Preventing potential negative effects of competitive actions in the supply market

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Current supply management literature advises firms to conduct a high degree of competitive actions, highlighting their positive impact but fails to acknowledge competitive rivalry and potential negative effects of competitive supply management actions on a firm's performance. In particular, research ignores not only the effect competitive actions have on the rivalry in supply markets but also potential (re)actions of rivals to a firm's competitive supply management action. Thereby firms fail to integrate likely responses by rivals to their action(s) in an effective supply management strategy. Examples from the product market and research in the field of strategic management revealed that this missing integration can be highly risky for firms. The concept of competitive dynamics, particularly its competitive rivalry stream, theorizes about the competitive nature of actions and reactions in markets and has found that a too high degree of competitive actions can harm a firm's performance induced by increased rivalry. However, so far these potential negative effects of a high competitive action level have only been researched in product markets and not acknowledged by strategic supply management literature. This paper attempts to address this research gap by analyzing the application of the competitive rivalry stream on strategic supply management. In particular, this research aims to contribute to current supply management literature by theorizing on how the potential negative effects of high competitive action levels that have been observed in product markets apply to competitive actions in the supply market. A further objective of this study was to evaluate how supply managers might prevent these potential negative effects. This approach provides new insights into the strategic implications of competitive supply management actions and opens up to managerial actions by supporting supply managers to decide on the right action level for their firm which avoids the potential negative effects.

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1. INTRODUCTION

The strategic role of supply management as a source of firm's competitive advantage has been a major topic in literature (Chen, Paulraj, & Lado, 2004; Narasimhan & Schoenherr, 2012). In today's dynamic and fast-changing (supply) markets, firms are pressured by increasing competition which requires quick responses and adaptions. Thus, the integration of competitive actions in firms' supply management is essential for keeping their competitive position (Narasimhan & Schoenherr, 2012). A competitive supply management action is defined as an "externally directed, specific, and observable competitive moves initiated by a firm to enhance its relative position in a supply market" (Pulles, Vos, & Veldman, 2014, p. 6). Current literature emphasizes that competitive (supply management) actions can lead to higher revenues, increased market share and reduced risks for firms and thereby positively affect a firm's performance. As a consequence of this view the literature motivates supply managers to conduct a high number of competitive actions to defend and enhance their competitive position. However, current supply management literature fails to consider that a high number of competitive actions might also entail potential negative effects.

In the field of strategic management the concept of competitive dynamics - a literature stream that theorizes on firms' competitive actions and the reactions by rivals - has recently become a vibrant research area. Hereby, the literature has found that a too high degree of competitive actions can negatively affect a firm's performance by raising its expenditures as well as increasing risks and causing 'competitive wars' induced by an increase of market rivalry (Chen & Miller, 1994; Ferlic, Raisch, & Vonkrogh, 2008; Rindova, Becerra, & Contardo, 2004). This paper argues that this phenomenon of rivalry and its negative effect on firm performance might also be relevant and an essential threat to firm's competitive actions in supply management.

Current strategic supply management literature rarely recognizes that the integration of anticipated moves by competitors, especially their reactions to competitive actions and its consequences, is an essential component of an effective supply management strategy and fails to integrate the concept of competitive dynamics. This missing inclusion of potential responses might be risky since "[a] series of moves and countermoves among competitors can create a destructive pattern that sabotages rivals' profits and even threatens the survival of some firms. In the early 1980s, for example, Braniff Airlines' ill-advised launch of a price war with a much bigger rival, American Airlines, contributed directly to Braniff's bankruptcy" (Ketchen, Snow, & Hoover, 2004, p. 780). This example of how competitive rivalry harmed a firm's performance in the product market gives rise to research the potential negative effects also in the supply market and thus to integrate the concept of competitive dynamics in strategic supply management literature. The concept of competitive dynamics is divided into two research streams; the competitive action stream which theorizes on the positive impact of competitive actions and the competitive rivalry stream which theorizes on the negative impact of increased rivalry brought about by competitive actions. Whereas the positive impact of competitive supply management actions has been partially researched, current literature fails to address the negative effects of competitive supply management actions. However, if supply managers aim to maximize the positive effects of their competitive actions and thus conduct a high level they also need to avoid a counteraction or even reversal of them which requires the prevention of potential negative effects. Consequently, it is essential to integrate not only the competitive action stream but also the competitive rivalry perspective in firms' supply management strategy.

This paper will address this research gap by linking the competitive rivalry perspective with strategic supply management. In particular, it will analyze the impact a high number of a firm's competitive supply management actions has on rivalries in its supply market. On that basis I will firstly theorize about the negative effects high levels of competitive supply management actions may have on firms' performance. Subsequently, I will propose how firms can prevent these potential negative effects to avoid a reversal of the positive effects. Hence, this paper aims to answer the following research question: *How can firms prevent potential negative effects of their high competitive supply management action levels on their performance?* To answer this question the following sub questions will be addressed: (1) How does the concept of competitive dynamics and especially competitive rivalry apply to strategic supply management?; (2) what are the negative effects of competitive rivalry on firms' performance that can be expected from high levels of competitive supply management actions? and (3) which tactics support supply managers to prevent these potential negative effects?

Figure 1 provides an overview on how the paper is organized: First of all, a literature study on the concept of competitive dynamics with its two distinct research streams and its application on supply management will be provided. The literature study on the competitive action stream will serve as background information for the literature study on the competitive rivalry stream, which is the focus of this paper. Hence, I will analyze to what extent the first stream, the competitive action stream, applies to strategic supply management before I will afterwards address the competitive rivalry stream and its application on strategic supply management. Based on the study of competitive rivalry the paper will theorize about the potential negative effects of high competitive supply management action levels on firm performance. Subsequently, I will theorize on what supply managers need to do to prevent these potential negative effects. These propositions regarding the prevention of potential negative effects that can be expected from a high number of competitive supply management actions will be developed from two different perspectives, namely from the intrafirm perspective as well as from the competitor perspective.

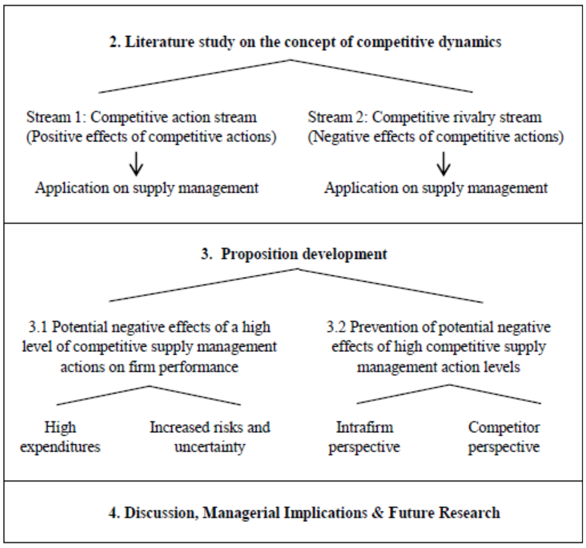

Figure 1. Overview of the paper

2. THE CONCEPT OF COMPETITIVE DYNAMICS AND ITS APPLICATION ON STRATEGIC SUPPLY MANAGEMENT

The concept of competitive dynamics is "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, p. 137) and particularly relevant, but still lacking, in the field of strategic supply management (Pulles et al., 2014). Ketchen et al. (2004) distinguish between two distinct and isolated research streams in the field of competitive dynamics, namely the competitive action stream and the competitive rivalry stream. "While the competitive action stream of research focuses mainly on the positive role played by competitive action, the competitive rivalry stream of research highlights the negative performance effects that escalating competition might have on firms within an industry" (Ferlic et al., 2008, p. 6). Managers are advised to evaluate both sides of their competitive actions, the potential positive as well as the potential negative effects to maximize the success of their competitive action level. Whereas the potential positive effects indicate how firms may enhance their performance and competitive position, the potential negative effects can decrease, diminish or even reverse the positive effects and thus indicate the threat of competitive actions on firm performance. Not integrating either the potential positive or the potential negative effects of competitive actions in firms' (supply) management strategy can thus result in missed opportunities or failures.

The majority of research focuses on the first stream, the competitive action stream and highlights solely the potential positive impact of competitive actions on firms' performance. This stream has also been integrated partly in the supply management literature. The second stream, the competitive rivalry stream, is a rising research topic but has not been integrated in factor markets like the supply market yet. Due to this lacking integration of competitive rivalry in the supply management literature, this stream and its application on supply management will be the focus of the following literature study. However, due to the fact that the two streams are interdependent, the following section will provide a brief overview of the competitive action stream as an introduction to the concept of competitive dynamics and background information for the literature study on competitive rivalry. The competitive action stream explains for example why firms are motivated to conduct competitive actions and simultaneously why their rivals are motivated to respond and (re)act to them. These responses and reactions are likely to cause rivalry and may lead to negative effects on firm performance which in turn is the main focus of the competitive rivalry stream.

2.1 Stream 1: Competitive action stream and its application on supply management

2.1.1 Research on competitive actions and their positive effects on firm performance

According to the competitive action stream, competitive actions play an essential role for firms since they can protect and enhance their success. Due to the fact that a firm's competitive position and advantage is always relative and the nature of today's markets is highly volatile and competitive Yang and Meyer (2015) argue that a crucial step in the achievement of a competitive advantage is the fast design and implementation of competitive actions. A competitive action is defined as any "externally directed, specific and observable competitive move initiated by a firm to enhance its relative competitive position" (Smith, Ferrier, & Ndofor, 2001, p. 321). Yang and Meyer (2015) distinguish between two different types of competitive actions; growth actions and joint actions. Whereas growth actions "aim to enhance a firm's position in its markets, for instance by product launches or market entries" (p.1176), joint actions "create partnerships or mergers and acquisitions (M&As) with other firms and hence are the basis for new, joint positions" (p.1176). The majority of the strategic management literature focuses on growth actions. Derfus, Maggitti, Grimm, and Smith (2008), for example, refer to new marketing campaigns and new-product introductions as examples of competitive actions. Huo, Qi, Wang, and Zhao (2014) mention cost reductions and differentiation actions as common competitive actions. Another common competitive action on which a large literature body exists is outsourcing.

Because the majority of firms expect significant benefits from competitive actions, most firms are very motivated to conduct a high number of them. Managers' major motivation factor for competitive actions is the aim to ensure the firm's success and profit when they perceive pressures in the firm's external environment. This pressure can result, for example, from a firm performance below the one of competitors and/or a firm performance below the managers' aspiration level (Baum, Rowley, Shipilov, & Chuang, 2005; Park, 2007). By means of competitive actions, managers aim to work against this perceived pressure and gain a greater market share to maintain or even enhance the firm's competitive position.

Firms' belief in the positive effect of competitive actions on their position and performance is based on current research results that support this view. In particular, the majority of researchers in the field of strategic management assumes a positive relationship between a firm's number of competitive actions and its performance and thus expects a superior performance of firms which conduct more competitive actions than their rivals (Ferrier, 2001; Ferrier, Smith, & Grimm, 1999; Ketchen et al., 2004). As the literature indicates, there is a high variety of different competitive actions firms can execute and the specific positive effects always depend on the particular action. New marketing campaigns, new-product introductions, differentiation actions as well as cost reduction actions, for example, can lead to higher sales and thus higher market share as well as increased revenues. Higher revenues as well as increased market shares in turn result in a strengthening of the firm's competitive position which leads to lower failure risks in case of rivalry. Outsourcing, as another example, is likely to result in lower costs wherefore it can lead to a lower financial risk for the firm, especially when it needs to follow price cuts of rivals to keep its customers. The creation of partnerships, on the other hand, may not only lead to lower costs by sharing resources and knowledge but also in turn to reduced risks, both, financially as well as in relation to procurement and competitive failure. Hence, even though different competitive actions result in slightly different specific positive effects, in general they all can lead to either higher revenues as well as increased market share and thus to a strengthening of the firm's competitive position and/or to reduced risks for the firm.

2.1.2 Application of the competitive action stream on supply management

In line with the strategic management literature the supply management literature values competitive actions as essential for firms' success and argues that when firms integrate competitive actions in their supply management strategy, the supply management function may serve as a valuable source of competitive advantage. Based on the previously stated definition of a competitive action by Smith et al. (2001), Pulles et al. (2014) define a competitive supply management action as any "externally directed, specific, and observable competitive move initiated by a firm to enhance its relative position in a supply market" (Pulles et al., 2014, p. 6).

Several researchers (Chen et al., 2004; Narasimhan & Schoenherr, 2012; Pulles et al., 2014) emphasize the importance to integrate competitive actions in firms' supply management. In particular Pulles et al. (2014) assume that firms that execute competitive actions in their supply market will perform better than firms that do not execute competitive actions. Thus, the research stream on strategic supply management adapts the view of the strategic management literature and associates competitive supply management actions with a positive impact on firm performance and a contribution to an achievement of a competitive advantage.

There are multiple competitive actions that can enhance a firm's relative position in its supply market. Pulles et al. (2014) mention "contracting, supplier development, relation specific investments and shared patents to protect first-mover advantages" (p.6) as common examples of competitive supply management actions. Another example of a competitive action firms can conduct in their supply market is to examine a lock-in situation for their supplier, thus to make the supplier dependent on the firm (Narasimhan, Nair, Griffith, Arlbjørn, & Bendoly, 2009). Hüttinger, Schiele, and Veldman (2012) developed the 'preferred customer strategy' as a competitive tactic in the field of supply management. This strategy advises firms to get the preferred customer status with important suppliers since this status ensures a preferential allocation of resources against rivals. Although the authors do not name this strategy a 'competitive action', I interpret it as one since it is an externally directed and specific move to improve the firm's relative competitive position and thus fits Yang and Meyer (2015)'s definition of a competitive action. Other examples of competitive supply management actions are knowledge sharing for more accurate supply and demand planning and pressuring suppliers to cut down prices.

Like competitive actions in product markets also competitive actions in the supply market can have a variety of different positive effects like increased revenues and market share and thus a strengthening of the firm's competitive position as well as reduced risks for the firm. Supplier development, for example, can result in both, reduced costs through quality or logistic improvements and consequently higher revenues as well as reduced risks through better planning and forecasting options. The creation of a lock in situation for suppliers or the achievement of the preferred customer status, on the other hand, decreases the supply risk which in turn additionally may lead to lower costs and hence a higher financial stability.

Conclusively, competitive supply management actions may have a positive impact on firms' performance (usually through increased revenues and market shares and/or reduced risks for the firm). However, the question whether there is also a negative effect that might decrease, diminish or even reverse this positive impact, remains unanswered in current supply management literature. Therefore, the next section will focus on the competitive rivalry stream and its application on strategic supply management.

2.2 Stream 2: Competitive rivalry stream and its application on supply management

2.2.1 Research on competitive rivalry and its negative effects on firm performance

The strategic management literature has not only researched competitive actions and their positive effects but has recently began to consider potential negative effects of (a high degree of) competitive actions. However, unlike the competitive action stream, current supply management literature fails to integrate the competitive rivalry stream and to acknowledge potential negative effects of competitive supply management actions. Due to this research gap, the potential negative effects as well as their prevention are the focus of this paper. The following section provides a detailed literature study on the causes and consequences of competitive rivalry which will serve as a basis for the proposition development regarding the potential negative effects of high competitive supply management action levels on firm performance.

2.2.1.1 The escalation of competitive actions as the cause of competitive rivalry

Various authors argue that the conduction of competitive actions of one firm usually results in competitive rivalry in the industry. Porter (1980) describes this phenomenon like this; "rivalry occurs because one or more competitors either feels the pressure or sees the opportunity to improve position. In most industries, competitive moves by one firm have noticeable effects on its competitors and thus may incite retaliation or efforts to counter the move […]" (p.17). Thus, the solution of one firm can become a rival's problem (Barnett & McKendrick, 2004). In accordance with Porter (1980) and Barnett and McKendrick (2004), Derfus et al. (2008) note that firms' successful competitive actions automatically pressure their rivals and thus evoke reactions, and in most cases also responses, by them. This is due to the fact that these performance increasing actions can result in a decreasing performance of rival firms and thus motivate them to respond and engage in similar competitive actions to improve their position (Derfus et al., 2008; Rindova et al., 2004). In their study on competitive actions and their effect on firm performance Derfus et al. (2008) confirmed their hypothesis that "as the number of focal firm actions increases, the number of rival firm actions and the speed of rival actions increase" (p.64) which results in high rivalry. Nair and Selover (2012) refer to the prominent example of the competitive behavior between Coca Cola (which was developed in 1886) and Pepsi (which was developed in 1898) in the US beverage industry which is characterized by high rivalry and aggressive competitive wars, to visualize how rivalry between firms does occur. As Nair and Selover (2012, p. 356) refer to Muris, Scheffman, and Spiller (1993) "[t]he two companies have been engaged in rivalry for a long time, though Coca Cola dominated the market in the early years. […] By the 1960s Coca-Cola's dominance of the US beverage industry was beginning to be challenged by Pepsi". Referring to two Wall Street Journal articles (from January 2006 and May 2007)[1] Nair and Selover (2012) state further that "[o]ver the years, the competition between the two firms has led to price wars, advertising wars, a furious pace of new product releases, and lawsuits alleging unfair practices. Coke–Pepsi dynamics has become more interesting in recent years because Coke has slid behind Pepsi in areas such as non-carbonated drinks, and analysts have attributed this to Coke's lack of competitiveness" (Nair & Selover, 2012, p. 356). This example reveals that it is natural that firms become aware of the presence of their rivals and their actions over time. This awareness evokes firms to study the moves of their rivals and to use them as benchmarks for their own performance and actions (Nair & Selover, 2012). Chen and

[1] I was not able to obtain these two articles as they are not published online. The exact references of them can be found in the article of Nair and Selover (2012).

Miller (2012) agree with the previously analyzed literature and highlight both, awareness and motivation, as shaping key drivers of competitors' action and response. In particular they assume that if rivals are aware, motivated and capable to react towards a competitive action they will do so.

Sometimes, rivals do not only respond with similar actions to a firm's competitive action but even conduct competitive attacks and retaliations (Chen & Miller, 1994) which on the one hand harm the firm's performance directly and on the other hand also increase the probability of a competitive war as it pressures the focal firm to react in order to mitigate the harm on its performance. Rivals' motivation to retaliate is greatest when they perceive a significant threat through the firm's competitive action (Chen & Miller, 1994). Thus, the more successful the firm's competitive action and the more harming the action is for the rivals, the higher the probability that rivals will retaliate. However, as with responding actions, rivals do only retaliate if they believe that they are capable of neutralizing the harm of the competitive action on them (Chen & Miller, 1994). In accordance with the literature on rivals' responses, Chen and Miller (1994) found in their study on competitive attacks that "the more visible the attack, the larger the number of retaliatory responses from the group of rivals being attacked" (p.88) and consequently the higher the probability of the development of competitive wars. Thus, it becomes clear that the visibility and the centrality (the degree to what extent it harms rivals) of the competitive action as well as rivals' capabilities play a crucial role in the prediction of their responses.

2.2.1.2 Negative effects of competitive rivalry on firms' performance

Competitive rivalry, especially when it escalates, may significantly harm a firm's performance. The danger of rivalry as a consequence of firms' competitive actions was already recognized by Porter (1980) who argues "if moves and countermoves escalate, then all firms in the industry may suffer and be worse off than before" (p.17). Current researches confirm this potential negative effect (Derfus et al., 2008; Ferlic et al., 2008; Rindova et al., 2004). By means of a multi-industry study of over 4700 competitive actions Derfus et al. (2008) found out that "whereby a firm's actions increase performance [it] also increase the number and speed of rivals' actions, which, in turn, negatively affect the initial firm's performance" (p.61) what they call the 'Red Queen Effect'. This effect results from Red Queen competition, a self-escalating mechanism of rivalry. It "[c]an be seen as a contest in which each firm's performance depends on the firm's matching or exceeding the actions of rivals. In these contests, performance increases gained by one firm as a result of innovative actions tend to lead to a performance decrease in other firms. The only way rival firms in such competitive races can maintain their performance relative to others is by taking actions of their own. Each firm is forced by the others in an industry to participate in continuous and escalating actions and development that are such that all the firms end up racing as fast as they can just to standstill relative to competitors" (Derfus et al., 2008, p. 61). Rindova et al. (2004) call the escalations of competitive actions and responses 'competitive wars' which they define as "periods of intensified competitive activity, which tend to have negative consequences for the warring firms" (p.670). They propose that "[t]he performance of the firms engaged in a competitive war will decrease if the relative costs of intensified competitive activity outweigh the benefits of increased internal resource mobilization and external stakeholder support" (p.680). Similar to Rindova et al. (2004)'s research findings, Ferlic et al. (2008) observed a negative impact on a firm's performance to occur regarding firms "(1) whose competitive action is insufficient to defend their competitive position, and (2) whose competitive action exceeds their financial limits" (p.2). Hence, if a firm's competitive action is not able to achieve the aimed success this does negatively affect the firm's performance as the invested resources do not get outweighed by a positive effect. This can, for example, be the case if the competitive rivalry is too high. Another potential negative effect on firms' performance occurs when rivals respond with an action which is more effective than the action of the focal firm. In that case the rivals' market share will increase as a consequence of their successful (re)action which will in turn result in lower market share for the focal firm. The second case in which competitive actions do have according to Ferlic et al. (2008)'s research findings a negative impact on firm performance is if the competitive action costs more than the firm is capable of, for example if the firm needs to intensify its actions and conduct more actions in response to rivals' (re)actions. Besides the high use of resources and excessive expenditures as a consequence of the caused rivalry (Ferlic et al., 2008; Rindova et al., 2004), the authors additionally mention rivals' retaliations to the competitive actions and emerging wars and their increased risks for firms as a direct negative effect on the focal firm's performance.

In conclusion, the competitive rivalry literature indicates that it is very likely that rivals get aware of firms' competitive actions and their harming influence on them. This negative effect on their performance motivates rivals to react. When they are capable of there is a high likelihood that rivals will respond, either with similar competitive actions or through retaliations. This phenomenon automatically results in increased rivalry which in turn will decrease the focal firm's performance to a certain extent.

2.2.2 Application of the competitive rivalry stream on supply management

Although "the interaction between rival firms' actions and reactions is at the core of strategic thinking" (Pulles et al., 2014, p. 1) which is also highlighted by the concept of competitive dynamics, only limited literature in the field of strategic management has focused on rivals' responses and rivalry caused by competitive actions. Consequently, also the main literature body on strategic supply management fails to acknowledge "1) the impact of a focal firm's strategic supply management on the competitiveness of rival firms, 2) possible reactions of rival firms to the focal firm's strategic supply management and 3) the integration of competitor analysis in shaping supply management strategies" (Pulles et al., 2014, p. 1). As a result, presumably reactions and retaliations by rivals and their potential negative consequences on firm performance did not gain attention in the strategic supply management literature. However, to integrate the moves of rivals in a firms' supply management strategy is essential for gaining a competitive advantage over rivals. Without the integration of the competitive rivalry perspective supply managers cannot assess the likelihood of success of their management strategy (Pulles et al., 2014) since they are not able to estimate the required effort and resources by lacking an evaluation of the rivalry risk.

Pulles et al. (2014) provide a first attempt of linking the competitive rivalry stream of competitive dynamics with strategic supply management by theorizing about the effects of competitive actions in supply markets and the reactions of rivals to these actions. They propose, for example, that firms' competitive actions "in a supply market where rival firms are aware, motivated and capable of responding to these actions, have a greater likelihood of inflicting competitive responses of the rival firms" (p.8) and consequently that firms' competitive actions "in a supply markets where rival firms are not aware, motivated and capable of responding to these actions, will be more successful than competitive actions in a supply market where rival firms are aware, motivated and capable of responding" (p.8). Thus, they assume based on Chen and Miller (2012)'s AMC framework that the presence of rivals' awareness of a firm's competitive supply management action combined with a motivation and capability of responding to it will result in a lower success of the action since the presence of these three factors is likely to lead to rivalry.

However, to my best knowledge, the research of Pulles et al. (2014) is the only paper that addresses rivals' responses to competitive supply management actions, although several researches in the strategic management literature acknowledged the negative effects of competitive rivalry on firm performance already. As a consequence of this research gap, potential negative effects of competitive rivalry in supply markets have not been addressed yet. Hence, supply managers cannot estimate if their conduction of competitive actions may also counteract the positive effect and harm the firm's performance. The reliance on the positive outcome of competitive actions by supply managers and the ignorance of presumably retaliations by rivals and their possible negative consequences pose a threat to firms. If they fail to see the risk that the negative effect might diminish or even reverse the positive impact of competitive actions, supply managers may not attribute a decreasing firm performance to their conduction of competitive actions and can therefore not avoid or mitigate the harm. Thus, without integrating rivals' reactions and tactics to prevent the escalation of those in their supply management strategy, they are not able to gain the highest positive effect of their competitive actions. To add to the existing supply management literature the next section will theorize, based on the competitive rivalry stream, about the potential negative effects of a high competitive supply management action level. Moreover I will examine when those negative effects harm a firm's performance as well as how supply managers might prevent them.

3. PROPOSITION DEVELOPMENT

As Chapter 2 points out, the literature emphasizes the positive impact of competitive supply management actions on firm performance and motivates supply managers to engage in high levels of competitive actions to defend and enhance their competitive position. However, due to the fact that current supply management literature ignores potential (re)actions by rivals (as well as their potential negative effects) in their studies on competitive actions, it is risky for supply managers to take this advice as binding. As section 2.2 reveals, a high degree of competitive actions can lead to a strengthening of the firm's competitive position in its supply market as well as reduced market risks for the firm. These effects in turn might positively affect a firm's performance. However, simultaneously, a too high competitive action level can reverse the positive effect and thus might negatively influence a firm's performance as a consequence of increased rivalry. Consequently, "[…] any particular move must be evaluated as to the response it may elicit from rivals. For example, a flurry of competitive moves occurred in the shaving products industry in August 2003. Market leader Gillette launched a new three-blade disposable razor. Its main rival, Schick, a subsidiary of battery giant Energizer Holdings, followed by introducing a four-blade razor backed by a large advertising campaign. Gillette then sued Schick for patent infringement. Meanwhile, Rayovac Corporation acquired Remington Products, a third major shaving products firm, possibly allowing Rayovac to better compete with both Gillette (owner of the Duracell battery line) and Energizer in two different industries" (Ketchen et al., 2004, p. 779f.). This example from the product market indicates the threat for managers to rely on the belief that their competitive actions will always benefit the firm's performance by failing to evaluate potential responses by rivals.

The phenomenon that high competitive action levels can reverse the positive effect on firm performance was observed and researched in product markets but has not been tested on its application on factor markets like the supply market yet. Due to the fact that current supply management literature fails to address potential negative effects of high competitive action levels on firm performance, the paper will now build propositions how these potential negative effects apply to competitive supply management actions. Hence, this study will link the competitive rivalry stream to firms' strategic supply management and question the assumed positive relationship between a firm's competitive supply management action level and its performance. With the firms' competitive supply management action level, I refer to the total number of competitive actions the firm is performing in its supply market. The firm's performance, I define as the degree of its financial wealth and profitability. This definition is based on the fact that most studies measure a firm's performance in terms of its return on sales (ROS) and return on assets (ROA), like for example Derfus et al. (2008) in their study on firm's competitive actions, which are ratios that indicate a firm's financial performance.

3.1 Potential negative effects of a high competitive supply management action level on firm performance

3.1.1 High expenditures

To conduct a successful competitive action that enhances the firm's competitive position firms need to allocate a certain amount of resources to the action. First of all, no matter if it is a growth action, such as a new marketing campaign or a new product introduction, or a joint action – the conduction of the initial competitive action requires time, knowledge as well as direct financial resources. In the case of a new marketing campaign or new product innovation, for example, the firm needs to pay a high amount of salaries to employees who conduct market research and transfer their knowledge in a strategy. Further it needs to spend a high amount of money to numerous marketing activities. Hence, the higher the firm's competitive action level, the higher is the amount of required resources. Additionally, the literature highlights that the higher the number of a firm's competitive actions, the higher is the number of rivals' responses. The higher the number of rivals' responses in turn, the more additional and further actions the firm needs to conduct to keep its position and advantage. The increased rivalry presses the firm to respond to rivals' reactions if it wants to keep the success of its initial competitive action. These additional competitive actions confront the firm anew with a high resource allocation. Consequently, rivalry and the escalation of competitive actions result in high expenditures for firms. Therefore a high competitive action level leads to higher expenditures than a low competitive action level. Figure 2 visualizes this repeating and interdependent high resource spending that can be expected from a high competitive action level.

The high resource allocation is also applicable to a firm's competitive actions in its supply market. Supplier development, as a typical competitive supply management action, for example, needs a huge amount of corporate resources. It includes activities such as "supplier evaluation, […] education

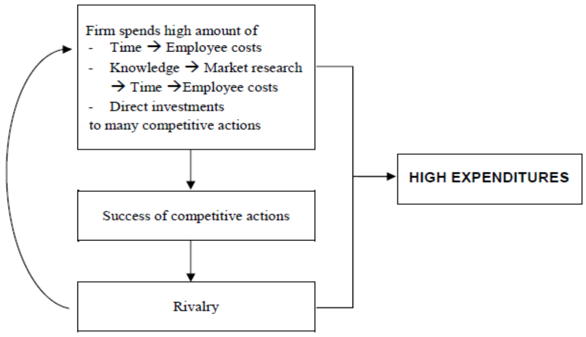

Figure 2. High expenditures as a potential negative effect of high competitive action levels

and training for supplier personnel, supplier recognition, placement of engineering and other buyer personnel at the supplier's premises, and direct capital investment by the buying firm in the supplier" (Krause & Ellram, 1997, p. 21), which all require a large amount of time, knowledge and financial resources. However, also contracting, relation specific investments, shared patents, creation of a lock-in situation and the preferred customer strategy require a high amount of corporate resources including time and financial means. Secondly, the phenomenon of escalating rivalry and its negative effect on a firm's finances is also applicable to competitive supply management actions. As proposed by Pulles et al. (2014), rivals will respond to a firm' s competitive supply management action if they are aware, motivated and capable of. As a consequence of this rivalry in the supply market, the firm's supply management needs to respond with additional competitive actions leading to an additional resource allocation, especially of direct financial investments and time which both result in high costs.

> **Proposition 1:** A high level of competitive supply management actions is likely to lead to an increased number of rivals' competitive actions in the supply market. To defend its position, a firm needs to respond with additional actions to these evoked (re)actions of its rivals. The conduction of competitive action(s) requires resources. Hence, a high level of firm's competitive supply management actions leads to high expenditures.

3.1.2 Increased risks and uncertainty

Literature in the competitive rivalry stream reveals that the more successful competitive actions a firm conducts, the more harming it is on the opposite for the firm's rivals and thus the higher is the probability that rivals will respond and retaliate. Hence, the higher the competitive action level, the higher is the level of rivals' (re)actions. This high rivalry results in high uncertainty and risks for the focal firm since it does not know how its rivals will react and needs to fear responses and retaliations. From the risk of responses and retaliations emerges an uncertainty about the extent of rivals' responses, the success of rivals' (re)actions as well as about the length and intensification of the rivalry period. In particular the firm lacks the knowledge to what extent these responses or retaliations will reduce the positive effect of its competitive action and maybe harm the firm performance (see figure 3). If a response by a rival is more successful than the focal firm's competitive action or if a rival's retaliation damages the focal firm's image, this can have significant consequences for the firm, as for example decreasing sales and market share. Hence, this increased risk and uncertainty can lead to negative effects on the firm's performance. An example would be if a firm differentiates its product as a competitive action but a rival either imitates this differing characteristic and offers it for a smaller price or also differentiates its product but in a matter that customers value more than the differentiation of the focal firm's product. In that case it is likely that the majority of customers prefer the rival's product, so the sales and market share of the focal firm are likely to decrease. Due to the outlined uncertainties considering rivals' responses and their impact, the firm does not know how many resources it will need to defend its competitive action throughout the period of intensified rivalry. This causes the risk that the firm will underestimate the resources needed which can lead to corporate financial harm (compare figure 3).

These outlined risks and high uncertainty as a consequence of rivalry researched in product markets and its potential negative effects on a firm's performance might also be applicable to factor markets like the supply market. The higher the competitive supply management action level of firms, the higher is the rivalry in the supply market. High rivalry in a supply market in turn results in higher uncertainty and risks for

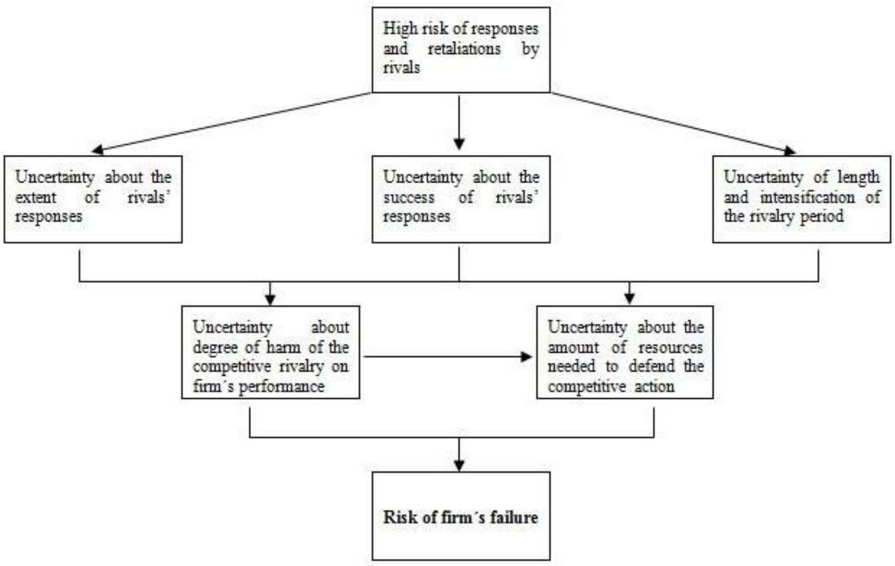

Figure 3. Increased risks and uncertainty as a potential negative effect of high competitive action levels

a firm; namely risks of sudden competitive (re)actions or retaliations by rivals and the development of a competitive war; as well as uncertainty about rivals' reactive behavior, their consequences and thus about necessary future actions and their required amount of resources. This uncertainty and risk result in the fact that supply managers lack an accurate and detailed market forecast. If supply managers, for example, get the preferred customer status at an important supplier and rivals get aware of this and perceive the pressure on them, it is very likely that they are motivated to react which causes a risk of competitive wars and retaliations which may result in the uncertainties and risk that are presented in figure 3. A more specific example is if supply managers press their suppliers to cut down prices. In that case, rivals might retaliate and blame the firm publicly of unethical behavior. As a consequence, the firm might face an image decline which is likely to have a negative effect on the firm's performance. Due to this image damage, suppliers might, for example, quit the relationship with the firm which might lead to operational problems. Another potential consequence would be that sales decrease since customers lose their trust in the company when they get aware of the public blame.

As a high competitive supply management action level leads to a high number of rivals' (re)actions and thus an increased rivalry I build the following proposition:

> **Proposition 2**: A high level of firm's competitive supply management actions is likely to lead to increased rivalry which results in volatility, changes and unforeseen events in the supply market. Hence, a high competitive supply management action level is likely to lead to increased risks as well as increased uncertainty and unpredictability for the firm.

Both proposed potential negative effects of a high competitive supply management action level, high expenditures as well as increased (market) risks and uncertainty, can result in decreasing firm performance. Therefore, the next section will theorize on how supply managers might prevent the potential negative effects of their high competitive action levels to achieve that the negative effects reduce the positive effect as few as possible and do not harm the firm performance.

3.2 Prevention of potential negative effects of high competitive supply management action levels

To be able to avoid a counteraction of the negative effects that can be expected from high competitive supply management action levels or even a reversal of the positive impact on firms' performance it is of high interest to determine in what cases these potential negative effects harm a firm's performance to consider how firms can prevent them. To prevent the negative effects supply managers need to have a look at the inside as well as the outside perspective since a firm's position always depends on its own resources as well as on the influences from its environment. Regarding the firm's external environment the competitive rivalry stream highlights specifically the pressures from competitors. Consequently, when theorizing on the prevention of the potential negative effects that can be expected from (high levels of) competitive supply management actions, this study will evaluate a potential prevention both, from the intrafirm perspective as well as from the competitors' perspective. In the following section I will therefore theorize from the intrafirm perspective on how firms can prevent the potential negative effects whereas the next section will consider the competitors' perspective.

3.2.1 Prevention from the intrafirm perspective

Since competitive actions usually have a positive impact on firms' performance, at least for a short period of time until the rivalry in the market increases and competitors (re)act, not every high competitive action level will cause negative effects that harm a firm's performance. In line with the competitive rivalry literature, Ferlic et al. (2008) have researched the negative consequences of competitive actions in product markets and in what cases these negative consequences harm a firm's performance (see section 2.2). They found that a too high degree of competitive actions can negatively affect a firm's performance. However, "specific types of organizational slack enable firms to curb the negative performance effects related to high competitive action levels" (Ferlic et al., 2008, p. 2). Organizational slack refers to a possession of resources firms do not need for their normal efficient operations, thus a surplus of resources which is not needed for the firm's daily running. Hence, unabsorbed slack incorporates those resources that are not currently tied to any specific applications and thus is positively related to a firm's performance. Consequently, the more unabsorbed slack a firm has, the more likely it can maintain periods of high rivalry without experiencing a negative performance impact since its unabsorbed slack supports the firm to react to rivals' responses without any noticeable effects on its performance (Ferlic et al., 2008). This surplus of resources firms can, for example, utilize to carry out additional competitive actions or to reinforce their initial ones.

I argue that this positive relationship between a firm's unabsorbed slack and its performance also applies to strategic supply management departments. The resource slack of the firm's supply management supports it to maintain periods of rivalry in the supply market. At first a high competitive supply management action level is likely to lead to positive effects, like increased revenues and market share and/or reduced risks. However, these improvements in the firm's competitive position are temporary since a high competitive action level is very likely to lead to increased rivalry in the supply market. To defend their position, firms need to respond to rivals' (re)actions. These responding actions require an additional amount of resources which is likely to lead to high expenditures (compare Proposition 1). If these expenditures exceed the firm's (financial) limits, a high competitive action level can thus diminish or even reverse the positive effect significantly by harming the firm's financial performance. If the firm's supply management is not able to (re)act to likely rival's responses and retaliations, the negative effects (high expenditures as well as increased risks and uncertainty) will harm the firm as they cannot be outweighed by the only short-time emerged positive effects. However, a high amount of unabsorbed slack in their supply management department supports firms to maintain periods of rivalry in their supply market without significant negative effects on their performance. In this case, the negative effects of rivalry that can be expected from high competitive supply management action levels do only reduce but not diminish or reverse the positive effect of the competitive actions as the firm has enough resources to defend its position in case of rivalry by responding to rivals' (re)actions. Hence, in that case the negative effects get outweighed by the positive effects of a high level of competitive supply management actions.

> **Proposition 3:** A high competitive supply management action level is very likely to lead to increased rivalry. To defend its position, the focal firm is pressed to (re)act to rivals' responses. A high amount of unabsorbed slack of the firm's supply management department helps to overcome this period(s) of increased rivalry without financial harm and thus supports managers to prevent the

potential negative effects of high competitive action levels.

To work against the increased risks and uncertainty competitive actions can induce supply managers additionally need a basis on which they can estimate potential consequences of their competitive action level. Due to the increasing pressure and fast changes of nowadays global competition firms' business environment has become much more complex and firms' mistakes pose higher threats for their performance than in the past. To withstand these conditions firms need to maintain and utilize not only internal but also external knowledge (Haddigan, 1995; Tseng, 2009). As Makadok and Barney (2001) point out, the assessment of one's own position in relation to the one of one's rivals should be done prior to any action or strategic decision. A large literature stream highlights competitor intelligence – the firm's knowledge of the intentions and capabilities of its competitors – as a key driver of successful strategic decisions as they support firms in the surveillance of the activities of their rivals and thus to minimize risks and maximize profits (Brock, 1984; Haddigan, 1995; Peyrot, Childs, Van Doren, & Allen, 2002; Tseng, 2009). Lackman, Saban, and Lanasa (2000) indicate that as a basis for a competitor analysis a firm needs to possess market intelligence – knowledge about the market conditions. Hence, both, market intelligence as well as competitor intelligence are essential components of a firm's successful competitive action.

Applying this to strategic supply management, supply managers are advised to know first of all the (competitive) conditions of the supply market in which they conduct their actions. Further, they need to know rivals' competitive behavior and have an estimation on how the rivals will react to their competitive action(s). Additionally to rivals' competitive activity, it is essential to know the resources and unabsorbed slack of rivals to estimate how long they are capable of maintaining (intensified) periods or rivalry. Based on this knowledge supply managers can assess how often they would need to respond again before the rival(s) needs to give up. Further, when supply managers are able to predict the degree of rivalry, in particular the likelihood and degree of rivals' responses and retaliations, they minimize the risk of unforeseen events and uncertainty as they can already reckon and plan with this rivalry and rivals' likely responding behavior. This in turn minimizes the risk of the failure of the competitive action and decreases the risk of financial harm.

Proposition 4: If the firm's supply management department has a detailed knowledge of the supply market (market intelligence) as well as of rivals' competitive behavior and their likely responses (competitor intelligence), this supports supply managers to make it possible to adapt the competitive action (level) to the rivalry conditions. Thus, this knowledge simultaneously supports supply managers to work against increased risks and uncertainty which helps to prevent potential negative effects of high competitive action levels.

To obtain this knowledge research on competitor intelligence refers to several sources. Haddigan (1995) recommends managers to utilize newspaper articles, government records, trade shows and the knowledge of industry experts to gain the basic information for their competitor intelligence. Besides these 'open sources' firms can additionally use sources that are more sensitive. Observation of competitors' activities and interviews with suppliers, customers, and former employees, for example, are additional but unethical sources for competitor intelligence (Haddigan, 1995). However, Brock (1984) emphasizes the importance of suppliers and competitors as sources of competitor intelligence as they can provide valuable insights for strategic decisions. Suppliers, for example often have significant information about competing firms which source from them. Besides suppliers and the competitors themselves a further source of competitor intelligence are key neutral parties like state and local offices of employment services or utilities companies as they can provide among others relevant insights into competitors' cost structures (Brock, 1984). As it is very difficult for firms to obtain competitor intelligence by means of competitors and suppliers the literature recommends firms to use research/consulting firms to obtain the required knowledge (Brock, 1984; Haddigan, 1995).

Conclusively, supply managers are advised to obtain detailed market and competitor intelligence (e.g. with the help of a research / consulting company) before taking a high competitive action level. By integrating this knowledge into their supply management strategy, firms can likely counteract the potential negative effects of high competitive action levels induced by competitive rivalry.

3.2.2 Prevention from the competitor perspective

As the competitive dynamics literature highlights, the success of a competitive action does not only depend on the conducting firm (i.e. its ability, position and resources) but also on the rivals and their awareness of the action as well as their motivation and capability to respond to it since these factors have a high influence on the likelihood of potential reactions by them. These three antecedents and shaping key drivers of a firm's competitive activity are the core of the Awareness – Motivation – Capability (AMC) framework (Chen & Miller, 2012). Hence, the AMC framework provides a fruitful basis for theorizing about competitors' actions and responses to a firm's competitive action. This analysis in turn leads to insights on the likelihood of increased rivalry and consequently on the likelihood of potential negative effects which on the one hand reduce the success of the competitive action(s) and on the other hand can harm the firm's performance. "Because the effectiveness of competitive actions can greatly depend on a rival firm's AMC, the focal firm should therefore take the rival firm's AMC into account with planning its strategic actions. For example, if a focal firm initiates a supplier development program at a supplier that is of a high strategic value to its rival, this rival can be expected to be highly motivated to react to this action. In this case, the reactions of the rival firm will counteract the focal firm's actions whose actions would have had a greater likelihood of success if the rival firm would have been less motivated to react" (Pulles et al., 2014, p. 7f.).

According to the AMC model, rivals will react and respond to a firm's competitive action if they are aware of it and motivated as well as capable to respond to it (Chen, 1996). Linking the AMC framework to strategic supply management, Pulles et al. (2014) assume that "[c]ompetitive actions of the focal firm in a supply market where rival firms are aware, motivated and capable of responding to these actions, have a greater likelihood of inflicting competitive responses of the rival firms" (p.8). Hence, the authors assume that competitive supply management actions in markets where rivals are not aware, motivated and capable of responding will be more successful than competitive actions in supply markets where rivals are aware, motivated and capable of responding. Consequently, it is advisable for supply managers to take their rivals' AMC into account when executing competitive actions as it provides an important basis for the prediction of potential responses to their actions.

Due to the fact that the potential negative effects of high competitive action levels result mainly from increased rivalry, supply managers are advised to try to minimize this rivalry. The lower the rivalry, the lower the probability that a high competitive action level will lead to high expenditures or to increased risks and uncertainty for the firm and thus the higher the likelihood that the potential negative effects are prevented. According to the AMC framework, rivalry would be lowest when rivals are unaware, unmotivated and incapable to respond to the focal firm's competitive action(s). Hence, if supply managers aim to conduct a high level of competitive actions and simultaneously want to prevent potential negative effects, they are advised to make these actions as invisible as possible to rivals and to conduct the actions in supply markets where rivals are unmotivated and incapable of responding. If supply managers, for example, gain better supply conditions or lower prices by means of their competitive action (e.g. with supplier development, special contracts or a supplier change), they are advised to ensure that rivals do not get aware of this action. Hence, it is recommendable that supply managers do not make their action official and try to minimize the attention on it. Whereas it is hard, if not impossible, for product managers to conduct competitive actions such as a new marketing campaign or a new product innovation in a way that rivals do not become aware of the action or at least at a very late point in time, it might be possible to conduct competitive actions in the supply market invisible for others. For example, if a firm does not report other firms their executed supplier development or supplier change and maintain rivals' unawareness through strict contracts with the suppliers that ensure secrecy from both sides, there is a high likelihood that rivals will not become aware of the firm's competitive action. Further, if supply managers want to prevent the potential negative effects of rivalry, especially when there is a high likelihood that rivals will become aware of the competitive action(s), they are advised to conduct a high competitive action level only in supply markets where rivals are unmotivated and/or incapable to respond to avoid a high number of rivals' (re)actions and/or retaliations by rivals.

> **Proposition 5**: If the firm's competitive supply management actions are less visible to rivals, these rivals are less likely to respond which supports supply managers to prevent the potential negative effects of high competitive action levels.

> **Proposition 6**: If the firm executes its competitive action(s) in supply markets where rivals are unmotivated and/or incapable of responding, it is less likely that rivalry will increase and thus supports supply managers to prevent the potential negative effects of high competitive action levels.

Appendix 1 provides a summarizing overview of all developed propositions of this study.

4. DISCUSSION, MANAGERIAL IMPLICATIONS & FUTURE RESEARCH

Current supply management literature advises firms to conduct a high level of competitive actions, highlighting its positive effect but failing to acknowledge competitive rivalry and potential negative effects of high competitive action levels on a firm's performance. In particular, it ignores not only the effect competitive actions have on the rivalry in supply markets but also potential (re)actions of rivals to a firm's competitive action(s). Hence, current literature overlooks the importance of integrating rivals' (re)actions in the supply management strategy. This is risky for supply managers since rivals' (re)actions have a great influence on the success of firms' competitive supply management actions. This study has shed light on the potential negative impact of a high competitive supply management action level on firm performance by theorizing about the consequences of competitive rivalry caused by a high level of competitive actions in supply markets. Thus, this paper provides a first step to address the research gap in current literature by linking the competitive rivalry stream to strategic supply management. In particular, it theorizes - based on researched negative effects of competitive actions in the product market - on the negative effects a high competitive supply management action level can have on a firm's performance. My study has found out that a high level of competitive supply management actions is likely to result in high expenditures as well as increased risks and uncertainty for the firm. Therefore, the paper additionally aimed to advise supply managers how they might prevent these potential negative effects to avoid a counteraction of the researched positive effects (higher revenues and increased market share as well as reduced risks for the firm). These advices how to prevent potential negative effects might also support supply managers to find out how they can maximize the positive effects of high competitive action levels. In regard to strategic management in product markets Ferlic et al. (2008) assume that there is an optimum range of firms' competitive actions; "[t]oo low as well as too high levels of competitive action relate negatively to firm performance. A moderate amount, as much as required to defend the competitive position, while still remaining within the firm's financial resource limits, has the strongest positive impact on firm performance" (p.27f.). This study suggests that the same principle applies to strategic supply management.

4.1 Managerial Implications

My literature study and propositions open up several managerial implications as they provide new insights into the conduction of a high competitive supply management action level and its effects on firm performance. On the one hand it confirms that (high levels of) competitive supply management actions can lead to increased revenues and market share, thus a strengthening of the firm's position and reduced risks for the firm, which might result in a positive impact on firm's performance. On the other hand, this study theorizes that it is very likely that a high competitive supply management action level simultaneously leads to high expenditures (proposition 1) as well as to increased risks and uncertainty for the firm (proposition 2) as a result of the competitive (re)actions by rivals. These two potential negative effects may negatively affect a firm's performance. Consider supply managers whose competitive action level failed to yield a positive impact on the firm's performance to see how my propositions can support firms. If those managers would have kept these potential effects in mind before conducting the certain level they might have decided to reject their decision of the conduction of more actions which might have prevented their firms from a negative impact on their performance.

Additionally, these provided insights into potential positive and negative effects of high competitive action levels support supply managers to decide what specific level of competitive actions is most effective for their firm. For that decision, supply managers are advised to keep their firm internal resources they are able to spend into account as the success of a competitive action requires the economic survival of a certain period of rivalry. In particular, my propositions indicate that it is recommendable for supply managers to conduct a high competitive action level only, if they have an adequate number of unabsorbed slack that supports them to maintain period(s) of rivalry to avoid potential negative effects (proposition 3). Additionally, it is advisable for supply managers to acquire a detailed knowledge of the supply market in which they aim to conduct their competitive actions (market intelligence) as well as of rivals' competitive behavior and their likely response (competitor intelligence) since this knowledge makes it possible to adapt the competitive action (level) to the rivalry conditions. Hence, with this predicting knowledge, supply managers are able to work against increased risks and uncertainty which helps to prevent potential negative effects of high competitive action levels (proposition 4). Further, supply managers are advised to conduct their (high levels of) competitive actions as invisible as possible to rivals (proposition 5) and in supply markets where rivals are unmotivated and/or incapable of responding (proposition 6) to reduce the likelihood of rival's (re)actions. If a supply manager keeps these four preventing tactics into account when conducting a high competitive action level there is a high likelihood that he will be able to achieve a high positive impact with his competitive actions and simultaneously avoids a harming effect on the firm's performance. Hence, my propositions might have helped all supply managers who failed to consider the competitive rivalry perspective before conducting (a high number of) competitive actions to maximize the positive impact of the actions on their firm's performance.

Overall, my study implies that a successful competitive action strategy of a firm's supply management department requires the integration of potential positive effects (highlighted by the competitive action stream) as well as potential negative effects (highlighted by the competitive rivalry stream) due to the fact that the success of competitive actions depends on both sides. Since most supply managers only consider the positive effects and fail to integrate potential (re)actions by rivals and their consequences, they are advised to adapt their competitive action strategy. Supply managers who realize this and integrate potential rival's moves in their strategy can (1) perform a better forecasting about the success of their competitive actions and (2) decrease the risk of their firm's failure through the conduction of high competitive action levels.

Moreover, my study does not only open up to managerial implications for supply managers but also for product managers. Due to the fact that the competitive rivalry stream is a relatively novel perspective in the literature, research on the prevention of potential negative effects of competitive actions is very rare and inexplicit. My developed prevention tactics are transferable to the product market. Consider the example of Braniff Airlines' and its bankruptcy brought about by its aggressive price war with a bigger rival. If Braniff Airlines' would have kept its own unabsorbed slack as well as its rival's resources and likely responses by him (and other rivals) into account (as proposition 3 & 4 suggest) it might have not conducted such a price war which might have prevented the firm from its bankruptcy.

4.2 Future Research

Linking literature on strategic supply management actions with the competitive rivalry stream provides several new directions for future research efforts. In general it is recommendable that more research will focus on the integration of the competitive rivalry perspective in strategic supply management literature as this is still lacking and Pulles et al. (2014)'s as well as this study provide just a first step towards the filling of this research gap. As this study aimed to give a first insight into the maximization of competitive supply management actions' success by advising supply managers how to prevent potential negative effects by means of theory building, it is recommendable that future research analyzes this field by means of empirical research to verify my stated propositions.

Current research and this paper have begun to recognize that high competitive (supply management) action levels can have negative effects on a firm's performance. However, as this study did not distinguish between growth actions and joint actions when theorizing about the potential negative effects and current literature mainly focuses on growth actions, it would be additionally valuable to research if either growth actions or joint actions have a higher threat of potential negative effects than the other type of action. These insights could be gained for example through empirical research like case studies or a multi-industry study of various growth and joint actions. Based on that (supply) managers could decide which type of actions are likely to cause fewer threats for their firm.

In their study on competitive actions and firm performance, Derfus et al. (2008) researched three factors that have a high influence on rivalry, namely the market share in the industry, the industry demand and the firm's position in the market. Hence, another stimulus for future research would be to study how these influencing factors apply to the intensification of rivalry through the conduction of competitive supply management actions. For example, future research could study if a high competitive supply management action level of a market leader does intensify the market rivalry more than competitive actions of a less successful firm in the supply market by approaching the following question: Are rivals more aware of the market leader as this is their biggest competitor than of other competitors and thus are more likely to react to his actions than to actions of other firms? The answer to this research question could provide supply managers with two different and opposing insights. As a first case research could find out that supply managers need to be more cautious with a high competitive action level when their firm is the market leader in the (supply) market as it has greater negative effects than one of less successful firms. Another possible insight of this question could be the finding that market leaders need to be less careful with the conduction of a high number of competitive actions in their supply market as rivals fear to react to them since they know that leading firms have a high amount of resources to maintain periods of rivalry. Regardless of how future research would answer the question it provides supply managers with valuable information how their firm's position is related to the success of their competitive actions. To obtain this knowledge future research could firstly approach these three factors and its influence on rivalry in relation to competitive actions in the supply market by theory building. However the developed propositions should be tested by empirical studies to achieve results of applicable quality for (supply) managers.

Finally, as the focus of this research was mainly to research the negative effects of high competitive (supply management) action levels on firms' short-term performance, future research could fruitfully explore longer-term performance consequences of competitive rivalry. Are those firms that conduct a high competitive supply management action level but simultaneously are able to prevent or minimize its potential negative effects the best performers in the long run? Do the firms that perform worse in the short-term perhaps learn from their mistakes and adapt this knowledge in their future strategy so that they outperform their rivals in the long-term? Or do the firms that perform worse at the beginning of the rivalry period will face even more harm as a consequence of the strong performing rival(s)? The answer to these questions provides a potentially fruitful avenue for future research. As it is hard to answer them by means of a multi-industry study with a high number of firms and actions I suggest performing detailed case studies of around twenty firms (ten who performed a successful competitive action and ten who failed at it) to get a detailed knowledge about their learning process and development.

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6. APPENDIX

Appendix 1. Overview of this study's developed propositions