

The Dynamics of Institutions, Resources and Capabilities, and Firm Strategies

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ABSTRACT

This article is concerned with strategic challenges facing firms in the economy that has experienced a dramatic shift in its institutional environment. As a research setting, this article chose Korea since Korea has experienced significant changes in its institutional context for the last decade. This article suggests that the effectiveness of a firm's strategy depends on how effective the strategy is in building resources and capabilities (R&Cs) that are critically important to its businesses, which are in turn determined by the institutional context. Therefore, the institutional context determines the effectiveness of a particular strategy by specifying the types of R&Cs.

This article provides evidence that prior to the late-1980s, most strategies for building general R&Cs, such as government support, financial resources, managerial resources and capabilities to secure those resources, were highly effective. However, strategies for building more industry-specific R&Cs, such as technologies and marketing capabilities, were not so critical. This article also anticipated that due to the changes in the institutional context, strategies for developing the general R&Cs are not so crucial after the mid-1990s whereas strategies for developing the industry-specific R&Cs are. Contrary to what was initially predicted, however, the results of this article showed that strategies both for the general R&Cs and industry-specific R&Cs were effective after the mid-1990s. Some implications of this study are also discussed.

The question of why firms in a country follow different strategies than do firms in other countries has been one of the

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focal issues to institutional economists (e.g., Davis & North, 1971; North, 1981, 1990) as well as to researchers in the field of strategic management (e.g., Khanna & Palepu, 1997; Peng & Heath, 1996). This issue has been also attracting significant attention from both managers and policy makers in emerging markets, since firms in those markets currently face heightened pressure to adopt Western business practices, particularly Anglo-Saxon practices (Khanna & Palepu, 1997).

By integrating institutional arguments (Davis & North, 1971; North, 1981, 1990) and the resource-based view of the firm (Penrose, 1959; Wernerfelt, 1984), this article suggests that the effectiveness of a particular strategy depends on how effective the strategy is in building critically important resources and capabilities that are determined by the institutional context.. Therefore, the institutional context determines the effectiveness of strategies by specifying the types of resources and capabilities that are critically required in the given context.

As a research setting, this article selects Korea in the mid-1980s and mid-1990s for several reasons. First, the institutional settings of Korea have dramatically changed between the two periods. Prior to the late 1980s, the institutional settings of Korea revealed considerable differences from those of Western economies. Since the late 1980s, however, many of the institutional settings have drastically shifted toward more westernized ones while some of them still remain unchanged. Korea is thus an excellent research setting to examine the relationships between institutions and firm strategies, which may vary *through time as well as cross-sectionally* in different economies (North, 1990). Specifically, this article uses as a research setting Korea prior to the late 1980s, which provides an institutional context that is quite different from that of Western economies, to examine whether the appropriate strategies in the institutional context are different from those in Western economies. This article also explores whether those strategies are still valid in the vastly different institutional context of Korea in the late 1990s.

Second, Korea's phenomenal economic performance prior to the mid-1990s and the recent severe downturn of its performance have attracted considerable attention from scholars and managers worldwide to those factors that contributed to its

past success and recent crisis. By examining the fit between the institutional context and the dominant business practices prior to and after the late 1980s, this article attempts to explain the past success and current crisis by Korean firms.

Based on the brief overview of the relevant theories, this article first constructs its theoretical framework. By applying the framework to Korean settings, this article then develops specific hypotheses about the relationships between institutions and appropriate strategies in Korea. Specifically, this paper explores the following three questions. First, why were dominant strategies by Korean firms so successful in the institutional context prior to the late 1980s, a period characterized by strong government and imperfect capital and labor markets? Second, are the strategies still effective in the new, changing institutional context? Finally, what are the strategic challenges facing Korean firms in the changing institutional context? To test the hypotheses, this article uses a sample of 279 firms in 1986 and 583 firms in 1996 that were listed on the Korean Stock Exchange. The conclusion section discusses the implications of this study and suggests future research directions.

THEORETICAL FRAMEWORK

As a model of how firms compete, which is unique to the field of strategic management, the resource-based view places high emphasis on the role of a firm's resources and capabilities (R&Cs)¹⁾ as the principle basis for strategy and the primary determinants of firm success. The resource-based view perceives a firm as a unique bundle of heterogeneous R&Cs. These R&Cs are the basis upon which the firm's competitive advantage is built. Whereas many researchers in the resource-based view have paid attention to strategies for exploiting existing R&Cs, others stress the importance of strategies for developing new R&Cs (Dierickx & Cool, 1989; Penrose, 1959; Teece, 1980; Wernerfelt, 1984). Firm strategies are thus a dynamic process

1) Whereas "resources" refer to transferable input factors controlled by the firm, that are converted into outputs (Amit & Schoemaker, 1990), "capabilities" indicate a firm's capacity for undertaking a particular activity, which is formed as the cooperation of teams of resources (Grant, 1995).

both of utilizing existing R&Cs and of developing new ones (Teece, Pisano, & Shuen, 1997). In the resource-based view, the effectiveness of firm strategies depends on how successfully strategies build and utilize R&Cs that are valuable and difficult-to-imitate by competitors (Wernerfelt, 1984).

Whereas institutional theory has its roots in sociology (DiMaggio & Powell, 1983; Meyer & Rowan, 1977; Powell, 1988 & 1991) as well as in economics (Scott, 1987 & 1992; North, 1990), both approaches to institutionalism are complementary to each other (Scott & Meyer, 1991; Peng & Heath, 1996). North (1990), representing an institutional perspective from economics, argues that institutions set the rules of the game in a society, which regulate the interactions of individual players, both individuals and organizations (e.g., firms). Institutions affect the actions of organizations by determining and signaling which actions by those organizations are acceptable and supportable within a given institutional context (Aldrich & Fiol, 1994; Hillman & Keim, 1995). By doing so, institutions provide the rules of the game in which organizations act and compete (North, 1990; Peng & Heath, 1996). As the humanly devised constraints that shape the interactions of players, these rules include both formal and informal constraints. Formal constraints include legal, political and economic rules and contracts that human beings devise. Informal constraints include conventions and codes of behavior, which are embedded in the culture and ideology. As the rules of the game, the formal and informal constraints together define the way the game is played. The objective of a firm, as a player of the game, is to win the game within the set of rules.

This article proposes that institutions determine and signal which actions or strategies are appropriate, in part, by specifying the types of R&Cs that are valuable and difficult-to-imitate by competitors within a given institutional context. The resource-based view of the firm suggests firm strategies as the way of developing new R&Cs as well as of exploiting existing ones. The ways of building and exploiting one type of R&Cs are different from those of developing and exploiting other types of R&Cs. Since different institutional contexts require different types of R&Cs, firm strategies vary by the institutional context. Given the influence of the institutional context on a firm's

strategies, dominant strategies pursued by firms in emerging markets should differ from those in Western economies since the institutional contexts in both economies reveal considerable differences.

In the following section, this article describes the institutional context of Korea prior to the late 1980s, as one of emerging economies, and its business practices, together with the dramatic shifts in its institutional context and economic implications after the late 1980s.

INSTITUTIONAL CONTEXT IN KOREA: PRIOR TO AND AFTER THE LATE 1980S

Korea has been one of the most rapidly growing countries in the world over the last several decades. To achieve this phenomenal economic development, Korean firms, particularly Korean chaebols, have made a critical contribution. Global expansion by Korean firms was also impressive. Overseas, they pushed through Central Asia into Europe, the U.S., Latin America, Australia, and even Africa. They spent billions of dollars on new plants to crank out semiconductors, VCRs, and cars. Then the crisis hit. The Korean economy suddenly faced a severe downturn with a collapse in domestic asset markets, widespread bank failures, and bankruptcies of a number of firms, including large chaebols. Korean companies, burdened with \$600 billion in debt, have been being forced to scale back their empires. In recent dramatic declarations, top managers in many Korean firms say that they will focus on core businesses and sell off billions in assets to raise cash.

Why have Korean firms that seemed to be highly competitive become such miserable monsters? In order to understand this, one should first understand the institutional context surrounding Korean firms.

General Background

In 1910, Korea lost its independence for the first time in its history of over 5,000 years and was occupied by Japan until 1945. During the Japanese occupation, Koreans could not

actively participate in the process of economic development, and thus, had little opportunity to build managerial capabilities. Capital was highly scarce and the levels of skills and managerial know-how were extremely low after the occupation. Furthermore, while some military-related, large-scale industrial plants were established in the northern part of the Korean peninsula, agriculture was the only industry developed in the southern part.

In 1945, immediately after the Japanese occupation, the Korean peninsula was divided into South and North by allied occupation. North Korea, with most of the peninsula's mineral resources and industrial base, fell under Soviet influence, while South Korea, with a large pool of unskilled human resources and agricultural resources, fell under U.S. influence. Due to the division of the Korean peninsula, South Korea lost complementary resources in North Korea and its economic development was thus extremely imbalanced. Furthermore, the Korean War between 1950 and 1953 destroyed much of the remaining physical and human resources in South Korea. During the war, a quarter of the wealth of South Korea was destroyed while over a million lives were lost.

Political and economic instability after the Korean War created a vacuum that was seized by increased military power. General Chung-Hee Park assumed political power in 1961 through a military coup and announced a series of Five-Year Economic Development Plans (*Please see Appendix A for Five-Year Economic Development Plans, 1962-1991*).

The Japanese occupation and the Korean War left Korea with a severe shortage of goods, particularly consumer goods. Due to the lack of production facilities, human and financial resources after the Korean War, almost every life necessity had to be imported from foreign countries, especially in the form of foreign aid. While the supply was highly limited in most industries, the consumer demand was large and rapidly increasing. Due to the demand surplus from the severe, chronic shortage of goods, most industries were structurally attractive. The government also made most industries more attractive by protecting domestic markets against competition from foreign firms.

Under the business environment of demand surplus, the rule of the game was "who produces more," rather than "who

produces better.” Most firms thus made every effort to produce the largest possible to meet such a high demand. Regardless of the quality of their products, the firms could easily sell their products even at high margins. The success of a firm was determined largely by the quantity of its products, not their quality.

Since the late 1980s, however, the business environments have dramatically changed from demand surplus to overcapacity. In order to meet rapidly growing demand, many firms have expanded their capacities, together with a number of new entrants. In addition, foreign competitors have also entered Korean markets since the economic liberalization in the late 1980s. While the supply has increased, the market growth has slowed down. Under the business environment of overcapacity, the rule of the game has not been “who produces more,” but “who produces better.”

Capital markets and Financial Resources

Financial resources were extremely scarce in Korea due to the small amount of national capital accumulated after the Japanese occupation and the Korean War, the low domestic savings rate, and a decline in foreign aid. Furthermore, the stock markets in Korea were highly underdeveloped due to the lack of supporting institutional mechanisms, such as legal protection of small shareholders and industries of stockbrokers, analysts, merchant banks, et cetera. Without these supporting institutional mechanisms, investors were highly reluctant to put their money into companies through the stock market. Due to the underdevelopment of the stock market, Korean firms had to rely largely on the banking sector for their financial needs.

Due to the scarcity of financial resources and the financial market that was bank-centered, the government used its ownership of the banks as a method of implementing its Five-Year Economic Development Plans. Through the full control of scarce financial resources, the government exercised enormous power over private investment allocation. Through foreign and domestic bank loans with low interest rates, for example, the government gave preferential treatment to firms that participated in the government-designated strategic industries.

Such strategic industries included import substitution industries in the early 1960s, export industries in the late 1960s and in the early 1970s, and heavy and chemical industries in the late 1970s. In 1971, for example, the government-controlled interest rate for export financing was 6% while the interest rates for curb market loans and the inflation rate were 46.4% and 8.7%, respectively.

Since the late 1980s, however, financial markets have become more efficient due to the denationalization and deregulation of the domestic financial sector. In addition, increasing activities of foreign financial institutions in Korea due to the liberalization of the financial sector have made financial resources much less scarce than before. Thus, the criticality of the financial resources as R&Cs has been declining since the late 1980s.

Labor Market and Managerial Resources

Managerial resources were another crucial resource required for a successful business in Korea. Since Koreans played little leadership role in the process of economic development during the Japanese occupation, managerial resources were scarce in Korea. In addition, the social status of a businessman in a Confucian society like Korea was traditionally positioned at the lowest level among professions. Reflecting the low status of businessmen, business schools were not well developed in Korea. Whereas the United States has more than 600 business schools training thousands of future managers every year (Khanna & Palepu, 1997), Korea had 98 universities in 1980, only a small number of which had business schools. Thus, high-quality managerial resources were scarce in Korea.

Furthermore, the labor market, particularly for senior managers in Korea was inefficient and almost nonexistent. As one of the traditional Confucian countries, Korea valued *a man of high principles*. Once people joined an organization, they were supposed to share their fate with the company. If not, they were treated as men of low principles and low loyalty. Leaving a company and joining another was viewed as betrayal to the former company. The exclusive nature of most Korean organizations also contributed to the inefficiency of the labor market in Korea. Like Japanese firms, Korean firms were also

reluctant to recruiting managers from the outside. Koreans had historically suffered from outside invasions and thus tended to have an antagonistic feeling against outsiders and to be highly defensive about their vested rights. Particularly when an outsider joined the company from another firm, the antagonistic feeling was higher because the outsider was considered less faithful and more selfish. Because the Korean labour market was highly inefficient, most managerial resources had to be internally developed and internally allocated.

During the process of economic development over the last several decades, firms in Korea have accumulated a large pool of managerial resources. Recognizing the considerable contribution of private firms to the country's economic development and social welfare, furthermore, Koreans began to bestow a much higher social status on businessmen than before. Reflecting this changes in social perception on the business community, many universities have competed to establish business schools to produce qualified future managers. In 1998, the total number of universities in Korea increased to 156 from 98 in 1980. Most of the universities now have business schools, although the average size of the schools is still small.

Together with the larger pool of managerial resources, the managerial market in Korea has also been developed, following the liberalization of domestic markets for foreign multinational companies (MNCs). Foreign MNCs, unlike traditional Korean firms, are eager to recruit senior as well as junior managers for their businesses in Korea, thus helping to create the domestic managerial market. As managerial resources become less scarce and more mobile, the importance of managerial resources as R&Cs has also been decreasing since the late 1980s.

The Government

Government support were also critical to conducting any businesses in Korea. The government established the country's long-term strategic directions through a series of Five-Year Economic Development Plans. To pursue the Plans effectively, the government exercised huge power over the Korean economy through various regulations and the control over financial resources. During the process of economic development, for

example, the government targeted key industry sectors and granted quasi-monopolistic licenses for entering these industries to selected firms. In addition to the monopolistic positions, those selected firms enjoyed huge benefits, for example, from favorable tax treatment and cheap financial resources.

Since the late 1980s, the role of the government in economic activity has been declining. As the Korean economy became large and complex, the government's centralized decision making that had been effective in the past was not effective any more. The democratization process in the late 1980s further weakened the government's power over the economy. In fact, the Korean government adopted a number of policies for the deregulation and open economy. As a result, the importance of the government support as critical R&Cs seems to have been reduced.

Industry-Specific R&Cs

Whereas more industry-specific R&Cs such as technologies, distribution channels and marketing capabilities were also required prior to the late 1980s, they were not sophisticated nor advanced at that time. After the Japanese occupation and the Korean war, the domestic supply was highly limited in most industries while the domestic demand was high and rapidly increasing. In Korea as a developing country, in addition, customers were neither demanding nor sophisticated. Due to the huge excess of unsophisticated demand over supply, Korean firms were not so much concerned with the quality as much as with the quantity of their products. Satisfying the huge and unsophisticated demand required not the state-of-the art and high-quality industry-specific R&Cs, but the simple and primitive ones that could be easily purchased from the external markets or internally developed in a relatively short period of time. For example, most Korean firms acquired the technologies required for their low-quality products from foreign firms that were willing to sell those old technologies. Since distribution channels at that time were small and simple, it did not take long either to develop capabilities in managing them.

While most industry-specific R&Cs required prior to the late 1980s were easily purchased from the external markets or

internally developed in a reasonable period of time, some of them were not even valuable. Due to high demand surplus, for example, a firm did not need the marketing-related R&Cs that are required to create the firm's demand.

Facing increasing domestic and foreign competition, Korean firms now compete not on price, but on quality. They should satisfy highly sophisticated and demanding customer needs based on more sophisticated and advanced industry-specific R&Cs like state-of-the-art technologies and marketing capabilities, which cannot be easily purchased from foreign countries or internally developed within a reasonable period of time. In addition, such R&Cs as marketing-related ones have become highly valuable due to overcapacity, not demand surplus, in the economy. Since the industry-specific R&Cs have become more valuable and scarce, their importance as R&Cs has been increasing since the late 1980s.

Prior to the late 1980s, in sum, conventional and general R&Cs, e.g., financial resources, managerial resources and government support and capabilities to secure those resources were critical, whereas more industry-specific R&Cs, e.g., technologies and marketing capabilities, were not. Since the late 1980s, however, the importance of the conventional and general R&Cs has been declining, whereas the criticality of the industry-specific R&Cs has been increasing.

STRATEGIES BY KOREAN FIRMS

Some of the important strategic tools that were actively employed by a Korean firm to build critical R&Cs were internal training, the composition of top managers, industry selection, and diversification.

Internal Training

Since labor markets, particularly markets for senior managers, were highly inefficient and almost nonexistent in old Korea, most managerial resources had to be developed internally through the recruitment and training of talented people. While the supply was highly limited in most industries after the Japanese

occupation and Korean War, the demand was large and rapidly increasing. Under the external environment of demand surplus, firms competed on the quantity of their products, not on their quality. The quantity game required a firm to produce highly standardized goods in a large scale, which in turn made it critical for the firm to minimize the idiosyncrasies and potential pathologies of human behavior in the organization. One way to minimize the idiosyncrasies and potential pathology of human behavior was strong cultural and internal training. Through strong cultural and internal training, firms could achieve the standardization of their employees, which ensured consistent and predictable human behavior and, thus, maximize the quantity of their products.

In the 1990s, however, the situation has changed dramatically. Overcapacity, rather than demand surplus, has become the norm in most industries due to significant increases not only in domestic supply, but also in global competition from the liberalization of domestic markets. In the environment of excess capacity, a firm's success tends to be determined largely by the quality, not the quantity, of its products. Strong cultural and internal training that could maximize the quantity of a firm's outputs through the standardization of its employees were highly effective prior to the late 1980s, but not any more after the late 1980s.

Hypothesis 1: Prior to the late 1980s, internal training was positively related to firm performance. After the mid-1990s, however, the relationship does not exist any more.

Composition of Top Managers

Prior to the late 1980s when managerial resources were scarce and the market for senior managers was not well developed, the recruitment and training of talented people was critical to the success of a firm. Most firms thus made every effort to recruit the best people. For example, the ex-chairman Byung-Chul Lee of Samsung, one of the largest Korean chaebols commented that "the role of the top manager is to select and train talented men. I have spent over 80 percent of my time on recruiting the talented men and educating them." It is well known that however tight

his schedule was, the Samsung chairman participated in as many as 100,000 interviews for new recruits.

One job selection criterion was whether the applicant had a social network with government bureaucrats, members of the National Assembly, and senior officers in financial institutions. Network connections were important for securing government support and financial resources that were critical prior to the late 1980s. In the Korean society, strong personal, informal networks were based primarily on common educational and regional background. Firms thus competed on recruiting people who shared educational and regional background with dominant coalitions in the government, National Assembly and financial institutions. Firms then trained those people as managers so that the firms themselves could have strong personal networks with the government and financial institutions. Therefore, top managers who shared a common educational and regional background with dominant coalitions in the government and in financial institutions were highly effective prior to the late 1980s. As the importance of the government support and financial resources has been decreasing since the late 1980s, however, we may expect that the relationships have become weaker in the 1990s. Defining prestigious universities and powerful regions as those from which most of dominant coalitions in the government and financial institutions came, it is hypothesized that:

Hypothesis 2.1: Prior to the late 1980s, a top management team from prestigious universities was positively related to firm performance. After the mid-1990s, however, the relationship has become weaker.

Hypothesis 2.2: Prior to the late 1980s, the top management team from powerful regions was positively related to firm performance. After the mid-1990s, however, the relationship has become weaker.

Industry Selection

Another important strategic tool for a Korean firm to build the critical R&Cs that were required prior to the late 1980s was

industry selection. When a firm engaged in the industry that was targeted as a *strategic industry* by the government, the firm could acquire strong government support, one of the most critical resources prior to the late 1980s. The government also provided the firm with monopolistic positions in the strategic industry by creating regulatory entry barriers to the industry, which further enhanced the structural attractiveness of the industry. In addition to the monopolistic positions, the firm enjoyed large benefits, for example, from favorable tax treatment and cheap financial resources. Prior to the late 1980s, participating in government-designated strategic industries was one of the most important ways of securing critical resources (i.e., government supports and financial resources).

In the new, changing institutional context, however, participation in the strategic industries is not so critical since the government's power over or its involvement in the economic activities and the criticality of financial resources as R&Cs have been declining. Therefore,

Hypothesis 3: Prior to the late 1980s, firms in the industries designated as strategic industries by the government performed better than the firms that were not in strategic industries. After the mid- 1990s, however, the relationship does not exist any more.

Diversification

Diversification could contribute to acquiring the resources that were critical prior to the late 1980s, in both direct and indirect ways. In a direct way, a diversified group company might have advantage in securing more financial resources at lower cost. Prior to the late 1980s when the capital market was not well developed, most firms relied on bank loans for their financial resources. Banks offered more financial loan at a lower interest rate to a large and diversified firm than to a smaller and less diversified firm, due to the lower bankruptcy risk of the former. The large size resulted from active diversification thus contributed to obtaining cheap and stable financial resources from banks in Korea.

Diversification could indirectly contribute to securing the

critical resources by facilitating the recruitment of best people. Traditionally, most Koreans favored large and diversified firms over smaller firms because large firms were considered more secure and prestigious. Diversified group companies thus had more advantages over non-diversified ones in attracting people who had potential personal and informal networks with the government and financial institutions, for example, people from the prestigious universities. By facilitating the recruitment of people with networks to the government and financial institutions, diversification enabled firms to secure government supports and financial resources that were crucial prior to the late 1980s.

Another indirect way through which diversification could contribute to the acquisition of the critical resources was through participation in strategic industries designated by the government. As discussed, a firm in the strategic industry had enjoyed large government support, such as favourable tax treatment and cheap financial resources. By using diversification as a deliberate vehicle to enter these strategic industries, firms could secure government supports and associated benefits.

Prior to the late 1980s, thus, diversification was beneficial. Since then, diversification has become less beneficial because the importance of the government support and financial resources as R&Cs has been decreasing. Therefore,

Hypothesis 4: Prior to the late 1980s, group-affiliated firms performed better than did non-affiliated firms. After the mid-1990s, however, the relationship does not exist any more.

Prior to the late 1980s, whereas more industry-specific R&Cs, such as technologies and marketing capabilities, were not true R&Cs, they are in the 1990s. These industry-specific R&Cs are built by active investments in R&D and advertising. It is thus hypothesized,

Hypothesis 5: Prior to the late 1980s, R&D and advertising intensities were not related to firm performance. After the mid-1990s, however, they are positively related to firm performance.

METHODS

The hypotheses presented in this article suggest that the effectiveness of any strategic choice made by firms is highly institution-specific. That is, the institutional context specifies the types of R&Cs that are the most critical in the context, and strategies, or the ways of building one type of R&Cs are different from those of developing other types of R&Cs. It follows that the effectiveness of strategies, as a way of building critical R&Cs, is highly institution-specific. Since this article is concerned with the variations of the institutional context across time, it needs two sets of data for different time periods, each of which represents a different institutional context. In Korea, most dramatic institutional changes, including the democratization of political systems, the de-nationalization and de-regulation of the domestic financial sector, and the liberalization of domestic markets, occurred in the late 1980s. This article thus used data sets for 1986 and 1996, each representing old and new institutional contexts in Korea, respectively. All firms that were listed in the Korean Stock Exchange in 1986 and 1996 were used as the sample of this study. A total of 279 firms were identified in 1986. Of 279 firms, 101 firms were affiliated with the 50 largest chaebol groups whereas 178 firms were not affiliated with the groups. In the 1996 sample, a total of 583 firms were used. Of 583 firms, 175 firms were a member of the 50 largest chaebol groups whereas 408 firms were not affiliated with the groups. Each of the variables used in this study was measured as follows.

Measures

Dependent variable: firm performance. Firm performance, the dependent variable in this research, was measured by returns on assets (ROA), defined as net income after taxes but before extraordinary items divided by total assets. As recognized by other researchers (e.g., Bettis & Hall, 1982; Caves & Uekusa, 1976; Chang & Choi, 1988; Michel & Hambrick, 1992), returns on equity or returns on invested capital would be the correct

measure of firm performance if capital markets were efficient. In Korea where the debt-equity ratio is high and capital markets are still imperfect, ROA is the more accurate measure of firm performance. Not only does ROA control for the effects of differing financial structure, but is also widely employed by both managers and researchers. To control the industry effects, industry average ROA was included as a control variable.

Independent variables. The independent variables used in this research were operationalized as described below. "Internal training" was measured by total training expenses divided by the number of employees. Most of those who dominated senior positions in the government, National Assembly, and financial institutions were people from prestigious universities in Seoul, particularly from Seoul National University, Korea University, and Yonsei University. Those dominating groups also tended to be from the Southeast of the peninsular (i.e., *youngnam* region), who had traditionally an antagonistic feeling about people from the Southwest (i.e., *honam* region). Prior to the late 1980s, thus, top managers from the prestigious universities and from the Southeast were highly effective in securing government supports and financial resources through their informal, personal networks, whereas top managers from the Southwest of the peninsular had negative effects.

Two levels of top managers were examined in this study: the chief executive officer (CEO) and the top management team (TMT). CEOs from prestigious universities and CEOs from powerful regions were measured by dummy variables. If a firm's CEO was from Seoul National University, Korea University, or Yonsei University, the variable "CEO from prestigious universities" was coded "1." Otherwise, it was coded "0." If the CEO was from the Southeast of the peninsula, the variable "CEO from powerful regions" was code "1," whereas if the CEO was from the Southwest it was coded "-1," reflecting their negative effects. Otherwise, it was coded "0."

A member of TMT was here defined as the manager above the level of managing director. The "proportion of TMT from prestigious universities" was thus measured as the percentage of TMT members from Seoul National University, Korea University and Yonsei University. The "proportion of TMT from powerful

regions" was measured by the difference between the percentage of top managers from the Southeast of the peninsular and the percentage of top managers from the Southwest.

"Strategic industries" was measured by a dummy variable. If a firm participated in the industries designated as strategic industries by the government's Five-Year Economic Development Plans, the variable "strategic industries" was coded "1." Otherwise, it was coded "0." Group affiliation was also measured by a dummy variable. If a firm was affiliated with the 50 largest chaebol groups, the variable "group affiliation" was coded "1." Otherwise, it was coded "0." "Advertising intensity" and "R&D intensity" were measured by total advertising and R&D expenses divided by total sales. These measures were then converted into industry-relative measures by dividing each firm's advertising and R&D intensities by industry average advertising and R&D intensities, respectively.

RESULTS

Tables 1 and 2 present means, standard deviations, and correlations among the variables in 1986 and 1996 samples, respectively. One of the most notable differences between the 1986 and 1996 samples was internal training. The average training expenses per employee increased from .04 in 1986 to .21 in 1996, reflecting Korean firms' increasing emphasis on their employees. Another striking difference between the two samples was the increasing number of CEOs from the prestigious three universities, Seoul National University, Korea University, and Yonsei University. The percentage of firms with a CEO from the prestigious universities increased from 18% in 1986 to 39% in 1996. The average percentage of TMT from the prestigious universities remained high, but decreased slightly from 47% in 1986 to 41% in 1996.

Tables 1 and 2 also show the correlations among the variables in the 1986 and 1996 samples. The results indicate that there are no serious multicollinearity problems among independent variables. In 1986, as expected, 'CEO from powerful regions' and 'strategic industries' were positively associated with profitability whereas 'advertising intensity' and 'R&D intensity' were not.

TABLE 1 (1986 SAMPLE) & TABLE 2 (1996 SAMPLE)¹⁾ Means, Standard Deviation, and Correlations

Variables	Means	s.d.	1	2	3	4	5	6	7	8	9	10
1. Profitability	.02	.06										
2. Industry profitability	.02	.02	.23***									
3. Internal training	.04	.06	.08	.04								
4. Proportion of TMT from prestigious universities	.47	.25	.02	-.01	.15*							
5. Proportion of TMT from powerful regions	.25	.37	-.02	-.06	.08	-.07						
6. CEO from prestigious universities	.18	.38	-.05	.05	-.01	.04	-.03					
7. CEO from powerful regions	.23	.56	.11+	-.01	.03	-.03	-.04	-.11+				
8. Strategic industries	.28	.45	.15**	.08	-.10+	.06	.13*	-.12+	-.07			
9. Group affiliation (50)	.38	.49	-.15**	-.19***	.18**	.20***	.08	.03	-.07	.00		
10. Advertising intensity	1.80	3.62	.09	.23***	.03	-.17**	-.13*	.05	-.09	.05	-.16**	
11. R&D intensity	2.29	7.94	.05	.10+	.32***	.09	-.01	.01	-.07	-.02	.13*	-.01

Variables	Means	s.d.	1	2	3	4	5	6	7	8	9	10
1. Profitability	-.01	.07										
2. Industry profitability	.00	.01	.25***									
3. Internal training	.21	.38	.13**	.09*								
4. Proportion of TMT from prestigious universities	.41	.29	.08+	-.02	.11**							
5. Proportion of TMT from powerful regions	.25	.40	.08+	.01	-.05	-.11**						
6. CEO from prestigious universities	.39	.49	.01	-.02	.03	.57***	-.04					
7. CEO from powerful regions	.27	.60	.09*	.07+	.00	-.04	.75***	-.04				
8. Strategic industries	.31	.46	-.08*	-.13**	-.12**	-.01	.08+	-.01	.08*			
9. Group affiliation (50)	.30	.46	-.04	-.01	.20***	.20***	-.08+	.13***	-.04	.04		
10. Advertising intensity	1.38	2.37	.07	-.09*	.10*	.04	-.09*	-.02	-.05	-.04	-.01	
11. R&D intensity	2.35	6.06	-.01	-.06	.05	.08*	.00	.12**	.01	.00	.16***	.04

1) N=279 and 583 for 1986 and 1996, respectively; + $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

TABLE 2.^{a)} Results of Regression Analysis on Profitability for Strategic Choices

Variables	Model 1: CEO		Model 2: TMT	
	1986	1996	1986	1996
Industry profitability	.16** (.23)	.23*** (.21)	.16** (.24)	.24*** (.20)
Internal training	.10+ (.07)	.10* (.01)	.11+ (.07)	.10* (.01)
TMT from prestigious universities			.02 (.01)	.09* (.01)
TMT from powerful regions			-.02 (.01)	.10* (.01)
CEO from prestigious universities	-.01 (.01)	.02 (.01)		
CEO from powerful regions	.12* (.01)	.08* (.00)		
Strategic industries	.15** (.01)	-.04 (.01)	.15** (.01)	-.04 (.01)
Group affiliation (50)	-.14* (.01)	-.06 (.01)	-.15* (.01)	-.07 (.01)
Advertising intensity	.03 (.00)	.08* (.00)	.02 (.00)	.08* (.00)
R&D intensity	.03 (.00)	.00 (.00)	.02 (.00)	.00 (.00)
R ² (Adjusted R ²)	.106 (.080) .089 (.075)		.093 (.066) .098 (.085)	

a) Standard errors are in parentheses under coefficients; + $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

Contrary to expectations, however, the two TMT profile variables, i.e., 'proportion of TMT from prestigious universities' and 'proportion of TMT from powerful regions' were not associated with profitability in 1986. The variable, 'group affiliation,' was highly correlated with profitability, but as opposed to what was predicted, the correlation was negative. In general, results in Table 2, representing the correlations among variables for the 1996 sample, do not support our expectations. On the contrary, 'internal training,' 'proportion of TMT from prestigious universities,' 'proportion of TMT from powerful region,' and 'CEO from powerful region' were more positively associated with firm profitability in 1996 than in 1986. More specific relationships

among variables can be examined in Table 3 that presents the results of regression analysis for both 1986 and 1996 samples.

As a unit of analysis for top managers, we used CEO in model 1 and TMT in model 2. As expected (Hypothesis 1), model 1 shows that internal training was positively related to firm profitability in 1986, although the relationship was marginally significant ($p < .10$). While we expected the positive effect of internal training on profitability would disappear in 1996, however, it was still positive and statistically significant in 1996 ($p < .05$). As hypothesized (Hypothesis 2.2), the effect of CEO from powerful regions on profitability was statistically significant and positive ($p < .05$) in 1986. Counter to expectations, however, the relationship was still positive and significant even in 1996 ($p < .05$). As expected in Hypothesis 3, the variable, 'strategic industries,' was positively and significantly related to firm profitability in 1986 ($p < .01$), but, as expected, the relationship disappeared in 1996. The results in model 1 also partially supported Hypothesis 5. That is, whereas advertising intensity was not related to firm profitability in 1986, it was positively and significantly related to firm profitability in 1996 ($p < .05$). As expected in Hypothesis 5, R&D intensity was not related to profitability in 1986. However, the relationship was not significant in 1996 either.

Although not reported due to a space constraint, 'group affiliation' was related neither to 'CEO from prestigious universities' nor to 'strategic industries,' whereas it was highly related to 'TMT from prestigious universities' in 1986 and 1996 ($p < .001$). As will be discussed, 'TMT from prestigious universities' was not related to firm profitability in 1986, but significantly related in 1996 ($p < .01$). Therefore, the indirect effects of group affiliation on profitability were significant and positive only in 1996 through 'TMT from prestigious universities.'

The coefficient of the variable, 'group affiliation,' in model 1 of Table 3, which represents the direct effect of group affiliation on firm profitability, was statistically significant ($p < .05$) in 1986. Contrary to what was earlier predicted, however, the coefficient was negative, not positive, in 1986, indicating that the direct effect of group affiliation on performance was negative in 1986. The relationship, however, disappeared in 1996.

In model 2, we replaced the CEO variables in model 1 with the TMT variables (i.e., TMT from prestigious universities and TMT from powerful regions). Model 2 presents that although the both TMT variables were not related to profitability in 1986, they were significantly related in 1996. The results in model 2 imply that TMT became more powerful in predicting organizational outcomes in 1996 than in 1986. In fact, the explanatory power of TMT was higher than that of CEO in 1996 (R^2 of model 1 for 1996 = .089; R^2 of model 2 for 1996 = .098). The implications of this finding will be discussed below in detail.

DISCUSSION AND IMPLICATIONS

This article has provided evidence that prior to the late 1980s, on the one hand, most strategies for building such traditional and general R&Cs as financial resources, managerial resources, government support, and capabilities to secure those resources were highly effective. On the other hand, strategies for building more industry-specific R&Cs, such as technologies and marketing capabilities, were not effective. This article also anticipated that due to the changes in the institutional context, strategies for developing the general R&Cs are not successful after the mid-1990s whereas strategies for developing the industry-specific R&Cs are. Contrary to what was expected, however, the results of this article showed that strategies for both the general R&Cs and the industry-specific R&Cs were effective after the mid-1990s. These results indicate that despite significant changes, the government is still powerful and financial and labor markets are still inefficient, thus making traditional strategies for securing the general R&Cs still effective and successful even after the mid-1990s. At the same time, as the Korean further develops and as Korean firms face much more severe global competition, Korean firms are now required to compete based on the quality, not the quantity, of their products. In order to compete on quality, Korean firms need to secure highly sophisticated and advanced industry-specific R&Cs that are not only critical, but also difficult to develop internally or to purchase from markets. Therefore, strategic challenges facing Korean firms are twofold, building *both*

conventional and general R&Cs and more industry-specific R&Cs.

Another interesting result of this article is the negative effect of group affiliation on performance in the old context. Several explanations for this unexpected result are possible. In the past, first, Korean firms competed for the size or market share, not profitability. The appropriate measure for performance should be the market share, not profitability. Second, group affiliation was predicted to be beneficial since it enables firms to recruit the best people and thus to develop strong managerial resources in the firm. As presented in the results section, the variable, 'group affiliation,' was highly related to 'TMT from prestigious universities' ($p < .001$ for both 1986 and 1996 samples). However, TMT was not powerful enough to influence organizational outcomes as CEO, particularly prior to the late 1980s (models 1 & 2 for 1986 in Table 3). Therefore, group affiliation was not indirectly related through 'TMT from prestigious universities' to performance in 1986.

This article also expected that if a firm purposely diversified into strategic industries to achieve government support and financial resources and thus became a diversified group, group affiliation might be beneficial. The result indicates that the variable, 'group affiliation,' was not related to the variable, 'strategic industries.' That is, the diversification strategy pursued by most Korean firms was not designed to secure government support and financial resources by diversifying into strategic industries.

This article also shows that TMT was not so powerful in predicting organizational outcomes in 1986 whereas it is highly powerful in 1996. The upper echelons theory (Hambrick & Mason, 1984) suggested that study of TMT, rather than CEO, increases the potential strength of the theory to predict *since CEO shares tasks and, to some extent, power with other team members*. However, the explanatory power of TMT, or the degree to which CEO shares tasks and power with other TMT members, may differ by the institutional context which again varies through time and cross sectionally in different economies. Further research is needed to examine the relevance of the upper echelons theory in different economies and in difference time periods of study.

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**APPENDIX A FIVE-YEAR ECONOMIC DEVELOPMENT
PLANS: 1962-1991**

		Real GNP growth	Export growth	Main goals and objectives
First Plan (1962-66)	Target	7.1	28.0	Development of energy, infrastructure, and import substitution industries (fertilizer, food processing, oil refining); farm productivity increase; heavy foreign borrowing.
	Actual	7.8	36.8	
Second Plan (1967-71)	Target	7.0	17.1	Emphasis on export growth with incentives to promote labour-intensive industries (textile and clothing).
	Actual	9.7	33.8	
Third Plan (1972-76)	Target	8.6	22.7	Continued export promotion; energy independence; agricultural self-sufficiency; establishment of general trading companies.
	Actual	10.1	32.7	
Fourth Plan (1977-81)	Target	9.2	16.0	Emphasis on chemicals and heavy industry; develop technological skills; heavy foreign borrowing.
	Actual	5.5	10.5	
Fifth Plan (1982-86)	Target	7.6	11.4	Stabilization, reduction of inflation, and liberalization of imports and financial markets; meet basic needs of people; develop skill-intensive industries; reduce reliance on foreign borrowing.
	Actual	9.0	9.7	
Sixth Plan (1987-91)	Target	7.3	10.1	Stabilization, shift out of declining industries, industrial reorganization away from big-business groups and towards small- and medium-sized firms, balanced trade with major partners.
	Actual	9.98	11.0	

Source: Economic Planning Board