develop new products and processes, produce and deliver lower price and high quality products to customer, sell products effectively and efficiently, and achieve superior returns. Therefore, the definition of firm performance covers financial, new product development, manufacturing, and marketing performance. This study includes financial performance because it reflects the fulfillment of the economic goals of a firm.

I define new product development performance as continuous improvements in the overall capability of the firm to generate innovations in the form of new production processes and products that meet market needs. Thus, innovation may be manifest in the improved quality of new products or new means of production. Manufacturing performance results from labor skills and specialization and represents the firm’s ability to produce and deliver products to customers. Finally, marketing performance comes from a company’s ability to market and sell its products effectively and efficiently.

3.5 The Complete Framework

As in Figure 3.1, the framework contains two important factors that may influence interfirm relationships: (1) the simultaneity of competition and social embeddedness among local people that constitutes the socioeconomic structure of a cluster (chapter 5) and (2) the role of influential actors through local business organizations within a cluster (chapter 7).

As duality theory suggests, structures and actors are interdependent elements in affecting an organization. In this study, structures consist of
socioeconomic factors that can influence the way participating firms interact in doing business within a cluster. Firms in a cluster compete intensely with rivals in the same business lines while simultaneously cooperating with other firms. The existence of competitors in the same local environment may force firms to become more innovative and stimulate them to increase their production efficiency, produce higher quality products, and sell at lower prices to ensure an effective marketing strategy. This situation may reduce the risks of the unwanted behaviors like free-riding and inward-looking behaviors.

At the same time, social embeddedness may influence the capability to innovate, such as by revealing new ideas and processes that enable the adaptation and streamlining of the operations of partner firms. In such embedded situations, the transfer of information may intensify and help firms understand others’ production methods, which makes decisions about the innovation process and production more efficient. Social ties also may result in joint problem-solving arrangements that increase the speed at which products get introduced in the market. In this situation, embeddedness prevents opportunistic behavior from becoming too destructive. Thus, as presented in chapter 6, simultaneity strengthens innovation capability, enhance manufacturing and marketing management, and improve sales returns.

Furthermore, the simultaneity of cooperative and competitive behaviors also can be accompanied by actors who influence the dynamics of interfirm relationships within a cluster. As explained in chapter 7, the role of actors in local business associations can be described by the three types of leadership, that is, (1) collective influential actors rather than an individual who has personal traits or charisma; (2) rule makers who arrange codes of conduct or the rules of the game for a firms’ coordination through business associations; and (3) open-minded actors who use open contacts or networks with external institutions to improve access to new information about market opportunities, product development, and production techniques.

The members of a cluster community acknowledge actors as the decision makers in local collective organizations who coordinate their collective interests and objectives. Local business associations are just one example of collective organizations but also are the most effective for coordination. In the local business associations, local actors make decisions to solve common problems and find better ways to achieve firm and cluster performance. By exploiting the functions of local business associations, actors set codes of conduct for organizations, mobilize collective interests, and develop their own firms and the cluster. Their efforts are supported by socioeconomic structures in the clusters. Code of conduct, joint action, and problem solving offer the main evidence of the interplay of influential actors and existing structures.

Therefore, socioeconomic structures and the role of actors join together to determine the dynamics of interfirm relationships within a cluster and result in the development of a cluster and participating local firms (Chapter 8). This
interplay may create an environment that induces firms to engage in continuous innovation, upgrade their productivity, and increase their competitiveness in the market. It is likely to influence not only the development but also the establishment of a cluster when local actors initiate new business opportunities in a local area by exploiting current resources. The initiative then would be supported by local structures that entail local embeddedness among the local people.

3.6 Conclusion

The framework of this study emphasizes the socioeconomic structures of interfirm relationships in a cluster and incorporates the role of local actors in crafting consensual decisions about the current and long-term strategies of a cluster through local business organizations. Using this framework as a basis, this study argues that a cluster is constituted by socioeconomic aspects and the place where local actors specify their goals, make decisions, and organize activities together. That is, the significant factor that triggers the dynamics of a cluster is how local actors assimilate local know-how, derived from their collective experience, through local business associations, together with the socioeconomic factors that influence the way local actors manage firms’ interactions. The results of these dynamics include improved firm performance and cluster development.