



An Exploration of the Antecedents and Impact of Imitative Behavior

Bau-Jung Chang

Department of International Business, National Taiwan University

8F, 50, Lane 144, Sec. 4, Keelung Rd., Taipei, Taiwan

E-mail: d93724009@ntu.edu.tw

Abstract

Diverse disciplines in management research have explained the imitative behavior of firms and the benefits of imitation in different angles, but the integrated framework and relevant research are limited. This paper proposed a conceptual framework to unravel the imitative behavior, including the antecedents of imitative behavior and the linkage with firm performance. Based on literatures of imitation, this paper proposed three perspectives, namely *competition-oriented*, *information-oriented* and *freerider-oriented* perspectives, to discuss the formation of imitative behavior. Furthermore, the absorptive capacity also played an important role when the firms observe and access relevant outside knowledge about the actions, and may impact the relationship between imitative behavior and performance. Finally, this paper developed several propositions and a conceptual framework to enrich our understanding on imitative behavior.

Keywords: Imitative behavior, Competition, Herding behavior, Absorptive capacity

1. Introduction

The question of “*Why do firms differ?*” has been discussed in strategic management filed at least two decades, and continuously became the focal point of management research (Rumelt, R., Schendel, D. E., & Teece, D. T. 1994). According to resource-based view (RBV), firms in the same industry perform different because firms differ in terms of the resources and capabilities they control (Barney, J. 1991; Wernerfelt, B. 1984). Therefore, firms are those with bundles of resources and capabilities and make them perform differently. This explanation regards the differences between firms as the *endogenous* factors, and ignores the interaction among firms in the competitive and quickly changing environment.

Afterward some scholars focus on the dynamic market process that initiated by Schumpeter (Schumpeter, J. 1934), and concern about the micro competitive behavior. They care about the competitive process which included actions and responses between firms. Since firms act within the context including group, industry, general environment, and social system, firms can not behave and make decisions without considering the actors beside them. This phenomenon, interactions of inter-firms, has been paid attention to and a number of research have concerned about. In the social science field, imitative behavior has been stressed by sociological, psychological, and economic theories. According to economic theories, such as resource-based view and approach of competitive position, firms are heterogeneous with distinctive resources and should seek unique market niche and position to obtain better performance and advantages. In reality, imitative behavior indeed exists, such as technological adoption, administrative fad or fashion, as well as foreign direct investment. However, little is known about the reasons why firms imitate each other and how does imitative behaviors generate.

In economics theory, firms' behavior should base on efficient consideration. Profits, performance, or competitive advantages are targets which firms' action and strategy seeking for. Firms imitate the other firms' action, obtain relevant information and knowledge through observing. In addition, how firms assimilate and transform outside knowledge into commercial ends depends on the learning mechanism and absorptive capacity. Therefore, the level of absorptive capacity of a focal firm conditions the success of exploiting and learning outside knowledge.

The purpose of this study is to unravel the imitative behavior including why firms imitate each other and how imitative behavior generates performance. This study starts off based on economic foundations, and proposes three perspectives, *competition-oriented*, *information-oriented* and *freerider-oriented*, to analyze the antecedents of imitative behavior. Furthermore, since learning mechanism and capacity of a firm determine how outside knowledge are assimilated, transformed and combined to successful outcomes, this paper reviews learning literature and stresses the importance of absorptive capacity. Besides, this paper discussed the imitative behavior through observation rather than any

cooperative interactions. In other words, there is no collude, alliance or cooperation relationships among firms.

2. Literature review

This paper first reviewed the literatures of antecedents of imitative behavior. On the second section, organizational learning theory and absorptive capacity are also illustrated as follows.

2.1 Antecedents of imitative behavior

Why do firms imitate each other? What are the reasons that firms' behavior tend to be convergent? This paper proposed three perspectives, namely competition-oriented, information-oriented, and freerider-oriented perspectives.

2.1.1 Competition-oriented perspective

Industrial organization economics is the main stream of business competitive strategies. In this stream of research, the scholars of Harvard school such as Bain, Mason, and the following significant researchers, Cave and Porter, emphasized on the relationship among structure –conduct–performance (Bain, J. S. 1956;Caves, R. E. & Porter, M. E. 1977;Mason, E. 1957). These researchers demonstrated that firms' behavior is influenced by industrial structure, such as the amount of buyers and sellers, and the entry barriers. Furthermore, the firms' conducts would change the original structure and relative positions amongs firms.

Because market structure determines the conducts of the firms, the focal firm concerns about its strategy relative to the competitors, and game-theoretical techniques provide an analytic modeling of the critical issue (Saloner, G. 1991; Schmalensee, R. 1988). Game-theoretical tool emphasizes on the imperfect competition rather than perfect competition, the firm's action must consider what rivals acted and what rivals may respond to the attacks.

Firms operate in the same industry, namely the same end product market, are direct competitors. Hence behavior of competitors is the reference when a firm undertakes a strategy and makes a decision. Competitive moves by one firm have visible effects on its competitors and thus may incite retaliation or counter the move (Porter, M. E. 1980). In Porter's point of view, firms are interdependence, and imitative behavior, reactions, and responses most likely occur in an oligopolistic market (Chen, M.-J. & Miller, D. 1994). When one firm acts, the other firms would act to respond due to maintenance of its market position.. Awareness of mutual interdependence increases the likelihood that a firm will respond to neutralize the effect of rival's moves and deter further attacks (Chen, M.-J. et al. 1994).

On the other hand, the geographic proximity of firms increases the opportunity for direct observation of competitors (Burt, R. S. 1987;Pascal, A. H. & McCall, J. J. 1980), thus may intensify local competition. Some researchers proposed the imitative behavior is induced by maintenance of relative competitive position of the firms. For example, bunching of foreign direct investment may also induced by competitive pressure.

In the close competitive relations, market shares reduction cause firms to fall below their status quo (Kahneman, D. & Tversky, A. 1979), risk-taking behavior and the likelihood of making changes thus increase (Greve, H. R. 1998). Firms generally respond to challenges in the market by making competitive counterattacks (Chen, M.-J. et al. 1994), and the behavior of the firms within an industry tends to be convergence.

2.1.2 Information-oriented perspective

Informational cascade is a stem of behavior theory explores situations when an economic decision maker acts depends on what it observed. An informational cascade occurs when a decision maker has observed the actions of those ahead of him and then follow the behavior of the preceding decision makers rather than his own information (Bikhchandani, S., Hirshleifer, D., & Welch, I. 1998;Bikhchandani, S., Hirshleifer, D., & Welch, I. 1992). The imitative behavior occurs by observing preceding actions, and herding behavior is taken place (Banerjee, A. V. 1992).

Bikhchandani, Hirshleifer and Welch (1992) elaborated that everyone doing what everyone else is doing, even when their private information suggests doing something quite different. The first decision maker behaves purely based on her prior belief, but the behavior reveals his private information to followers. As this revealed information accumulates, it is rational for followers to ignore their own information and mimic the decisions of others they observed (Banerjee, A. V. 1992). Informational cascades make behavior convergence since gathering information is costly. Through observing what actions have been undertaken when the decision maker faces similar decision problems is costless (Bikhchandani, S. et al. 1998).

According to the foregoing discussions, informational cascades imply some assumptions as follows. First of all, decision makers are rational in the model. Decision makers think the others act prior to them with some information that is important for him (Banerjee, A. V. 1992). Second, decision makers can observe and obtain *perfect information*. When decision maker faces similar decision problems, gathering all alternative information is costly. Therefore, observing the others' actions and follow them is an efficient strategy. Third, decision makers confront *uncertain environment*. Informational cascades occur more easily when decision makers are quite uncertain whether the correctness of his judgment (Deutsch, M. & Gerard, H. B. 1955) and the previous failure in a task (Thelen, M. H., Dloinger, S. J., & Kirkland, K. D. 1979).

In the cascade, previous-actions observable (PAO) regime is more important than previous-signals observable (PSO) regime (Bikhchandani, S. et al. 1992). Since “*actions speak louder than words*”, firms obtain the relevant information by observing the actions. Therefore, a cascade starts by PAO would lead greater uniformity of behavior. On the other hand, since PSO joins the common pool of knowledge, a long enough series of opposing signals will eventually make decision makers’ behavior switch (Bikhchandani, S. et al. 1992).

One important point of informational cascades is that decision makers do not concern about the amount of information. Instead, they care about the sequence of information receiving. In the informational cascade model, the order is exogenous and the level of precision differs between decision makers. It is plausible that the highest-precision individual will act first, and a low-precision decision maker will imitate a higher-precision predecessor. Decision makers differ not only by their position in the queue, but also by the signal they privately observe.

Several attributes of informational cascades should be noted. First, the convergence of behavior is fragile. Since informational cascades are triggered by a small amount of original information, they can be reversed by a little information. Therefore, the fads and convergence of behavior are volatile. Second, the information cascades might be wrong. Decision makers observed what prior decision makers’ doing without their own private information, once the prior decision makers make wrong decision, the conformity of behavior may not increase the benefit of all actors.

2.1.3 Freerider-oriented perspective

In micro-level analysis, all of the individual members of a given group can benefit from the efforts of each member and all can benefit substantially from collective action. This externality, or external effect, occurs because the characteristics of “public goods”.

The diffusion (Rogers, E. M. 1995) or spillover of innovation (Spence, M. 1984) may erode the profits the early adopters own, the adopters establish the protection mechanism, such as patents, to avoid the “free-rider problem”. However, late comers could observe the outcome or performance of early actors and decide whether to adopt, and obtain the “free-rider effects”. These implications of free-rider effects can be observed in the form of information spillover in R&D (Spence, M. 1984), productivity improvements (Ghemawat, P. & Spence, M. 1985), or the diffusion of administrative technologies (Abrahamson, E. 1991).

The diffusion of innovation literature explored the process and the contextual factors of innovations’ rates of diffusion. Rogers (1995) defines diffusion as the process by which an innovation is communicated through certain channels over time among the members of a social system. According to his definition, diffusion must include four parts: innovation, communication channels, time, and social system. Therefore, the diffusion occurs within society and may spread through all social actors.

The second literature of free rider effect is the network externality (Katz, M. L. & Shapiro, C. 1986;Katz, M. L. & Shapiro, C. 1985). The perceived value and utility of a user is increased by the amount of the agents consuming the product (Katz, M. L. et al. 1986;Katz, M. L. et al. 1985). The more the amount of consumers derives the higher the utility of the user. As the higher perceived value or utility increases, users transmit the positive feedback to the network. Thereafter, this feedback induces firms to follow the technological standard, produce more standard products, and generate the network externality (Katz, M. L. et al. 1986;Katz, M. L. et al. 1985). The positive payoff externalities make late comers enjoy the free-rider effects, and follow the actions since the formers obtain outstanding outcome and better performance.

Although the formers can protect the benefits from the other through technological ownership plan or patents, the technological spillovers and the unveiled outcomes can also make firms imitation and adoption. Because imitation cost are lower than innovation costs in most of cases (Lieberman, M. B. & Montgomery, D. B. 1988), and “follow the leader” can minimize risk as well (Knickerbocker, F. T. 1973), firms would tend to observe the superior and outstanding performance and imitate them. The ability of perception and copy fruitful products or practices effectively from the others is the source of the second-mover advantage (Teece, D. J. 1986).

Lastly, this paper compared three perspectives by the assumptions, the contents of imitation, and the objectives of imitation to improve the understanding of imitative behavior.

(Insert Table 1 here)

2.2 Organizational Learning Theory

Organizational learning theory has become an important literature in management research. Organizational learning is routines-based, history-dependent, and target-oriented (Levitt, B. & March, J. G. 1988). Organizations can learn from direct experience through trial-and-error experimentation and organizational search, or learn from the experience of others (Levitt, B. et al. 1988). Furthermore, organizational routines are repeatedly invoked and socially constructed programs of action that embody the knowledge, capabilities, belief, values, and memory of the organization and its decision makers (Nelson, R. R. & Winter, S. G. 1982). Choice and actions encoded in routines are more likely to be attended to and accepted by organizational members and decision makers.

Learning has been distinguished in terms of dichotomous typologies, such as lower-level learning versus higher-level learning (Fiol, C. M. & Lyles, M. A. 1985), double-loop learning versus single-loop learning (Argyris, C. & Schon, D. 1978), and exploitation learning versus conceptual learning (Kim, D. 1993). To enrich the understanding of organizational learning, Huber (1991) proposed four constructs, knowledge acquisition, information distribution, information interpretation, and organizational memory, and linked the constructs with organizational learning. In addition, the learning process carried out by the processing of information of a focal firm, and may cause behavior to change (Huber, G. P. 1991). The key of organizational learning theory is to discover how information and knowledge are transformed and shared within a firm, and how behavior changed through learning process.

Prior research has suggested that organization not only hold specialized knowledge but also have the opportunity to learn from other units (Huber, G. P. 1991; Levitt, B. et al. 1988). A firm may intend to obtain knowledge from the other firms, but may fail to do so. Even though the knowledge and information is available, the organization may fail to catch the knowledge as a result of lower absorptive capacity (Tsai, W. P. 2001).

The ability of a firm to recognize the value of outside sources of knowledge, assimilate and apply knowledge to commercial ends is a critical determinant of the success of organizational learning. The abilities collectively constitute what we called a firm's "absorptive capacity" (Cohen, W. M. & Levinthal, D. A. 1990). Afterward Zahra and George (2002) reviewed relevant literatures and reconceptualized absorptive capacity for four dimensions: acquisition, assimilation, transformation, and exploitation (Zahra, S. A. & George, G. 2002). In the framework, the dynamic learning process contains assimilating external information and knowledge, transmitting and combining existing internal knowledge, and creating performances and advantages. Nonaka and Takeuchi (1995) illustrated organizational learning is the process of knowledge creation. The process covers socialization, externalization, combination, and internalization, and then generates the spiral of knowledge (Nonaka, I. & Takeuchi, H. 1995).

The ability of a firm absorbs and learns determined by the characteristics of knowledge and structures of organization. In a young or new organization, knowledge structures are simple, thus the outside knowledge is easily to assimilate and to embed in organizational routines. On the other hand, the parent firms play an important role for transferring knowledge in the international joint ventures (Lyles, M. A. & Salk, J. E. 1996). The communication system within a firm, such as organization structure or organizational forms, will influence knowledge sharing, transferring, and exploiting in an organization.

3. Conceptual framework and propositions

In this section, the paper proposed a conceptual framework of imitative behavior, including the antecedents of imitative behavior and the implication of imitation.

3.1 Antecedents of imitative behavior

The process of decision making in an uncertain environment involves a cycle of environmental scanning, interpretation, and learning (Daft, R. L. & Weick, K. E. 1984). Decision makers scan and observe environmental change, and exploit, learn or change the future actions. Based on the foregoing literature review, this paper proposed two constructs of the attributes of observing, *structure* and *target* constructs.

3.1.1 Attribute of Structure and Imitative Behavior

One firm is visible to its competitors may induce the other firms' retaliation and counter in a given industry (Porter, 1980). In the interdependent relations, imitative behavior, reactions, and responses are likely to occur in an oligopolistic market (Chen, M.-J. et al. 1994). Game-theoretical tool emphasizes on imperfect competition rather than perfect competition due to former shows the higher level of interdependence. Firm's actions are influenced by its rivals' actions, thus one firm would consider what its rivals' behavior and make respond. Awareness of mutual interdependence increases the likelihood that a firm responds to neutralize the effect of rival's moves and deter further attacks (Chen, M.-J. et al. 1994). Firms may imitate their rivals for fear of losing market position when undertaking strategies differ from the competitors.

Hence, the higher the concentration ratio represents the higher level of mutual interdependence. Once firms are aware with the higher level of mutual interdependence, the imitative behavior is likely to be induced. Thus:

Proposition 1: The greater the extent of concentration ratio in an industry, the higher the level of imitative behavior.

Location near each other makes observation and the transit of information easier (Greve, H. R. & Taylor, A. 2000). When competitors take actions nearby, the actions may threaten the established ranking of market position and reduce the market share that a focal firm already owned (Greve, H. R. et al. 2000). The reduction of market shares cause firms to fall below their status quo (Kahneman, D. et al. 1979), and induce firms to counter the challenges by undertaking the similar actions (Chen, M.-J. et al. 1994). Besides, the geographic proximity of firms enhances direct observation of competitors (Burt, R. S. 1987; Pascal, A. H. et al. 1980), thus the level of proximity may intensify local competition.

According to informational cascades perspective, On the other hand, decision maker observes decision-making of prior

maker and follows the information rather than its private one (Bikhchandani, S. et al. 1992). As the actor is nearby, the late comer can easily observe and obtain the prior information in facing the similar problems. The situation also occurs in the spillover or diffusions. The actions and outcome can be observed and diffused quickly in the neighborhood. Thus:

Proposition 2: The greater the extent of proximity of actors, the higher the level of imitative behavior.

3.1.2 Attribute of Imitatee and Imitative Behavior

When the actor is large or successful, the threat becomes salient (Greve, H. R. et al. 2000). Prior movers with high domestic shares will be more likely to elicit fast competitive responses (Chen, M.-J. et al. 1994).

In the herding behavior, a low-precision decision maker will imitate a higher-precision predecessor because of uncertainty and previous failure in a task (Bikhchandani, S. et al. 1992; Deutsch, M. et al. 1955; Thelen, M. H. et al. 1979). Therefore, the reputation and high-status of large firms could be viewed as appropriate reference point in an uncertain environment.

In the literature of spillovers, diffusions and externalities, successful and large firms are regarded as a signal of the prior actions. Rogers (1995) proposed that high-status opinion leaders will have special influence because the others want to be affiliated with their status. Organizations may seek to acquire status by imitating higher-status organizations and those are usually large and successful firms (Fombrun, C. & Shanley, M. 1990). Hence:

Proposition 3: The greater the market shares of prior actors, the higher the level of imitative behavior that late comer will undertake.

The more visible a threat, the more likely that it would be detected and responded to (Kiesler, S. & Sproull, L. 1982). If actions of rivals are vague and unobvious, firms may ignore and reduce the probability of response (Chen, M.-J. et al. 1994). The more visible the actions, the late comers can easily observe and perceive the existing threat, and more likely to take actions.

On the other hand, perspective of informational cascades illustrate that follow the previous-actions rather than the signals since information conveyed by actions (Bikhchandani, S. et al. 1992). Firms can obtain the information of the similar decision and learn by observing. Once the actions of prior decision maker are obvious, the firms can easily observe the actions with less cost, and the conformity of behavior occurs.

In addition, researchers of diffusion also proposed when innovation is observability, late mover is likely to adopting (Rogers, E. M. 1995). The firms observe and imitate the actions which prior adopter or actor has superior outcome in the search process. The visibility of actions makes firms perceive the existence of benefits and also make them clarify the detailed actions to minimize risk. Thus:

Proposition 4: The greater the extent of visibility of actions that prior actors operate, the higher the level of imitative behavior that late comer will undertake.

3.1.3 Relationship between imitative behavior and performance

The sources of competitive advantage of a firm can be stated in two parts: one is exploitation of particularly favorable combinations of initial conditions and positions to match their environment, and the other one is erosion of these rent as competitors catch up by imitating the successful strategies of market leaders (Cockburn, I., Henderson, R., & Stern, C. 2000). Therefore, firms can obtain competitive advantages through imitating successful and leader firms (Cockburn, I. et al. 2000).

The entry timing of firms has been discussed in the prior research. Late mover or late entrants can observe the actions and strategies of early movers, and imitate those outcomes or more success. This condition facilitates late mover advantages (Shankar V., Carpenter, G., & Krishnamurthi, L. 1998), and thus make imitators obtain superior performance. Hence:

Proposition 5: The greater the extent of imitative behavior that a focal firm adopts, the higher the level of organizational performance.

Although imitation may cause firms to obtain abnormal performance and competitive advantage, absorptive capacity of a firm is likely to moderate the impact of imitative behavior on performance. Although observing other firms' actions provides important access to new knowledge and information and inducing a firm to imitate the other firms, its impact on firm's performance may rely on the extent of the firm absorbs such new knowledge. A firm may be able to observe and access relevant information about the actions, but may fail to enhance its performance if the focal firm without capacity to absorb. Organizations must have absorptive capacity to assimilate new knowledge and generate better off outputs (Tsai, W. P. 2001). Without such capacity, firms can not learn or transfer knowledge from outside to inside.

Once firms have superior absorptive capacity, the outside knowledge can be assimilated and transformed well, and easily combined it with existing knowledge and obtain better performance. In the contrast, if firms cannot assimilate and transmit outside knowledge into the organization, firms may only perform similar strategy rather than create

commercial ends and gain abnormal returns. Hence,

Proposition 6: The imitative behavior of a focal firm is positively related to organizational performance when a firm has higher level of absorptive capacity.

Cohen and Levinthal (1990) suggested organizational absorptive capacity not only depends on the organization's direct interface with the external environment, but also depends on transfers of knowledge across and within subunits. The sharing and transmitting mechanisms are critical for organizational learning. A number of researchers have proposed the sources of absorptive capacity, such as structure of communication system, the character and distribution of expertise (Cohen, W. M. et al. 1990), organization forms, and combinative capabilities (Van den Bosch, F., Volberda, H. W., & de Boer, M. 1999). Based on the arguments, this paper proposed two constructs of absorptive capacity: diversity of knowledge and complexity of organizational structure.

According to perspectives of organizational learning and absorptive capacity, characteristic of knowledge and communication system of a firm influence the firm to assimilate outside knowledge, transmit and create new application to commercial ends. The knowledge structure affects knowledge sharing and communication since the relevant backgrounds induce the actors sharing language and symbols (Allen, T. J. & Cohen, S. D. 1969; Cohen, W. M. et al. 1990). If all actors in the organization share the same specialized language and symbols, they will increase the effects of communication with each other (Cohen, W. M. et al. 1990).

While overlap of knowledge among individuals is necessary for internal communication, there are some benefits induced by diversity of knowledge (Cohen, W. M. et al. 1990). Diverse knowledge structures coexisting in the same mind elicit the sort of learning and problem solving which facilitate innovation (Simin, H. A. 1985). The less diverse knowledge can ensure sufficient communication among individuals, however, high diverse knowledge may facilitate new link among them and yield new creation and innovation. As a result, firms should balance the tension of the forces in order to facilitate higher absorptive capacity. Therefore:

Proposition 6a: Absorptive capacity will influence the relationship between imitative behavior and performance through diversity of knowledge. The moderate level of diversity of knowledge will increase the influence of imitative behavior on performance.

A number of researchers proposed that the communication system, organization forms, or organizational structure will influence the transmitting of information and knowledge (Cohen, W. M. et al. 1990; Galbraith, J. R. 1977; Tushman, M. L. & Nadler, D. A. 1978; Van den Bosch, F. et al. 1999). The structure of an organization will become the major influence on the absorptive capacity and learning mechanism. When structural complexity increases, the probability that the information and knowledge being transmitted will be distorted or blocked totally (Galbraith, J. R. 1977).

A flexible organizational structure and approach to management is thought to be associated with higher capacities for knowledge acquisition (Dodgson, M. 1993; Lyles, M. A. et al. 1996), and make outside knowledge can transfer inside easily. Organizational flexibility promotes absorptive capacity and the knowledge transfer process by encouraging greater receptivity of organizational members to new stimuli from the outside, and enhances sharing and exchanging of information within the organization.

For example, a field salesperson who has learned about a competitor's move from a customer may inform the area sales manager, who may modify, delay, or block the transmission of this information to the next level of the organization, and so on (Smith, K. G., Grimm, C. M., Gannon, M. J., & Chen, M. J. 1991). Even if the information finally reaches the relevant decision maker, it may be too distorted to be useful. This problem of information processing could be also occurred in the knowledge sharing and transferring, thus may not only cause the communication system inefficient, but also make absorptive capacity of organization reduced. Thus:

Proposition 6b: Absorptive capacity will influence the relationship between imitative behavior and performance through structural complexity. The higher level of structural complexity will reduce the influence of imitative behavior on performance.

The conceptual framework and propositions are presented in figure 1.

(Insert Figure 1 here)

4. Conclusions and future research

This paper is to unravel the process of imitation, which includes why firms imitate each other and how imitative behavior generates performance. This paper illustrates the antecedents of imitative behavior based on economic foundations, and proposed competition-oriented, information-oriented and freerider-oriented perspectives of imitative behavior. Furthermore, this paper proposed absorptive capacity would moderate the influence of imitative behavior on performance based on diversity of knowledge and structural complexity.

First of all, this paper contributes to the literatures of imitative behavior, and proposes a conceptual framework to promote the understanding of imitation in the management research. Second, this paper make linkage of imitative

behavior and performance which less paid attention to in the prior research.

In addition, this paper suggests future research to explore the relationships by diverse case studies in the first. Through detailed case studies, the research can define specific variables and develop operational definitions and measurable indicators of these variables to undertake empirical test.

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Table 1. Integration of competition-oriented, information-oriented, and freerider-oriented perspectives toward the antecedents of imitative behavior

Theoretical perspective	Assumptions	Contents and actions			Objective of imitation
		(Who) Imitatee	(What) Target	(Action) Method	
Competition-oriented	<ul style="list-style-type: none"> Bounded rationality Uncertainty Maximization of shareholders wealth 	Close competitors	Decisions which may erode the profit or change the relative position	<ul style="list-style-type: none"> Observing Guessing 	Indirect profits (Stabilize relative positions)
Information-oriented	<ul style="list-style-type: none"> Rational Perfect information Uncertainty Risk Aversion 	Prior decision maker	As facing similar decision problems	Observing	Indirect profits (Reduce costs of gathering information on decision-making)
Freerider-oriented	<ul style="list-style-type: none"> Imperfect information Uncertainty Risk aversion 	Firms who are success or has superior outcome	<ul style="list-style-type: none"> Public information Actions or decisions which can obtain superior outcome 	Observing	Direct profits (Obtain notable outcome)

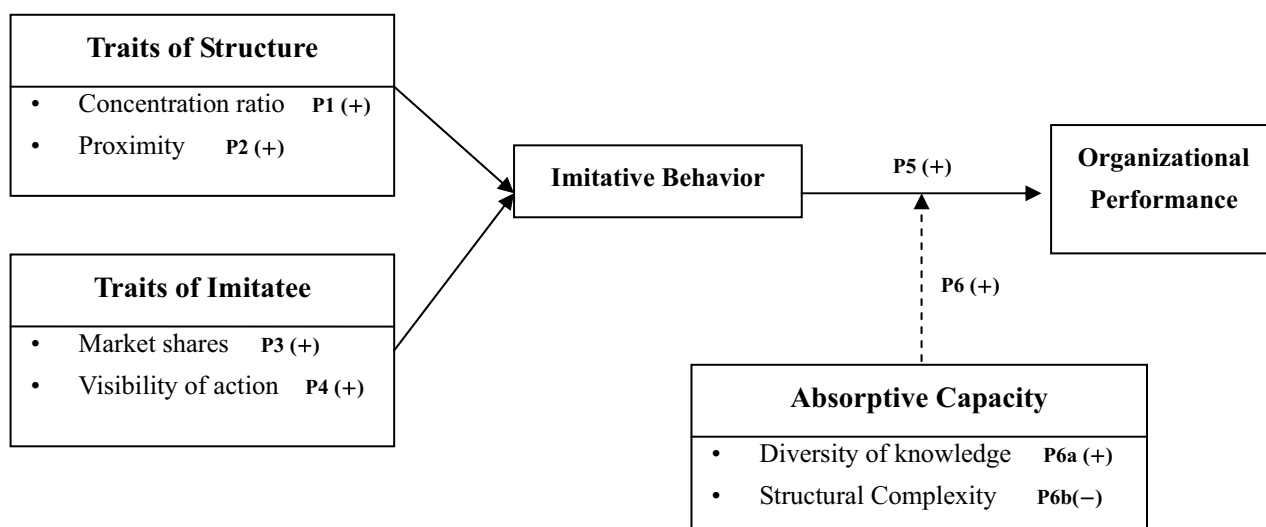


Figure 1. Conceptual framework