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Collaborative and Competitive Actions within Highly Concentrated Industries: Evidence from the Iranian Cement Industry 1997-2007

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ABSTRACT: *This paper focuses on the antecedents of the range of competitive actions taken by firms under game-theoretic circumstances and conditions. Game-theoretic conditions exist in presence of a zero-sum competitive environment where competitors lack information about their competitors' capabilities, capacities, and intentions. In this study, the Iranian cement industry has been selected as since it represents a highly concentrated industry setting with limited potential for growth and a fierce internal competition. The findings of this qualitative study shed light onto the antecedents and logic of decisions leading to competitive actions such as acquisitions, divestments, buyouts, and new investments during a ten-year period, 1997-2007.*

KEYWORDS: *Industry concentration, Game-theory, acquisitions, buyouts, Joint Ventures, Alliances, Buyouts, Divestments.*

I. INTRODUCTION

Industry dynamics plays an important role if firm performance (Caves and Porter, 1977; Porter, 1980). An important determinant of industry dynamics is the actions that are taken by different competing firms (Chen, 1996). Firms' performance depends on their ability to design and implement strategic actions that are coherent and correspond well to their industry environment. Therefore the ability of firms to predict competitive actions of other firms plays an important role in shaping theirappropriate competitive actions. Firms often rely on their existing sources of knowledge or information to define their competitive actions. The subsequent actions taken by firms can put them in direct or indirect competition with other organizations. Consequently, such actions can also motivate other competing firms to initiate actions which implicate the focal firm. Therefore, firms find great value in understanding and predicting the actions of their direct and indirect competitors.

Researchers in the area of organizational studies have also found keen interest in competitive actions of firms. Past research has focused on different predictors of competitive actions that are pursued by firms. Extant past research has suggested reputation(Fombrun and Shanley, 1990; Hall, 1992; Basedo, Smith, Grimm, Rindova and Derfus, 2006), market commonality and resource similarity (Chen, 1996), resources and capabilities (Barney, 1991; Teece, 1982; Wernerfelt, 1984), and industry structure (Porter, 1980, 1985) to influence or define competitive actions by organizations or their responses to actions taken by other organizations. The researchers have applied numerous theoretical lenses (e.g., Gamey Theory, Resource Based View of the firm, and Industrial Organization Economics) to understand the nature of and predict organizations' competitive behaviour. However, while in recent years more emphasis has been put on the issue of competitive advantage through position in the industry (Porter, 1980 and other refs) and firm's resources and capabilities (Barney, 1991 and other refs), little has been done to understand and explain the competitive actions themselves, when firms' resources and capabilities and industry play little role in their choice of competitive behaviour.

The purpose of this research is to examine the antecedents of competitive actions that are pursued by Iranian cement producers and the implications that result from those actions. Although past literature has attempted to use a game theoretic perspective to predict competitive actions by organizations (Chen, 1996), there has been little empirical evidence for their support. Furthermore, past research has come short of understanding the quality of competitive actions that organizations undertake when their competitors capabilities remain ambiguous.

This research focuses on competitive actions taken or planned by Iranian major cement companies. Understanding the dynamics of concentrated markets with limited growth can lead us to better understand applications of game theory in business strategy. An industry with limited number of actors where competitive dynamics result in outcomes with limited total added value (leaning towards zero-sum) for different sides involved provides researchers with great opportunities to adopt a game theoretic lens to study how competitive dynamics are addressed and how appropriate responses are developed.

Within the Iranian cement industry, in most cases firms undertake competitive actions, not based on their internal capabilities and resources, or their environmental urges, but as a result of the competitive action of their direct or potential competitors, or their perception of a potential threat from a firm that could be a competitor in the future.
When actors have limited information about their competitors, they tend to resort to alternative mechanisms to make predictions regarding their actions. In the cement industry, there are very limited differences in methods of production or all the other processes that are involved. Despite some differences between cement producers in the global scale, the industry in Iran remains quite basic and therefore, all the producers have perfect information about each other's production and distribution processes. Therefore, the game changer is not the methods of production and technological capabilities that might affect cost of production, but financial strength of each actor and decisions that are taken by senior executives of each of them. Both these key factors have inherent ambiguities and therefore allow competing actors to only speculate about them.

II. LITERATURE REVIEW

Competition and competitive actions have been at the heart of strategic management research for years (Porter, 1980). Firms' managers and researchers have been looking for ways to understand and explain why some firms have better competitive performance than others. An important aspect of inter-firm rivalry is the ability to predict firms' competitive behaviour beforehand (Base do et al. 2006). Being able to predict rivalry or competitive behaviour of firms is one of the main targets of competitor analysis (Porter, 1980; Caves, 1984; Scherer and Ross, 1990).
Over the past decades, researchers have looked for different ways to predict competitive behaviour of firms. Researchers have looked for ways to determine the sources where firms can draw on to gain competitive advantage against their competitors (Porter, 1980).
Firm reputation has been identified as a source of competitive advantage by some strategy researchers (Fombrun, and Shanley, 1990; Hall, 1992). The ability of firms to translate intangible asset such as reputation into more tangible measures has been of interest to some strategy researchers. On that line, the impact of firm reputation on firm's financial performance has been studied by many strategy researchers (Brown and Perry, 1994; Fryxell and Wang, 1994; Roberts and Dowling, 2002). Research has been done on the different advantages that are associated with firm reputation. Researchers contend that there are different advantages associated with firm reputation. Such advantages include: allowing firms to increase their prices (Kihlstrom and Riordan, 1984) and increasing firm profitability (Black, Carnes, and Richardson, 2000; Roberts and Dowling, 2002). Moreover, firm reputation creates a boundary that keeps competitors from invading the firm's market (Chen, 1996). While research has shown benefits that are associated with reputation, some researchers have conducted studies on ways that firms can develop or exploit their reputation to their advantage.
There has been some research on how firms build their reputation (Basedo, Smith, Grimm, Rindova, and Derfus, 2006). Some researchers contend that market actions by firms can contribute to building their reputations (Clark and Montgomery, 1998; Weigelt and Camerer, 1988). Most of prior research agrees on the role that market actions play in the strategic decisions and choices that firms make through forming their reputations (Basedo, Smith, Grimm, Rindova, and Derfus, 2006). There are different competitive actions that can be undertaken by firms, some of which are more observable in the market (Smith, Grimm and Ganon, 1992) and have a more significant effect of firms' performance (Basedo, Smith, Rindova, and Derfus, 2006). Observable market actions shape a firm's reputations through enabling stakeholders to express opinions and impressions about the firm's abilities and resources (Clark and Montgomery, 1998; Rindova and Fombrun, 1999).
According to prior research three main factors influence how a firm's reputation is formed: (a) patterns and characteristics of firm's market actions; (b) how the firm's competitor's market actions are; and (c) industry characteristics (Heil and Robertson, 1991; Robertson, Eliashberg, and Rymon, 1995). Similarly, game theorists have associated certain market actions to certain models of reputation building (Weigelt and Camerer, 1988).
As mentioned before, a major concern of managers and researchers is to be able to predict other firms' competitive behaviour in the market. Reputation has been considered by some researchers and practitioners as a means for that purpose. Basedo et al. (2006) contend that firm reputation can be considered as a predictor of firm's competitive behaviour in market. On the other hand, reputation itself is influenced and built as a result of firm's competitive behaviour.

While previous research has found a relationship between firms' competitive actions and their reputations, some researchers have found a positive relationship between the number of firm's competitive actions and complexity of its actions, and its reputation (Basedo et al., 2006). This means that firms can gain reputation through deliberately demonstrating competitive behavior and actions to ride off their competitors in the market. Similarly firms can prevent competitive hostile attacks by their competitors through engagement in competitive actions that are generally perceived as complex by market observers.

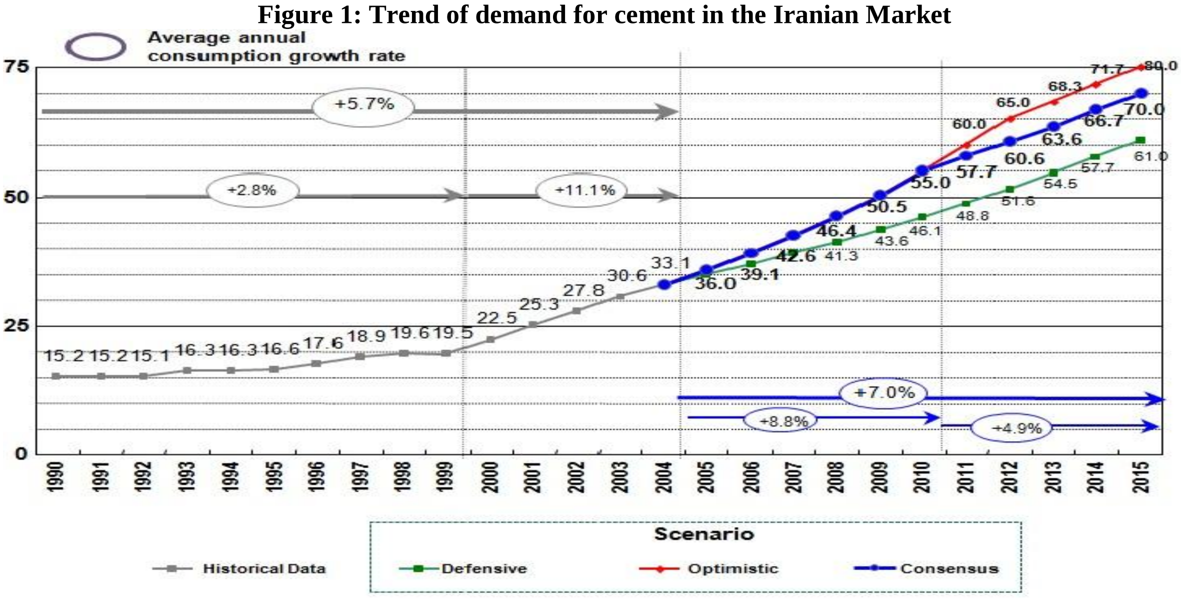
While reputation has been strongly regarded by researchers and practitioners as a predictor of firms' competitor behaviour, Chen (1996) has proposed the concepts of market commonality and resource similarity to provide a better means to predict competitive behaviour of firms. Many of strategic management researchers have emphasized the importance of shared market on competition between firms (Gimeno, 1994; Karnani and Wernerfelt, 1985; Smith and Wilson, 1995). However, the notion of "shared market" fails to address many aspects of "market commonality" such as magnitude and asymmetrical nature of competitive relationship between firms (Chen, 1996). According to Chen (1996) the degree of multimarket contact between two firms determines whether they are direct and immediate competitors.

Chen (1996) defines market commonality as "the degree of presence that a competitor manifests in the markets it overlaps with the focal firm". He also defines resource similarity as "the extent to which a given competitor possesses strategic endowments comparable, in terms of both type and amount, to those of the focal firm". Chen (1996) also contends that greater market commonality decreases the possibility of an attack by one firm on the other, while increasing the likelihood of retaliation by the other firm in case such attack happens. According to his research, greater resource similarity between firms reduces the probability of an attack by one firm on another and increases the likelihood of response to attacks by the other firm.

III. IRANIAN CEMENT INDUSTRY

Following the eight-year war with Iraq (1980-1988), construction industry emerged as a focus of interest from the Iranian government. As the result of increased economic growth in the post-war era, demand for production of cement witnessed a significant increase. From 1990 to 1999, the demand for cement in Iran increased from 15.2 million tons to 19.5 million tons, annually (Figure 1). The growth in demand since 1999 increased at a higher rate and by 2007, the demand had reached over 40 million tons/year. Increased investment in cement production resulted in capacities up to 80 million tons/year to be developed by 2009 which well exceeded the demand of 55 million tons/year. As the consequence, many cement producers since 2006 operated at levels well below their capacity production. As the consequence of sanctions imposed on Iran during the first decade of the 21st century, Iranian exports to neighbouring markets faced-and still face-great impediments which constrain further growth of Iranian producers.

Figure 1: Trend of demand for cement in the Iranian Market



While the rate of cement consumption has levelled off a bit since 2006, it is still below the levels expected. One set of estimates indicates that the 500 kg/capita annual consumption of cement in Iran should reach up to 1000 kg/capita, if projects lined up are to be materialized. The expected growth in demand, however, is expected to pick up once more and to reach 720 kg/capita by 2010, and 850 kg/capita by 2015. These levels of consumption translate to 55 MT/year and 70 MT/year of total cement consumption which is still below the capacity of production by 2009 (CIDCO's annual report, 2007).

As the consequence of market conditions which limit growth, due to confined nature of the market, the actions of existing actors has resulted in what resembles a zero-sum game. Cement producers are hesitant to make further investments in developing new establishments; therefore their competitive actions mostly revolve around their existing resources where one

The number of actors in the Iranian cement industry has grown tremendously during the past two decades. While the number of cement producers in 1995 was four, this number has risen tremendously and by 2010 twenty cement producing companies were operating within the Iranian cement industry, spread across the country (Figure 2). The cement producers controlled 37 cement production subsidiaries in 2006; a figure that with completion of projects in hand grew to include a total number of 79 subsidiaries. By 2007, more than 80 percent of cement production was controlled by subsidiaries in control of four main cement holding companies: FKCC, CIDCO, Tehran Cement Co., and Sepahan (SICC), indicating a highly concentrated industry with little possibility for growth (Curry and George, 1983)

Figure 2: Spread of cement production in Iran (2010)

IV. THE STUDY

The aim of this research is to study the competitive actions that have taken place during the period of 1997-2007 by Iranian cement holding companies. The conditions under which competitive decisions are made are very particular. First, due to the existing over-capacity in production, the industry has lost its attractiveness to investors for establishing facilities with additional production capacity. Therefore, the market for most part has been limited to the number of cement companies that are already in competition. This has resulted in a situation where a zero-sum competition between parties involves is resembled. Second, all the major cement producers follow similar production processes. Therefore, the difference in competitive actions is derived from the decisions made by senior level management at each company. The distinguishing factor between competitors is rooted in the financial resources that they have at their disposal, which are vague to other firms. Therefore, lack of information leads senior management at Iranian companies to make decisions simply based on speculations that stem from reputation they perceive of their competitors, and their past actions.

For the purpose of this study, a qualitative method using semi-structured interviews was used. During the process, we conducted interviews with senior executives at the four major Iranian cement holding companies. To maintain anonymity of the interviewees, we agreed to take precautions to keep identity of the interviewees and their respective companies confidential. While this study focuses on the four main companies of FKCC, CIDCO, Tehran Cement Co., and Sepahan (SICC), we will refer to them as companies A, B, C, and D (note, the order does not represent that of the former). During our interviews, we focused on competitive actions that were pursued by each company during the period of 1997-2007. We followed the objective of assessing each competitive action from the perspective of all the parties involved.

For the period of 1997-2007, our interviews included a total of 41 competitive actions in forms of acquisitions, mergers, and partnerships (i.e., alliances, signed agreements, and joint ventures). The entire cases that were studied were those taken by the four major cement producers of our interest. Our semi-structured interviews were designed to serve our theory building approach to this research, which is built on data (Yin, 1984; Eisenhardt, 1989; Brown and Eisenhardt, 1997). During the process, we conducted 17 interviews with senior executives from each holding company at the level of CEO, Vice Presidents, and senior consultants.

V. COMPETITIVE ACTIONS IN THE IRANIAN CEMENT INDUSTRY

Firms tend to respond to competitive actions of their competitors if they perceive them as threats (Chen, 1996). Such threats become more realized when a competitor tries to gain market share that previously belonged to the focal firm. In such cases, the focal firm will try to respond to the perceived threat through one or a set of competitive actions. However, the magnitude and type of focal firm's competitive response differs according to the reputation of the firm that has launched the initial attack. When asked about the mechanism by which company A made assessments of another cement holding company when making one particular investment, one vice presidents (VP) responded:

> "Company C are perhaps our most serious competition at the moment...we know that their technical staff is much more competent that ours, which has given them an edge in providing other services within the industry. They also benefit from a strong financial support which gives them much latitude in making acquisitions. We should be extremely cautious when engaging them..."

When asked about the basis of their means of accessing information about company C's capabilities, he responded:

> "The truth of the matter is that their capability is common knowledge within the industry. I know their CEO and he has years of experience in cement industry. Their recent acquisitions has signalled their interest in dominating the market in the [,,,] region."

On the other side, a senior consultant at company C, who directly advises the CEO and the executives at the company expressed their understanding of company A's competitive competence as:

> "Company A has a very strong head office. Most of their staff have MBAs and they have also absorbed much experienced forces through acquisitions they've undertaken. Their financial support is very strong."

Similarly when asking about company B, the CEO of company expressed his opinion as:

> "Company B might seem a bit rusty, but they have a wealth of experience beyond any other. They've been able to hold on to their key staff and have remained strong in maintaining what they have. But they have never expanded beyond the [...] region and have no experience in that regard. I don't feel like they will follow any growth plans in the near future, but don't like to test them either. They are good where they are."

As mentioned before, research has shown that firms perceive their competitors' reputation as an indicator of its future competitive behaviour. Chen (1996) implies that firms will be hesitant to respond to competitors that have a more significant reputation. However, their reaction will be different when the attacking competitor is inferior in size or reputation to them. Moreover, smaller competitors tend not to have a significant market share elsewhere. In fact, lowly reputed firms usually operate in markets where a significant competitor exists. In this case any competitive action in the other markets that the attacking firm is operating in might be interpreted as a hostile competitive action by major competitors.

Such limitations tend to constrain the focal firm's competitive actions to its own market domain. When the focal firm is significantly more reputed and more capable than the hostile firm, the easiest and least costly action will be to force the smaller firm out of the market. During 2003,-2006, company A made several acquisitions from smaller companies in order to dominate the markets that they previously controlled. When asked if a similar strategy will be used against the likes of companies B, C, or D, the CEO clarified as:

> "At our current state, we don't want to provoke company C to retaliate...the moment they fear that we become a threat, they will respond and we are not sure how strong their response will be...but it will sure be costly...the costs of collaboration with the local and smaller companies is much higher than if we buy them out. They fear that we will run them out of business if we decide to establish a facility of our own, or to dump our prices using our more competent distribution network...they will sell out, before putting up a fight."

Allowing the smaller firm to operate in the market domain of the focal firm is riskier than forcing it out in the early stages of its operations. In this case, the focal firm will tend to force the hostile firm out through buying it out of the market. Hence the proposition:

> *Proposition 1: Firms are more likely to choose a buyout strategy when they perceive the attacking firm's reputation to be much inferior to their own.*

Basedo et al. (2006) have shown the relationship between firm's capabilities and actions and its reputation. They have also concluded that a firm's reputation is a very close approximation of the extent to which it can respond to the competitive actions of it competitors. Therefore, reputation is not only one of the mechanisms through which firms can prevent their competitors from attacking their markets, but is also offers a good proxy of the capability of the firm to respond to any hypothetical attacks in the future. Lack of clear information regarding competitors in the Iranian cement industry has resulted in most speculation is based on such past actions. The threat was particularly greater perceived when the competitor was an international cement producer, expressing interest to enter the Iranian market. For instance, in the following comment, one VP from company D expresses their degree of caution when responding to news of the possibility of a threat from the international giant in cement production, HOLCIM:

> "[...] cement is operated by [...], but the real force behind it is HOLCIM. It is true that they have entered our territory, but we should be extra careful when dealing with them. Although the regulatory body in Iran gives us the upper hand inside Iran, we need to remain on good terms with them just in case we decide to enter the Central Asian market. I believe HOLCIM will not sacrifice its prospective interests in Iran either."

However, these speculations were also based on knowledge that was generally unconfirmed:

> "The arrangement between HOLCIM and [...] has a very strange nature. Whatever its nature, HOLCIM is operating its acquired facilities through a 49 percent share of their own and a couple of percent controlled by [...]."

On the other hand, firms are hesitant to undertake hostile market actions when their competitor has high level of market commonality or resource similarity with them. This is partly because of more points of contact that increase the risk of failure for either firm and partly because of existence of similar capabilities that are due to the similarity of such firms' resources (Chen, 1996). When a high level of resource similarity and market commonality exists between two firms, reputation and capabilities of each of the firms becomes critical in assessing predicted the success or failure of a competitive action. However, in cases where firms share a same level of reputation, they fail to take competitive action. The failure to take competitive action and the costs of readiness to respond will result in firms making less gain than expected. Under such circumstances firms will look for ways to eliminate the posed threat by their competitor in order to profit from the existing market.
The perceived reputation of HOLCIM as a possible entrant in 2006 resulted in many activities on behalf of Iranian cement producers to try position themselves such that they would be considered as attractive domestic partners. During our interview, in one statement, CEO of company D responded:

> "We've been successful in recent years in convincing the ministry of trade and the ministry of industry, and the ministry of housing to leverage their power and to show some degree of flexibility in allowing foreign investors into the Iranian market. As the result, we've seen HOLCIM, a major international cement powerhouse show some interest entering the Iranian market. "

Consequently, by 2006, company D launched a collaborative initiative with HOLCIM in order to serve as primary steps in collaboration. The ultimate objective was to jointly establish and operate several facilities in order to produce cement for export to the Central Asia, and perhaps the GCC region. By 2007, most these efforts had failed as the result of sanctions placed on Iranian trade. Recollecting the events and their outcomes, a senior consultant from company D stated:

> "Our joint venture with HOLCIM has not gone ahead as planned. But we still benefitted a lot. First, we got to collaborate with them on creating some reports. Our staff who worked on the project with them achieved much learning. They found ways to benchmark their previous work against reports created by some of the best in their industry. We are seeing the results already, as

> the quality of reports has been raised tremendously. Second, and perhaps more important, was that we managed to persuade HOLCIM to see us as a potential partner. Perhaps they would be more inclined to work with us now than what they did before."

High level of resource similarity and market commonality when accompanied by similar reputation, force firms to engage in co-operative actions rather than competitive ones. Thus, firms will favour actions such as mergers to maximize their market gains. Other type of actions such as buyouts or acquisitions or attacks will be ruled out, due to uncertainty in their outcome. Based on what has been said, the following hypothesis is made:

> *Proposition 2: Firms are more likely to engage in mergersin cases where there is a very high level of resource similarity and market commonality, and they perceive high similarity of reputation.*

Geographic diversification allows firms to take advantage of existing opportunities in markets that they had not been operating in before. A senior VP from company A stated at one instance:

> "Acquisition of the [...] production facility ensures that we can not only consider exports to the eastern shores of the Caspian sea, but also can respond to the demands in the [...] region."

Such opportunity is usually found when there are no local competitors in the new market, the market is perceived to be attractive for entry, or the market is served by a local competitor that either cannot satisfy all the market's needs or if can, offers inferior products or does not have the same capabilities as the new entrant, when it comes to competitive behaviour. If any of such conditions exist, a firm might find it attractive to move into the new market and start competing with the local firm. However, if a well-reputed competitor intends a similar action simultaneously, the focal firm will find both challenges and opportunities on its way.

While Chen (1996) has proposed existing market commonality as a preventing mechanism to keep firms from taking competitive actions against one another, he has not explained situations where there is possibility of finding common markets in the future. Under such cases, firms will not find themselves facing the same situation and their set of choices will be quite different. While market commonality implies the existing of a competitor that serves a market in a way that reflects to market needs, possible market commonality implies otherwise. In this case, firms are not bound with a lock-in in common markets and can more freely take competitive actions. However, the reputation of the competitors is a major issue in making their choice. In words of a senior executive at company C:

> "....of course, it is very important to us what the states of local companies are, when we decide to enter their market. Our aim is to secure our market at the [...] region of the country....it will be very costly and not well justified if we decide to establish our facilities of our own...but the locals are already there. Our main strategy in such cases is to buy some shares in the subsidiaries they control; just enough to give us control. But in the end, we give them much autonomy in managing the business processes...otherwise; we might end up losing in our own backyard to recent acquisition activities by company A."

In presence of a major local competitor, and with a reputable firm intending to enter the new market simultaneously, firms will look for ways to overcome the immediate threat from the local firm. Moreover, they will not consider the possible loss of profits that can be gained in the new market. Therefore, instead of taking competitive action against their competitor, the focal firm will tend to take a co-operative approach and try to compete against the local firm. This will result in the following hypothesis:

> *Proposition 3: Firms are more likely to choose a Joint Venture strategy when they intend to enter a new market, simultaneous to a major competitor and when there exists at least one major local competitor.*

Unlike the previous situations, when firms intend to enter a new market and there is not an existing threat from any of its major competitors to enter that market, the focus of the focal firm will shift towards the existing local competition. Under such circumstances, the reputation of the local competition becomes the important factor in making a decision about the entry mode and choice of competitive action.

When a firm enters a new market, lack of market commonality makes competitive actions more attractive and desirable. However, since the focal firm had not previously attended the new market, it is also very unlikely for existence of resource similarity to exist. If the local competition does not have a reputation that is comparable to that of the focal firm, a situation such as what has been explained in hypothesis 1 will arise. This means that the firm will try to directly force the local competition out of the market. Also, the prospect of finding immediate access to the possible clientele that the local market has developed for itself makes it an attractive choice for a takeover. In response to questions regarding a series of acquisitions between 2000 and 2006 in one particular geographic region, the CEO of company A responded:

> "...so we have targeted the [...] region as our stronghold. This decision will allow us to build a network to swap cement when needed. At this point, Company C poses the most imminent threat to our business. But they are mostly concentrating in the [...] region, which leaves the [...] region quite out of their attention. There is a bundle of small companies, mostly single business units, in our area of interest. Our aim is to take them under control quickly, and effectively...collaborations? Not at this point. They are messy and take too much time and their outcomes are unclear, when we need to be fast. We will acquire their shares through the Tehran Stock Exchange (TSE) and cutting deals with their other shareholders..."

Firms that enter a new market in presence of a local competitor with a lower reputation will be more interested in eliminating the competition, if possible. In this case, acquisition becomes the main option of choice. An acquisition allows the focal firm to not only gain rapid prominence in the new market, but to also find access to the resources and capabilities that have been developed by the local firm. Moreover, the institutional environment will find it less disturbing that to have to deal with a new firm that they have little or no prior knowledge about. Therefore, the following hypothesis is proposed:

> *Proposition 4: Firms are more likely to engage in acquiring firms, when they intend to enter a new market in absence of major competitors and when there is small competition from local firms.*

When resource similarity or market commonality does not exist to prevent attacks from competitors, the focal firm can take initiatives to create them, itself. A firm can take this approach through intentional presence in the market of firms that might become its competent competitors in the future. Such an approach can be done through establishing a small subsidiary, with a potential for growth, in the market where a major potential competitor is operating.

When firms are not in direct competitive contact, reputation is the most accessible way to estimate the threat a potential competitor can pose. As mentioned before, reputation is a result of a firm's past actions and is considered as a good predictor of a firm's future behaviour (Palepu, 2006). Based on reputation, the focal firm can predict whether or not to expect a competitive attack from another firm. If such threat is perceived, the focal firm can estimated its ability to respond to such attack, based on the other firm's reputation and its assessment from its own capabilities. If it perceives the cost of responding to such attack to be very high, considering preventive measures will become more attractive. In one instance, a VP from company B stated:

> "The acquisition of the [...] facility seemed like a very good investment at the time. We figured that with the [...] cement factory nearby, we need to have access to facilities to export the output to potential markets. The [...] facility can easily reach our access to the GCC market. We won't even need to export the final product. The product could be exported in form of clinker and be grinded in [the GCC destination]. This way, we not only save on production, but also avoid the risks that are associated with producing cement".

Similarly, the dynamics of the acquisitions in competitors' geographic markets was explained by the CEO of company A, in one instance:

> "Our objective is to ensure that we have secured a strong crescent shaped belt of production in the [...] half of Iran. Company A would not have let the [...] production facility go unless we let them acquire the [...] factory. The other competition that exists next to the [...] plan is [...]. [...] is operated by HOLCIM and [...], and for our future prospects we should maintain a positive relationship."

Establishing a subsidiary in the market where a potential competitor is operating increases the points of contact of the two firms in the market. The increase in market commonality increases the risk of an attack by the potential competitor, knowing that retaliation by the focal firm can also involve the market that the attacking firm is currently making profits in. This makes establishing a subsidiary in the market of a potential competitor even more attractive and thus:

Proposition 5: Firms are more likely to establish new subsidiaries in the market of their competitors in order to increase market commonality and reduce the possibility of an attack by their competitors.

VI. CONCLUSION

This research provides contribution to the literature through providing additional conceptual support to a game theoretic lens. It also provides a better insight into understanding why firms undertake certain competitive actions that cannot be explained otherwise. Using the Iranian cement industry as the setting for our research, we have benefited from idiosyncrasies which have provided us with a rare situation where conditions for a game theoretic perspective are satisfied.

The main contribution of this research will be in integrating the findings of the research by Basedo et al. (2006) and the theoretical and conceptual model proposed by Chen (1996) and to apply them to a setting within a developing country. This allows for the construct of reputation to be used along side with market commonality and resource similarity in predicting and explaining firm's competitive behaviour.

Although this research is built on the data and interviews collected from the Iranian cement industry, the findings and the propositions are not intended solely for that setting. Our objective in this research has been to develop theory that could be generalizable to other settings with similar stories as well. However, we concede that this research also provides much value to those interested in understanding the industry structure within a market that has yet to receive much attention from research.

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