Determinants of Response Strategies in Factor-Market Competition

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ABSTRACT. To more specifically understand the interaction between companies in the factor market, this paper conceptually applies product-market competitive dynamics to the factor market. The effects of a competitive action in the factor market on the three dimensions of the Awareness-Motivation-Capability (AMC) perspective are explored, and proposed to determine the response strategy (do nothing, defending, counterattacking, or total war) of the company under attack. To illustrate the theory with practical examples, two case studies are conducted. Finally, further research suggestions are provided. This paper contributes to the scientific literature in explaining how product-market competition models might be applied to the factor market and thereby incorporating previous research into a new framework to understand competitive interaction between companies that compete in the factor market. From a managerial point of view, this research can be used as a guide to predict a competitor's reaction to a certain competitive action that a company is planning to undertake.

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1. INTRODUCTION

Effective supply chain management has been widely accepted as a means to gain competitive advantage (Carvalho, Azevedo, & Cruz-Machado, 2012; Liu and Kang, 2011; Mol, 2003; Wagner and Kemmerling, 2014). One way of gaining that advantage is through competitive actions (also named 'attacks' if they disadvantage another company), in concepts such as first mover advantage and competitive initiative (Chen, 1996). Most of the research on this topic is however focussed on competition in the product market (where they sell their products), in the same industry, with similar or substitutable products targeting the same customers (e.g. Chen, 1996). Smith, Ferrier, and Ndofor (2001) explain that successful competitive actions encourage competitors to imitate or block the action. Series of actions and reactions among companies are called the competitive dynamics of an industry. Product-market competitive dynamics have been researched to quite some extent, from competitor analysis (e.g. Bergen & Peteraf, 2002, Chen, 1996), to the effects of retaliation on performance (e.g. Chen & Miller, 1994; Smith, Grimm, Gannon, & Chen, 1991), to the likelihood and number of a competitive response on a competitive action (e.g. Bergen & Peteraf, 2002; Chen & Miller, 1994; Chen, Smith, & Grimm, 1992; Smith *et al*., 1991; Smith *et al*., 2001), and response strategies (e.g. Ma, 1999).

However, "wherever firms overlap, coexist, or co-occupy the same space, rivalry will follow" (Markman, Gianiodis, & Buchholtz, 2009: 423). This means that firms compete not only in the product market, but that there is also competition for supplies, if a supplier supplies more than one buyer. This is referred to as factor-market rivalry by Ellram, Tate, & Feitzinger (2013) and Markman *et al.* (2009). The latter focus their paper on the development of a framework that "shed[s] light on atypical rivals and competitive blind spots" (p.423). Competitive blind spots exist of companies from which no competition is expected, but who turn out to compete nevertheless. For example, "in the factor-market for clay used to manufacture prototypes, Chrysler Corporation experienced an unexpected rival: a kitty litter company" (Ellram *et al*., 2012: 32). This framework is an extension to the framework of Chen (1996), who uses two dimensions, resource similarity (factor-market overlap), and market commonality (product-market overlap), to compare the (unique) market profile of a company to a given competitor of that company. Where two companies compete, this framework can "illuminate the tension between the two firms and predict how they might interact in the market" (Chen, 2009: 11).

As said, competitive dynamics, or the competitive interaction between companies, in the product market have been researched to quite some extent. However, the factor market is a field that has remained largely unexplored at this point. Although Markman *et al.* (2009) mention some action and response strategies, as far as I know, research to the extent of predicting a competitor's reaction on a competitive action in the factor market has not been conducted. Since companies use competitive actions in the product market towards their customers in order to create competitive advantage, they may also use competitive actions in the factor market (towards their suppliers) to create an advantage. Many papers (i.e. Chen, 1996) formulate general ideas of competitive interactions, such as the Awareness-Motivation-Capability (AMC) perspective (which will be explained later), that are not necessarily specified to the product market. Therefore, it may be worth extending these ideas to the factor market.

Chen and Miller (1994) found that the extent to which a company's actions provoke retaliation will negatively affect the performance of the action. It can however be argued that not only the amount of responses (e.g. Chen & Miller, 1994; Chen *et al*., 1992), but also the type of response affects the performance. One severe and intense reaction might have more effect than twenty smaller ones. Therefore, the goal of this paper is to provide a basis about how companies can predict the response type of their competitors, based on their initial action.

When applying product-market competitive dynamics theory on the factor market, questions that will be addressed in this paper are: 1) Which categories of competitive actions in the factor market can be identified?, and 2) Which categories of competitive reactions in the factor market can be identified? These questions will be answered by examining the existing literature on competitive interactions in the product market. This literature will then be used to link competitive actions in the factor market to a category of competitive response. In order to shed light on how companies interact in practice and to provide future research directions, two case studies, based on interviews with supply managers of international companies, will be discussed. These interviews will also answer a third question: 3) What competitive actions and responses can be observed in practice?

This paper contributes to the scientific literature in explaining how product-market competition models might be applied to the factor market and thereby incorporating previous research into a new framework to understand competitive interaction between companies that compete in the factor market. In doing so, this paper highlights several points for further research in the field of factor-market competitive dynamics. From a managerial point of view, this paper can be used as a guide to predict a competitor's reaction to a certain competitive action that a company is planning to undertake. Ketchen, Jr. *et al.* (2004) say specifically that, because of the strategic nature of competitive actions, companies need not only consider the outcome of the action, but also the reaction of a competitor on the action. A competitive response can potentially nullify the advantage gained from an action. Therefore, based on the predicted reaction, a company may then decide to undertake a different action.

The paper will be continued as follows: first a brief overview of the relevant literature will be provided, on which then propositions about competitive dynamics in the factor market will be based. Next, the interviews will be discussed. Lastly, the paper will conclude with suggestions for future research.

2. LITERATURE REVIEW

2.1 Competitive Dynamics

Competitive dynamics (and competition in general) are widely considered as a central part of strategic management (Chen, 1996, 2009, 2010; Chen & Miller, 2012; Ketchen, Jr. *et al*., 2004; Nair & Selover, 2012; Zucchini & Kretschmer, 2011), and have been defined as (the study of) "interfirm rivalry based on specific competitive actions and reactions, their strategic and organizational contexts, and their drivers and consequences" (Chen & Miller, 2012: 137). Recalling that competitive actions are a means of gaining competitive advantage, companies constantly take offensive and defensive actions (Baum & Korn, 1996; 1999) to pursue or defend a competitive position in their market (Chen *et al.*, 1992; Smith *et al*., 2001). The implication is that whenever a company tries to enhance its competitive position, (one of) its competitor(s) may react to the action in order to defend its own (relative) position.

This paper will slightly modify Smith *et al*.'s (1991) definition of an action, in defining it as 'a specific competitive move, initiated by a firm to improve its relative competitive position'. This modification of the definition comprises two points. First, Smith *et al*. (1991) note that an action needs to be detectable while this study is purely theoretical and an action therefore need not be detectable. Second, Smith *et al*. (1991) give examples of competitive actions in their definition, which are applicable to the product market. Since this study is focussed on the factor market, these actions are not applicable. Chen *et al*. (1992) add to Smith *et al*.'s (1991) definition the possibility that an action can also be meant to defend a competitive position, previous to an actual attack to that position. Because such a defending action would also improve a company's relative competitive position, this paper will consider it an *action* and it is therefore already incorporated in the given definition. A defending action will in this paper only be named so if it concerns a company's reaction to a competitive threat from a competitor.

Ma (1999) explores response-determinants in multinational market competition. He considers companies to have 4 strategic options when under attack: 1) do nothing, 2) defend: retaliate in the same market as attacked, 3) counterattack: retaliate in another shared market than where attacked, and 4) engage in total war: retaliate in all shared markets. In determining which option to choose, the company under attack is, according to Ma (1999), influenced by 4 factors, namely its awareness of the attack, the motivation to respond, the feasibility of an effective response, and the type of attack. In the paper, the latter is regarded as being a distinct category because these are the actions that evoke a response, but, as Ma (1999) just noted, they need to be viewed (and examined) "in tandem with" motivation and feasibility (p.100).

In his paper, Chen (1996) links competitor analysis to interfirm rivalry, following the idea of competitive asymmetry. This idea implies that every company is unique and that therefore two companies may have a different view on their competitive relationship (Chen & Miller, 2012). The competitor analysis can be done by considering two dimensions. These dimensions are 'market commonality' and 'resource similarity' (Bergen & Peteraf, 2002; Chen, 1996; Markman *et al*., 2009). Figure 1 shows these dimensions in relation to each other. A brief explanation of this figure will be provided later on. In this study, market commonality will be defined as "the degree to which a given competitor overlaps with the focal firm in terms of customer needs served" (Bergen & Peteraf, 2002: 160). Following the same authors, resource similarity will be defined as "the extent to which a given competitor possesses strategic endowments comparable, in terms of type, to those of the focal firm" (p. 161).

These dimensions can be used to identify competitive blind spots, as Markman *et al*. (2009) noted. Competitive blind spots may occur mainly when companies compete in the factor market, but not in the product market. Being in a totally different industry in the product market, companies might be totally unaware that they buy their resources in the same factor market.. When a company is aware of its potential competitors, it may become more aware of competitive actions that would affect its operations or performance.

The idea of competitive asymmetry also implies that companies may react differently, or may not even react at all to an attack of a competitor. Baum and Korn (1996) found that companies operating in the same product markets as their competitors (i.e. companies that have a high degree of market commonality) are less likely to act aggressively towards each other. This is in line with the mutual forbearance hypothesis, which Baum and Korn (1996) adapt from Edwards (1955). The idea is that a company and its competitor interacting in multiple markets recognize the mutual interdependency and therefore adapt their competitive actions in order to minimize the risk on retaliation and escalation.

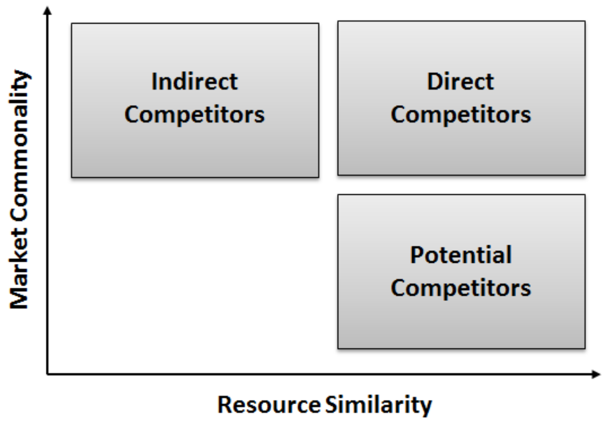

Figure 1. Competitor Analysis (adopted from Bergen & Peteraf, 2002, p. 160)

Going back to Figure 1, as was mentioned earlier, potential competitors are companies that share the same factor markets but not the same product markets, such as the example of Chrysler Corporation and the kitty litter company (Ellram *et al*., 2012). The threat of new entry may be large from potential competitors, because they already have the resources necessary to branch out to other markets (Bergen & Peteraf, 2002). Direct competitors serve the same set of customer needs with the same resources. Here, the competitive relationship between AMD and Intel is an example; both companies produce microprocessors and supply them to computer manufacturers (Bergen & Peteraf, 2002). Lastly, indirect competitors are the substitutors of a focal company. These companies target the same customers while using different resources. Often these competitors use different technologies. Here, an example might be the competitive interaction between Kodak (film-based photography) and Sony (digital photography) in the early 2000's (Bergen and Peteraf, 2002).

2.1.1 Expectancy-Valence Framework

Based on earlier work of several authors, Chen and Miller (1994) develop an Expectancy-Valence Framework to identify what it is about competitive attacks that evokes a reaction. The three dimensions that are explored are 1) the 'visibility' of an attack, 2) the 'response difficulty' for a competitor and 3) the 'centrality' of the attack. According to Chen and Miller (1994), these dimensions are central to predicting the chance on retaliation. If the company under attack is feeling that something valuable is at stake (something 'central') it will have a high motivation to respond, or, in other words, if the expected reward (the 'valence') from the response is considerable, the incentive to respond will be higher. However, this only holds if a company is confident that it is able to respond in an effective way. Lastly, the authors argue that a threat must be visible in order to respond.

Basically, this framework suggests that if the visibility, the ease of response or the centrality of an attack is high, chances on retaliation from a competitor are high. It explains when chances on retaliation are highest (namely when executing a more *brute force* attack), instead of explaining what response can be expected from the attack. According to Chen and Miller (2012), the Expectancy-Valence Framework was a forerunner of the AMC perspective, which is explained in the next section.

2.1.2 The Awareness-Motivation-Capability Perspective

According to Chen, Su, and Tsai (2007), several researchers have identified three factors that drive competitive behaviour, namely 1) the awareness of an attack or competitive relationship, 2) the motivation, and 3) the capability to act or respond. They called it the Awareness-Motivation-Capability (AMC) perspective. Miller and Chen (1994) were the first to consider these three classes of factors together in their study on the effect of competitive inertia on company performance. According to Chen (1996), awareness and motivation are influenced primarily by the market relationship between two companies, while capability is mainly dependent on strategic or resource endowments of a company. According to Chen and Miller (2012), the AMC perspective can help analyse and predict a potential response. "It is action- and competitor-specific, and analysis will vary depending on the action of interest and the competitor under consideration" (Chen & Miller, 2012, p. 139-140).

The literature identifies several factors influencing a company's awareness of an action, the motivation to act or respond and the capability to do so. For example, Chen *et al*. (2007) investigate the effect of relative scale, and attack volume, operational capability to contest on the perceived competitive tension between two companies. This tension is then considered to be a predictor of competitive response to an action. Chen *et al.* (1992) found that strategic actions which required high implementation effort would evoke fewer responses, and the response lag would be larger. Also, they found that actions which have a high impact on the industry tend to evoke more and faster responses.

In many ways, the AMC perspective resembles the Expectancy-Valence Framework as described in the previous section. In both the framework and the perspective, a company has to 'see' the competitive relationship or the attack, it has to have the motivation to act or respond (the attack has to be central enough to respond to and the expected reward must be high enough), and the company must have the means to do so, or, in other words, the company must have the ability to respond. The AMC perspective can thus be used in to important ways, both to determine the likelihood of an attack from the viewpoint of a defender, and the likelihood of a response on the attack from the viewpoint of the attacker (Miller & Chen, 1994).

2.2 The Factor Market

As companies compete over customers in the product market, they compete over resources in the factor market. Several theories have been formed about the factor market, such as for example the Resource-Based View (Barney, 1991), which argues that sustainable competitive advantage can be created by obtaining valuable, rare, inimitable or non-substitutable (VRIN) resources. However, Ellram *et al.* (2012) argue, based on Barney (1991), that complementary, non-VRIN resources are becoming important in implementing a strategy as well when they are scarce. Indeed, Markman *et al*. (2009) state that "a central premise of factor-market rivalry is that resources need not be simultaneously and/or categorically valuable, rare, inimitable, and non-substitutable (VRIN) to trigger interfirm rivalry" (p. 425). These non-VRIN resources may trigger factor-market competition, even more than VRIN resources, because the latter are much less specific to one company. Herewith in line, Markman *et al*. (2009) identify two resource characteristics that would affect the factor-market competition for resources: resource versatility and resource mobility.

2.2.1 Resource Versatility

The larger the versatility of a resource is, the larger its applicability to different domains and in different markets. According to Markman *et al*. (2009), this implicates that they can be used in a more flexible way to undertake or respond to competitive actions and unforeseen circumstances, such as industry decline or a shifting product demand. However, because of their broad applicability, versatile resources would attract competition from dissimilar companies, which do not share any product markets with the focal company (i.e. potential competitors [Bergen & Peteraf, 2002]).

2.2.2 Resource Mobility

Resource mobility is fundamentally about how transferrable a resource is; how unique it is to a specific company. Markman *et al*. (2009) define immobile resources as "specialized and firm specific to such an extent that mobilizing them would entail prohibitive switching costs" (p. 429). They argue that 'sticky resources' will probably not evoke competition because they cannot be adopted fast enough to match changes in product-market conditions. As with versatile resources, Markman *et al*. (2009) argue that resources that are more mobile are therefore also more flexible deployable to pursue a competitive action or respond to one. However, this would in turn motivate competition for the resource as well.

2.3 Concluding remarks

Although Markman *et al*. (2009) mention specific competitive actions in the factor market, it is likely that their list does not contain all possible actions and it can be argued that being too specific on the actions may prove unfeasible. Rather, instead of looking at the action from the side of the acting company, different categories may be identified based on the three dimensions of the AMC perspective, viewed from the disadvantaged competitor. In other words, the effect an action has op a competing company can be used as categories of competitive actions. Therefore, this paper proposes that question 1: 'Which categories of competitive actions in the factor market can be identified?' can be answered by: 'the different categories can be derived from the impact of the three dimensions of the AMC perspective on the disadvantaged company'. Although they are, to my knowledge, yet non-existent in the literature, identifying general competitive action categories for the factor market is beyond the time scope of this paper.

As an answer to question 2, Ma (1999) provides four different response strategies that most probably incorporate all specific responses possible. These response strategies are therefore used in the propositions of this paper. Question 2: 'Which categories of competitive reactions in the factor market can be identified?' may be answered with: 'Do Nothing, Defending, Counterattacking, or engaging in a Total War'.

3. CONCEPTUAL THEORY BUILDING

As described in section 2.1, the literature puts forward several dominant ideas in order to predict the response of a competitor on a competitive action in the product market. These ideas include 1) the mutual forbearance theory (e.g. Baum & Korn, 1996), 2) competitor analysis based on market commonality and resource similarity (e.g. Bergen & Peteraf, 2002; Chen, 1996), and 3) the AMC perspective (e.g. Chen *et al*., 2007). However, these ideas are rather general, in that they do not consider specific competitive actions. Rather, they consider how two companies interact in the market (mutual forbearance theory and competitor analysis based on market commonality and resource similarity) and the impact of the attack on the competitor's business (the AMC perspective). Therefore, it can be argued that these ideas can also be applied to competition in the factor market.

Ma (1999) proposes that the choice for a response strategy depends on the dimensions Awareness, Motivation, and Capability, and a fourth, the Type of action. The latter will in this study not be considered, since it is argued that the type of action in the factor market is measured by the effect an action has on the Awareness-Motivation-Capability dimensions at a competitor.

3.1.1 Awareness of competitive attacks

Market overlap has been widely considered to be a means of identifying competitors and avoiding competitive blind spots (e.g. Bergen & Peteraf, 2002; Markman *et al*., 2009). By considering these two dimensions, companies can become aware of the degree of their mutual interdependence (Baum & Korn, 1996; Chen, 1996) and may adapt their competitive response accordingly. It can be expected that it is hard to identify potential competitors. Since purchasing can provide competitive advantage, companies and suppliers are not willing to provide information about the identity of their suppliers and customers respectively. Also, as was discussed in section 2.2, Markman *et al*. (2009) identified that resource versatility, although increasing a company's capability to undertake an action or to respond, would negatively influence its awareness of potential competitive threats. This effect is strongest in the factor market in which a company competes with potential competitors because of their product-market dissimilarity.

> Proposition 1: *As we move from potential competitors to indirect competitors to direct competitors, awareness of competitive actions in the factor market is likely to increase.*

According to Ma (1999), awareness of competitive actions can be increased if a company follows a global strategy instead of a multidomestic strategy. Because multidomestic companies usually have less coordination between the national subsidiaries than a global company, and thus have a larger independence from headquarters (Yip, 1995), Ma (1999) argues that companies with a global orientation are not only more aware of their competitors' actions, but are also more "capable of cross-border engagement" (p. 102). When projecting this on the factor market, it may be unlikely that the pursuit of a global strategy influences the awareness of competitive actions in the factor market. However, it can be argued that, in the same way that a company is closer to its customers when pursuing a global strategy and hence increases awareness, a company that is closer to its suppliers (i.e. has a better relation with its suppliers) is more likely to become aware of competitive actions undertaken by its competitors in that factor market.

> Proposition 2: *The better the relation between a company and its supplier, the more likely the company is to become aware of a competitive action of a competitor in that factor market.*

At the same time, it can be argued that an attack which causes a supply disruption, apart from the intensity of the attack, is more likely to be noticed than a competitive action that has little or no consequences for the attacked company. This may have two reasons.

If a company undertakes a competitive action in a central market (strategic or bottleneck quadrant of the Kraljic Matrix [Kraljic, 1983]) of a competitor, it is more likely to be noted by the competitor. These central factor markets are likely to be much closer monitored, because a supply disruption in one of these markets may have disastrous consequences if no other supplier can be found (which is hard if there are few).

> Proposition 3: *The more central an attack is, the more likely a company is to become aware of a competitive action of a competitor.*

Competitive actions may be undertaken if demand is larger than supply, in order to ensure supply and thus be more able to satisfy customer needs, but they may also be undertaken in a market where supply is larger than demand. In such a market, a competitive action might for example be to negotiate lower prices. However, if demand for a product is larger (or equal) than supply, it can be said that there is a scarcity of that resource and thus that it is a seller's market. In a seller's market, a competitive action of one company will have implications for the supply of a competitor, which will not be the case in a buyer's market, where a competitive action will only affect the performance of the acting company.

> Proposition 4: *If a market is a seller's market, a company is more likely to become aware of a competitive action of a competitor.*

It can be argued that an increased awareness of competitive actions itself is no determinant for a specific competitive response option, but that it helps companies to see 'the whole picture' and that these companies are therefore more able to effectively react to an action of a competitor. In essence, Ma (1999) proposes that the higher a company's awareness of its competitors' competitive actions, the greater the chance is that it will adopt the counterattack or total war strategy. However, he notes that this is only because of the increased awareness of the available options to the responding company. "With such awareness", he argues, "even the option of doing nothing could take on new meanings that are inconceivable in single national market competition" (p.101). This paper will follow the reasoning that awareness itself is not the determining factor in the choice for a response strategy, but it helps companies to more clearly see their options.

3.1.2 Motivation to respond

Following the Expectancy-Valence framework (Chen & Miller, 1994), Chen *et al.* (1992) and Ma (1999), it can be argued that the centrality of an attack (the degree to which the attack is in a competitor's key markets) and the competitive impact (the pervasiveness of the attack) are positive influencers of the motivation to respond.

Companies are more likely to react if one of its competitors undertakes an action in one of its central markets (Porter, 1985). Central markets are here considered to have strategic importance for a company. Ma (1999) suggests that the reaction on an action also depends on the type of action. Types of actions in the product market have been named in quite some detail (e.g. price cut, advertising, new product offering, and new market entry [Baum & Korn, 1996; Chen & Miller, 1994; Ma, 1999]). In the factor market, specific actions can be, among others, litigation, personnel poaching, and contracts at the business level, and factor-market entry or exit, alliances, backward integration, and merger and acquisition on the corporate level (Markman *et al*., 2009). Rather than considering specific actions, the broader distinction can be made between tactical (business) actions and strategic (corporate) actions (Chen *et al*., 1992). Tactic actions, as opposed to strategic ones, are easy to implement and require few resources and commitment. Strategic actions on the other hand, have significant implementation requirements in terms of resources, effort and commitment (Baum & Korn, 1996). Chen *et al*. (1992) found that strategic actions would reduce the number of responses, while increasing the response delay. Tactical actions however, would provoke more reactions, which could potentially deteriorate the competitive advantage gained from the action. Following Ma's (1999) argumentation and proposition that when a central market is attacked by a price cut of a competitor (which is hard to match, and, according to Baum and Korn [1996], a tactical action), the responding company will likely adopt a counterattack strategy, or in other words, retaliate in a market different from the market under attack. However, when a central market is attacked by advertisement of a competitor (also a tactical action according to Baum and Korn [1996]), the responding company is more likely to defend (i.e. imitate the action) by intensifying its own advertising. Although matching the effectiveness of a good advertisement group is usually difficult, Ma (1999) argues that it is usually less costly to start an advertisement campaign than matching a price cut in a central market. This price cut may be the result of a process-improvement, which is very hard to copy. It can therefore be argued that, because of the required resources, the price cut in a central market is harder to imitate than the advertisement campaign.

> Proposition 5A: *The easier it is to imitate a tactical action in a central factor market of a company, the more likely that company is to adopt a defending strategy.*

> Proposition 5B: *The harder it is to imitate a tactical action in a central factor market of a company, the more likely that company is to adopt a counterattack or total war strategy.*

On the other hand, if a company notices an action of a competitor in a peripheral market, it might view the action as unimportant. In order to maintain foothold in that market, a company might react in a passive way (Ma, 1999) by imitating the action (i.e. defending). If no threat is perceived because the market is non-central, a company might even consider the costs of imitating the action higher than the benefits of imitating, and therefore tolerate the action and refrain from reacting (i.e. do nothing).

> Proposition 5C: *As a respond to a tactical action in a non-central factor market, a company is likely to defend or do nothing.*

Contrary to a tactical action, a strategic action involves much resources and effort to implement. Chen *et al*. (1992) found that strategic actions in the product market would reduce the number of responses while increasing the response delay. It can be argued that when a company finds that a competitor undertakes a strategic (and therefore probably sustainable) action in one of its central markets, it will not give up its position so lightly. Because the company feels threatened in one of its central markets, it will most likely try to defend its position and, at least at first, not counterattack.

> Proposition 5D: *As a response to a strategic action in a central factor market, a company is likely to adopt a defending strategy.*

Following the mutual forbearance theory, companies that are close competitors are less willing to undertake offensive actions against each other (Baum & Korn, 1999). Bergen and Peteraf (2002) propose, in accordance with the mutual forbearance theory, that "when the degree of resource equivalence is high, the likelihood of attack increases as we move from the class of direct competitors, to potential competitors, to indirect competitors" (p. 164). They also argue that the degree of competitive balance increases with the degree of resource equivalence. A high resource equivalence results in a high capability to respond (Bergen & Peteraf, 2002; Chen, 1996), which would in turn increase the motivation to respond because the likelihood of a successful reaction is high (Bergen & Peteraf, 2002). Chen (1996) argues that two companies have little motivation to engage in excessive response strategies (i.e. counterattack or total war) when they have little shared factor markets. In order to remain foothold in a market, a company may therefore adopt a defending strategy. Furthermore, Markman *et al*. (2009) argue that "factor-market rivalry suggests that firms may forbear in product markets – even when they face serious attacks – because they hope to maintain forbearance in factor markets, perhaps along critical areas of their value chain" (p. 433). Therefore, they suggest that companies that have both a high market commonality and a high resource similarity (direct competitors), while under attack, have a high motivation to forbear. Also indirect competitors (having high market commonality but low resource similarity) are predicted to have a high motivation to forbear (although somewhat less than when companies also have a high degree of factor-market overlap). Companies that only share factor markets (potential competitors) are expected by Markman *et al*. (2009) to be only moderately motivated to forbear, because they are not concerned with forbearance in the product market.

> Proposition 6: *As we move from direct competitors to indirect competitors to potential competitors, companies are more likely to adopt counterattack or total war strategies as a response to a competitive action in the factor market.*

3.1.3 Capability to respond

As mentioned above, a high level of resource similarity would result in a high capability to respond. Although a company that shares a high resource similarity with a competitor would not be eager to commence an action that is offensive to that competitor, Ma (1999) argues that, in order to remain themselves from a disadvantage caused by not responding, these competitors would likely match the competitive moves and thus adopt a defending strategy. A counterattack, and more a total war, is unlikely for the reason that the companies recognize their mutual interdependence and therefore recognize that a war would benefit none, but matching a competitor's action would already provide a strong signal that a company is prepared to defend its market position (Chen *et al*. 1991). Hence, although capable, it is expected that a company will adopt a defending strategy when it perceives a competitive threat from a competitor with whom it shares a relatively large amount of product markets. Although resource similarity is considered to raise a company's capability to effectively respond to a competitive threat, it cannot be used to predict a response for the reason that companies are possibly unwilling to engage in any other option than defending. Their motivation to start a counterattack or total war is low. Hence, capability is considered a limiting factor and not a predicting factor per se.

Following the idea of competitive asymmetry, two companies might perceive the competitive threat from each other differently (Chen, 1996; Ma, 1999). Tailoring the argumentation of Ma (1999) to the factor market, it can be argued that one company has a larger stake at a supplier than another, and thus have a stronger position. Therefore, a company with a stronger stake at a supplier's, will likely do nothing or defend its stake, while a weaker company might consider itself unable to defend and is therefore more likely to counterattack in a market where it is stronger compared to its competitor.

> Proposition 7: *The larger the competitive asymmetry in the factor market, the more likely a stronger company is to do nothing or defend and the more likely a weaker company is to counterattack as a response to a competitive action in the factor market.*

In the factor market, as noted in section 2.2, resource versatility and resource mobility may play an important part in the capability of a company to respond. Although high resource versatility or high resource mobility is expected to evoke more actions, it is also argued that they are then more flexible and therefore would render a company more capable to respond. This may be especially true for a response to a potential competitor, since a focal company can counterattack the offender in a product market that was not earlier addressed by the focal company. An example may be BIC pen's entry into the disposable razor market, while under attack by Gillette in the ballpoint market (Ma, 1999). As BIC puts it: "In fact, BIC and Gillette's product war can be traced back when Gillette came up with paper-mate to contest BIC's disposable pens. Gillette overcame entry barriers (access to distribution channels, economies of scale in advertising, brand equity, etc.) by using its own considerable skills in mass merchandising. Since this was BIC's stronghold, it had to respond; so BIC counterattacked by entering Gillette's stronghold, disposable razors - giving rise to multi-market competition." (Huang & Ohanian, 2006: 8). Gillette's resources were apparently mobile and versatile enough to enter BIC's market, while BIC used its own mobile and versatile resources to counterattack Gillette in its main market.

> Proposition 8: *The more mobile or more versatile a company's resources, the more likely it will adopt a counterattack or total war strategy as a response to a competitive action in the factor market.*

In figure 2, these propositions are schematically displayed.

4. CASE STUDIES

In order to get an understanding of factor-market competitive dynamics and obtain a practical example, an interview was conducted with a purchasing manager of a global manufacturer of gas turbines and compressors, and a supply manager of a large manufacturer of textile half fabricates. A series of questions was asked in the form of a conversation. These questions were aimed at obtaining examples of competitive actions and responses of the company. Below, an action and the company's response to that action is discussed.

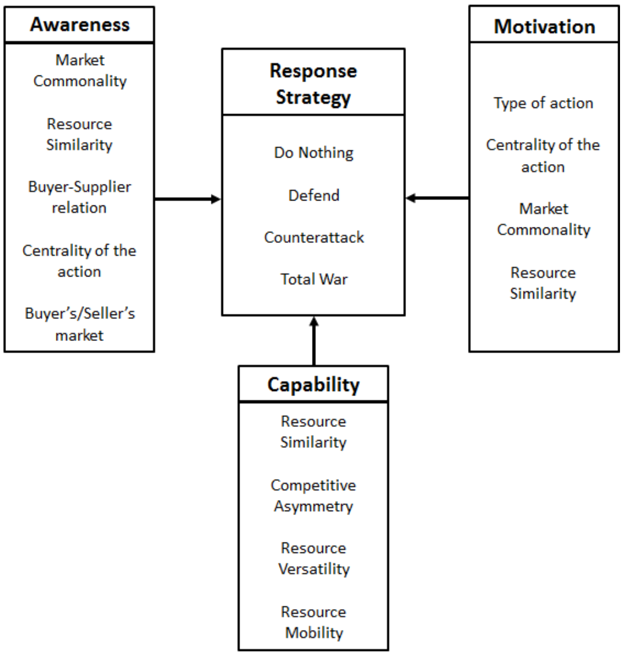

Figure 2. Determinants of response strategies in factor-market competition

4.1 Case 1

Case company 1 is the global manufacturer of gas turbines and compressors.

4.1.1 Background information case company

From the interview, it became clear that the case company finds itself in an oligopoly in the factor market as well as in the product market. It has four big competitors, who each purchase largely the same materials at the same suppliers and sell their products to the same customers. Next to that, there are a few 'potential competitors' (i.e. companies that purchase the same materials at the same suppliers but are in a different product market), such as for example a brewery, which buys valves for pipes at the same supplier as the case company. Some other suppliers also supply the airplane industry or the navy.

4.1.2 Competitive action

The purchasing manager explained that the largest problem was the capacity of their suppliers, and especially those supplying engineered products (i.e. products that are first designed to the customer's needs and then produced). If the case company would get a large order, it would ask their supplier(s) to show a working schedule presenting their 'free time'. If the new order would not fit, they would ask their supplier to 'rearrange' the schedule, but in essence this would mean that the supplier would give the new order priority above the existing orders, meaning that the existing orders would not be delivered on time. However, the purchasing manager explicitly said that it was up to the supplier to do as asked. Being a preferred customer can thus be argued, in this case, to bring competitive advantage (e.g. Baxter, 2012). Looking back to the Awareness-Motivation-Capability perspective, this action can be categorised as follows. Note however, that if the supplier has sufficient capacity to include the new, large order, it is not considered a competitive action.

4.1.2.1 Awareness

As was explained by the purchasing manager, it takes 9 to 10 months to engineer certain products, for example 'acoustics', which are large cases around a turbine. This engineering is done at the supplier, in cooperation with a dedicated team from the buyer. If a company would be set aside because of that new order during the 9-month engineering phase, it would be noticed because work would be paused for no obvious reason. Also, the purchasing manager argued that somewhere in that time the name of the offending company (i.e. the company that got priority) would be mentioned. She argued that, because they would all use the same suppliers, the awareness of competitive actions in the factor-market would be high.

4.1.2.2 Motivation

Such an action is not common, but it sometimes happens. Also competitors of the case company can engage in such an action. Therefore, the purchasing manager was asked what the response of the case company would be if they became aware of such an action.

In response to this question, the purchasing manager explained that there are certain consequences to a late delivery. At the start of a project, the case company negotiates a delivery date with its customer and plans its production process accordingly. In negotiating this final delivery date, a key commodity manager of the case company is consulted in order to ensure on-time delivery from the suppliers. Based on the agreed delivery date with the supplier and the assembly time, the case company and its customer can agree on a delivery date for the full product. This is a tight schedule and penalties for late delivery may run up to 1 million euros per week. Because of the tight schedule and high penalties, a company would not be pleased to hear that the delivery of certain materials is postponed and the purchasing manager said that she would definitely take action.

Although the motivation to respond is very high, the willingness to engage in actions that would harm the competitor would be low. Because the resource is central (a delay would affect the delivery of the final product), the case company's priority would be to ensure on-time supply of the resource. Also, the purchasing manager argued that their motivation to start a series of competitive attacks is low since there are very few suppliers and customers. A large series of competitive attacks would not benefit any of the involved companies. Rather, acting defensive would not really upset their competitors but it would help the case company to get back on track with their production schedule.

4.1.2.3 Capability

Because of the high resource similarity and product commonality, the purchasing manager considered the case company able to respond to any threat from their competitors. The same factors that affected their motivation for not responding aggressively were also considered the main factor affecting the attacked company's capability to respond. Because there are few suppliers, the connections between the companies and their suppliers are close, and the resource similarity between the competing companies is high, any response would affect the performance of the company under attack.

4.1.3 Competitive response

Although the purchasing manager of explicitly said they would "escalate", she was also quite clear that ensuring on-time supply was their main priority. "I do not care what my competitor is supplied and when, as long as I get my orders in time". The main reason that the purchasing manager was not really concerned with what their suppliers were supplied was that the production orders were already assigned. Therefore, an action would always be aimed at gaining competitive advantage for their own orders, never at harming or damaging a competitor.

The purchasing manager also explained that they would almost never adopt a counterattack or total war strategy. This was mainly because of the oligopoly they are in; they recognised that a certain level of tolerance (let everyone do what they like as long as it does not disadvantage me) would benefit all. Therefore, they would sometimes do nothing but mostly defend their interests.

As was mentioned earlier, a late delivery to the consumer will result in a penalty which may run up to 1 million euros for each week the delivery is late. Because the case company knew beforehand that a penalty would be given by the consumer if the final delivery would be late, it has also incorporated a penalty for the supplier for late delivery for the parts. However, the company's competitors also include that in their contracts with the supplier. Hence, if the penalty of any competitor of the case company is higher it would automatically get more priority. Although the direct costs of a late delivery might therefore not be extremely high, it may result in a lowered reputation, which may be of influence to consumers choosing their supplier for gas turbines or compressors. Therefore, it is essential that the delivery is on time. The purchasing manager explains that first thing she does when she hears the delivery is late is to visit the supplier personally. There, the supplier was told that a late delivery is unacceptable, and asked what they were going to do to get back on track with the schedule. If necessary, the case company would send a team to its supplier to monitor the progress or demand the supplier to work 24 hours a day, all to ensure the project is finished on time.

As can be concluded from the interview, the case company would, in this case, adopt a defending strategy for two main reasons. First of all, the resource was critical for the production process (strategic quadrant of the Kraljic Matrix [Kraljic, 1983]). Because of the high penalty, it was critical to deliver the product on time. Second, the purchasing manager commented that because of the oligopoly, they would rather not fight their competitors extensively and possibly provoke a competitive war.

4.2 Case 2

Case company 2 is the large manufacturer of textile half fabricates.

4.2.1 Background information case company

The supply manager of the second case company explained they handled basic textiles and special, protective textiles. The case company identified two major and approximately 7 minor competitors. The basic textiles are commodity resources, while the protective textiles are strategic ones. In the commodity market, competitive actions are not of interest because, according to the supply manager, the relationship between the case company and its supplier is contract-based and it is therefore relatively easy to switch suppliers. For the latter however, supply management is more important and the relation between buyer and supplier is better.

4.2.2 Competitive action

The supply manager explained that not many competitive actions were undertaken in their factor-market for protective textiles. Because of strategic nature of the resource, competitive advantage could be gained from the assurance that competitors would not be able to exactly copy their technology and from a cost advantage. The first is ensured with exclusivity contracts, but since competitors often use a different technology for manufacturing protective textiles, these contracts are not really considered an action. Gaining a cost advantage over competitors can be arranged by sourcing the material, fibres, in another country. This strategic action is considered by the supply manager to bring a competitive advantage for a considerable time.

4.2.2.1 Awareness

The supply manager, at first, considered the case company to have two types of competitors: direct competitors (competitors that manufacture the same products and compete for the same customers), and indirect competitors (the smaller companies that cannot opt for the big orders. Only when asking whether there might be companies that purchase their materials at the same suppliers but operate in a different product market, he said that indeed there "most probably" were such companies, but that he was unaware of them. It can be concluded that the case company is very focussed on the product market and that therefore they are less aware of actions undertaken by potential competitors. However, since there were no competitors for strategic resources (protective textiles), but only for the commodity resource (standard textiles), the case company was not worried about competitive actions from potential competitors.

According to the supply manager, it is difficult to assess the nature of a strategic competitive action. Because activities of direct competitors are closely watched, the case company would notice in the product market that they became less competitive if a competitive action was undertaken by one of its competitors, but the action itself would be hard to determine. This is because the supply manager explained that in the factor market there is much less transparency since purchasing and supply management can bring competitive advantage. He also noted that he would be more aware if an action was undertaken in one of their central factor markets than if an action was undertaken in one of their peripheral (commodity) factor markets.

4.2.2.2 Motivation

If a tactical action was undertaken by one of their competitors, the supply manager explained that they would most likely not respond to the threat. An example of such an action could be to pay more for the goods in times of scarcity. However, the temporal scarcity would not last long enough to establish a sustainable advantage and therefore the supply manager did not consider this action a threat. As a result, the costs of responding to the action would not justify the gains.

On the other hand, if a competitor would undertake a strategic action, thereby possibly gaining sustainable competitive advantage, the supply manager would be more prone to respond because this action would threaten the competitiveness of the focal company in the long term. The strategic action of sourcing a strategic product in a low-cost country would take considerable effort because it is important to establish a relationship with the supplier first. Because this action would bring a sustainable competitive advantage if their competitors did nothing, the supply manager reasoned that competitors of the acting company would definitely respond.

However, as mentioned earlier, there is a competitive asymmetry in the protective textile market. The supply manager explained that if one of their minor competitors would undertake a competitive action, they would not consider it a threat because those competitors are too small to cause any harm. Therefore, they would not respond to the action.

4.2.2.3 Capability

The capability to respond to the strategic action, sourcing reallocation, was not considered a large issue. The supply manager considered the case company and its main competitors to be in a position where they would be able to respond to any, in their industry likely, competitive action.

However, the response lag to the strategic action would be large because setting up a relationship with a supplier takes time. Therefore, the first mover advantage would be considerable.

4.2.3 Competitive response

The supply manager explained that in their factor market for textiles, not many competitive actions were undertaken. This was mainly because for main textiles there are a lot of suppliers available; it is considered a commodity. For the special, protective materials, although a strategic resource, there is enough capacity available to satisfy the demand. Also, demand does not fluctuate much. However, if a batch, for any reason, cannot be delivered to the case company and its suppliers, the material becomes scarce and a company will undertake a tactical action. Because the supply disruption would only be for a short period of time, the advantage gained from the action would also be for a short time. Also, it is not a major problem if the case company cannot deliver on time, although they would not prefer to do so. The cost to initiate a defending action or counterattack would be higher than the expected benefits. Therefore, the case company would tolerate the action and do nothing. As the supply manager reasoned: "the next time we have the advantage".

When a company would gain competitive advantage by re-allocating their sourcing, this would take considerable effort and time, and is therefore considered a strategic action. This action would result in a considerable cost-advantage. According to the supply manager, they did not see any benefit to initiate a counterattack to such a strategic action, but in order to "keep up with the competition", they would have to source in a low cost country as well. Although it would take considerable time to set up a relationship with a new supplier, it would provide the necessary advantages to remain competitive. Because the response would include an imitation of the original action, it can be labelled as a defending action.

4.3 Concluding remarks

Based on the interviews, the third question, 'What competitive actions and responses can be observed in practice?', may be answered.

From the interview with the supply manager of case company 2, it became clear that their competitors undertook two different kinds of actions: 1) tactical actions such as paying extra in order to receive more resources in times of scarcity, and 2) strategic actions, such as sourcing resources in low-cost countries. The latter (shifting the sourcing location) would not be an option for case company 1 since there were not many suppliers for the considered resource. However, the purchasing manager of case company 1 too identified tactical actions, such as asking a supplier to 'rearrange' their working schedule (i.e. jumping the queue).

As for competitive reactions, the case companies reacted defensive or not at all to the competitive threats. Opposed to the propositions in this study, the supply manager of case company 2 stated that the company would most likely do nothing to a tactical action in a central market. He explained that this was because the supply disruption was too short to justify any action. In contrast, they would respond defensive to a tactical action in a central market, in order to keep up with the competition. As for case company 1, they would respond defensive to a tactical action (jumping the queue) in a central market. However, the purchasing manager also said that they would never counterattack or engage in total war, no matter the action.

The observed reactions were ‘defensive’ or ‘do nothing’ strategies.

5. CONCLUDING REMARKS AND FURTHER RESEARCH

This paper has tried to provide a basis for the prediction of response types to competitive actions in the factor market. In order to argument several propositions, research on the product market have been projected on the factor market. This resulted in 8 propositions specified to the awareness, motivation, and capability of a company to respond to a competitive threat in a certain manner. Following Ma (1999), it was assumed that a company would respond by adopting either a ‘do nothing’, ‘defending’, ‘counterattacking’, or ‘total war’ strategy.

The paper provides a theoretical and practical contribution by proposing how a competitor would react to a competitive action undertaken in the factor market. From a theoretical point of view, this paper provides a solid basis for further research into competitive dynamics in the factor market, while from a managerial point of view this paper might guide a company’s actions because of the expected response. Theoretical discussions with directions for further research are provided below.

This paper has taken the three dimensions of the Awareness-Motivation-Capability perspective as alone-standing predictors of a response. Rather, future research might investigate the feasibility to follow the idea of Chen *et al*. (2007) in considering these dimensions together as predictors of the perceived competitive tension between two companies. This might then result in a more uniform prediction for response strategy. When considering each dimension apart, it can occur that the predicted response strategies contradict each other. On the other hand, it might be that a factor influencing one AMC dimension also influences one or both of the others, such as for example the market commonality and resource similarity, as this study proposes. It might even be that one of the AMC dimensions influences another. For example, the capability to effectively respond to a competitive threat might influence a company’s motivation to respond, because that company may have a low motivation if it perceives itself unable to respond effectively. Also, as Chen (1996) argues, awareness of an action is prerequisite to any respond.

Also, as mentioned by both interviewees, there may be differences in the response strategies of companies in different industries. For example, a distinction can be made in capital or labour intensive industries. Further research may focus on this distinction. Actions undertaken by companies in capital intensive industries may be, for example, mostly aimed at the acquisition of resources, while companies in labour intensive industries may be much more concerned with the acquisition of the best human resources. This also can be seen as a competitive advantage, since key personnel can be a source of competitive advantage (Michie & Sheehan, 2005; Wright, McMahan, & McWilliams, 1994)

Additionally, from the case studies it seems that companies, in the factor market, are more eager to forbear than in the product market. This might be because companies are more concerned with ensuring supply of the resources, where in the product market there is less at stake when a product is bought less. Alternatively, the awareness of other options might be lower in the factor market than in the product market. This follows the reasoning of Markman *et al*. (2009) who argue that the relative transparency of AMC is low in the factor market. However, this study only considered two cases of central resources. Further research might therefore be focussed on the cause of the motivation to forbear, and investigate whether an increased awareness of response options results in the different decisions.

Furthermore, since competitive (re)actions in the factor market are, according to the purchasing manager of case company 1, always aimed at the supplier, research on being a preferred customer and competitive dynamics can be combined. Being a preferred customer can be argued to be a predictor of the capability to respond, because a preferred customer would already have an advantage with a specific supplier. If under attack in that supply market, a preferred customer might have less difficulty to respond because the supplier is more willing to comply with its needs or demands. Further research might therefore include preferred customer research in competitive dynamics research.

Another influencer of competitive dynamics might be culture. As international or global sources become more available, companies that reach out to these sources can encounter new competitors, because these new competitors are only operational in the market of the new source. However, these new competitors might have a different (corporate) culture than the focal company, which could potentially affect their motivation to respond to (new) threats. For example, a company that values good relationships might respond differently from a company that sees relationships as contracts.

Finally, further research could take the propositions of this paper as hypothesis and assess their validity.

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