

Competition and unethical firm behavior

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Abstract:

There is an ongoing debate about the role of market share and market share-based competition. We address this discussion by analyzing the relationship between the specific competitive position of a company and its unethical behavior. Based on a sample of 2,489 companies, we introduce new variables that reflect the competitive position of a firm and identify which competitive constellations increase competitive pressure and force companies to act unethically. Furthermore, we show how unethical behavior, in turn, affects the competitive position and thus reveal the dynamics between both constructs. Although the initial goal of the ethical misconduct is actually to strengthen the competitive position, this position is weakened as the market share per additional disclosed incidence of unethical behavior decreases by 4.31%. Managers should be aware of this paradoxical relationship when developing competitive strategies and should not assume that a market share orientation is infallible.

Keywords: unethical firm behavior, competition orientation, market share

Track: Marketing Strategy & Theory

1. Introduction

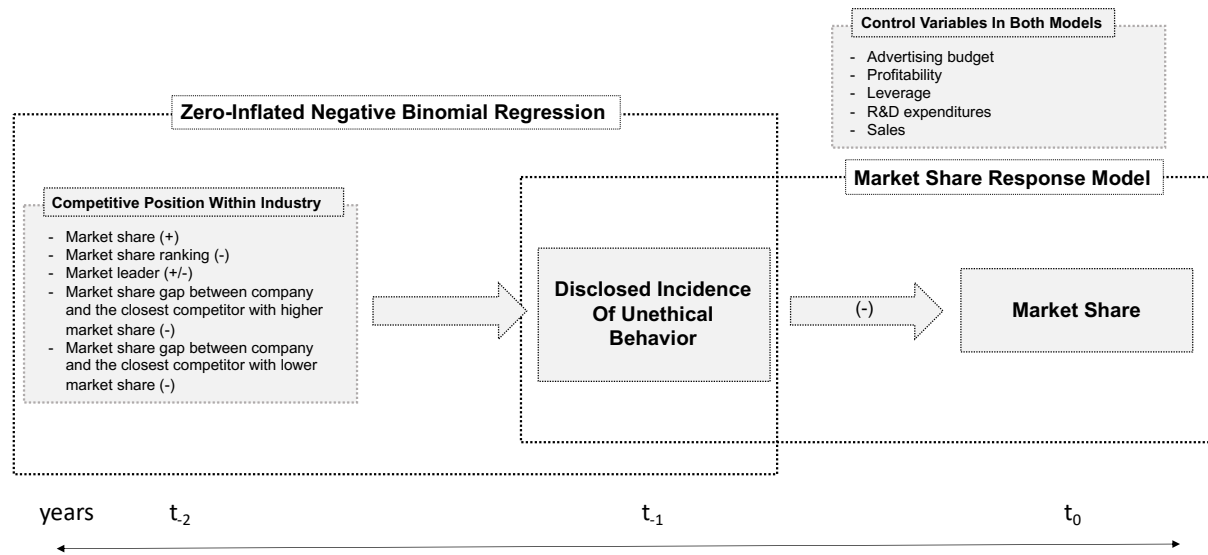
On March 12, 2015, Martin Winterkorn, the former CEO of Volkswagen, stated: “The Volkswagen Group is increasing the pace. In 2015, we intend to take the next step towards the top. In other words, we are now getting ready to overtake.” (Volkswagen Group, 2015). Only eight months later, the Volkswagen emissions scandal became public (Siano, Vollero, Conte, and Amabile, 2017). As one consequence of the unethical firm behavior, the market share of VW in Europe fell to its lowest level since the financial crisis (Campbell, 2016). This highlights how the company suffered a consumer backlash after the emissions scandal. The example indicates the potential dynamic relationship between an intense market share-based competition (race for market leadership), corporate social irresponsibility (CSI) (pollution scandal), and a resulting setback with regard to the competitive position (reduction of market share).

Volkswagen is obviously not the only company focusing on market share as a key performance indicator. For many managers, one of the top goals is to increase market share (Farris et al. 2010). Management decisions aimed at evaluating performance in relation to competitors can be referred to as competitor-oriented goals (Armstrong & Collopy, 1996). However, a growing number of studies question the pursuit of higher market share as a panacea. Results from a meta-analysis by Edeling and Himme (2018, 4) challenge a competitive orientation of a firm that “focuses too strongly on retaining and increasing market share as a business objective”. They show that the positive effect of a high market share on performance is lowest in the US, an economy characterized by strong competitive pressure. Armstrong and Collopy (1996) even suggest that firms should ignore their competitors when setting objectives and, instead, focus directly on profit maximization. Conversely, a recent study by Bhattacharya, Morgan, and Rego (2021) does not support a negative mediating role of competitor orientation within the market-share profit relationship.

This fierce debate about the role of market share and market share-based competition orientation raises the question to what extent the effects of the Volkswagen example are generalizable. Which specific competitive positions of firms within one industry lead to unethical behavior? Can striving for a higher market share actually turn into a disadvantage and even backfire leading to a weakening of the competitive position? In order to answer these questions, we analyze the competitive situation and the unethical behavior of 2,489 international companies from 77 different industries in a time window from 2007 to 2017.

2. Conceptual framework

We include five different market share-related variables which describe the competitive position of a firm within an industry. Figure 1 summarizes the included variables and our expectation about the chain of effects.



Notes: (+) indicates an expected positive effect direction; (-) indicates an expected negative effect direction.

Figure 1. Study design

We assume that the competitive pressure may lead to controversial decisions made by managers in order to outperform their competitors (Desmet, Hoogervorst, and van Dijke, 2015). Based on social comparison theory (Suls, 1977), people judge their own performance relative to others. Fundamental psychological research has confirmed that humans have a unidirectional drive upward and strive to minimize the discrepancies between the own and better peers' performance (Festinger, 1954; Messick & Thorngate, 1967). In addition, findings indicate that difficult circumstances such as increased inflation or limited availability of resources lead to people acting unethically and justifying their behavior under pressure (Hegarty & Sims, 1978). Transferring these mechanisms to decision makers in companies, we expect that intense competition increases the effort to improve a firm's competitive position compared to competing firms and triggers unethical actions of managers. Our five market-share related variables measure competition in different ways. For example, we suggest that the lower the gap in market share between a focal company and the closest competitor with higher (lower) market share, the higher the incentive to act unethically in order to reduce (increase) the market share gap.

There are numerous studies examining the consequences of CSI on various performance metrics. For example, CSI may result in a decrease in sales (Cleeren, van Heerde, and Dekimpe, 2013). As the market share is calculated from sales figures, we expect that CSI behavior has a negative effect on market share. The competition variables that we construct are all based on the market share of the company. Thus, we assume that the (new) competitive position is worsened by unethical corporate behavior.

3. Method

3.1 Data description and sample

We create a unique panel dataset including variables from the multiple data sources RepRisk, Compustat, and Kantar. Merging these datasets yields a rich sample of 19,249 yearly observations from 2,489 different companies from various countries active in 77 industries covering a time window from 2007 to 2017. The data includes information on when a CSI behavior was disclosed to the public for the very first time. In our study, this event represents a CSI event. It enables us to create a count variable that indicates how many CSI events occurred for a company in a specific year. On average, a company faced 1.17 CSI events per year. The number of CSI events per year varies between 0 and 52. 75.37% of all observations contain no CSI event, so that the variable consists to a large extent of zeros. We develop several market share-related variables that describe the competitive position of a firm within its industry. In addition to the general market share (revenues of the firm divided by total industry revenues; mean = .88%; variance = .11%), we include a market leader dummy, a rank variable (1 = market leader, 2 = company with the second largest market share, and so forth) as well as two variables measuring the market share distance to the next larger (MS gap 1) and next smaller (MS gap 2) company. We include the **control variables** leverage, advertising budget, R&D expenditures, sales, and profitability in our models. All variables are measured on a yearly basis. In both models, the independent variables are one year time-lagged (t_{-1}).

3.2 Zero inflated negative binomial model

Since the CSI variable is a count variable characterized by overdispersion (mean = 1.17; variance = 19) and excess zeros, we adopt a zero inflated negative binomial (ZINB) model. Zero-inflated count models provide a powerful way to model this type of situation (Greene, 1994; Lambert, 1992). Such models assume that the data are a mixture of two separate data

generation processes: one generates only zeros (excess zeros), and the other is a negative binomial data-generating process (count values). Both processes can be modeled independently: A logistic regression models the excess zeros and a negative binomial regression models the count process. In our context, a logit model identifies the group of companies that generally does not behave unethically. The negative binomial regression then analyzes which factors determine the number of CSI events if one generally belongs to the group of companies that behave unethically. The probability function can be written as (Minami et al., 2007):

$$f(y_i|B_i, G_i, \beta, \gamma, \theta) = \begin{cases} p_i + (1 - p_i)q(0|\mu_i, \theta) & \text{for } y_i = 0 \\ (1 - p_i)q(y_i|\mu_i, \theta) & \text{for } y_i = 1, 2, \dots \end{cases} \quad (1)$$

where μ_i and θ are the mean and the size parameters and p stands for the probability that a sample takes only the value zero. y measures the number of CSI events. B_i and G_i represent the covariate values of observation i for the negative binomial (B) and the logistic regression model (G), respectively. The log-likelihood function $L(\beta, \gamma, \theta|y, B, G) = \sum_{i=1}^N f(y_i|B_i, G_i, \beta, \gamma, \theta)$ is maximized with respect to $\beta, \gamma, \text{ and } \theta$ in order to obtain the maximum likelihood estimates for $\beta, \gamma, \text{ and } \theta$.

3.3 Market share response model

Controlling for the factors leverage, R&D expenditures, advertising spending, profitability, lagged market share, and year and firm fixed effects to account for unobserved heterogeneity, we develop the following market share response model:

$$MS_{it} = \beta_1 CSI_{it-1} + \beta_2 Lev_{it-1} + \beta_3 RD_{it-1} + \beta_4 Adv_{it-1} + \beta_5 PROF_{it-1} + \beta_6 MS_{it-1} + \text{Year Fixed Effects} + \text{Firm Fixed Effects} + \varepsilon_{it}, \quad (2)$$

where

MS_{it}	=	Market share of firm i in year t ,
CSI_{it}	=	Number of CSI events,
LEV_{it}	=	Debt divided by total assets,
RD_{it}	=	R&D expenditures divided by total assets,
ADV_{it}	=	Advertising spending,
$PROF_{it}$	=	EBIT divided by total assets,
β	=	unobserved parameter vectors,
ε_{it}	=	stochastic error term.

4. Results

The results of the ZINB model in Table 1 are divided into two parts: The zero component contains logit coefficients for predicting excess zeros along with their standard errors and

significance levels. The coefficients reflect how much the log odds of an excessive zero change if covariates change by one unit. The results of the count component show how the independent variables affect the number of CSI events. The parameter values of the negative binomial regression indicate the effect of the independent variables on the log(CSI events).

Zero-Inflated Negative Binomial Model			
Dependent Variable: CSI events			
Zero Component	Estimate		(Std. Error)
<i>Focal Competition Variables:</i>			
Market share	.523	***	(.040)
Market leader	1.343	**	(.727)
MS gap 1	-1.077	***	(.149)
MS gap 2	.136		(.107)
<i>Controls:</i>			
Advertising	-.000	***	(.000)
Leverage	-.002		(.009)
R&D	3.378	***	(.579)
Sales	-.0001	***	(.000)
Count Component	Estimate		(Std. Error)
<i>Focal Competition Variables:</i>			
Market share	.236	***	(.012)
Market leader	-.223	**	(.107)
Rank	-.001	***	(.000)
MS gap 1	-.003		(.005)
MS gap 2	-.226	***	(.013)
<i>Controls:</i>			
Advertising	2.837e ⁻⁰⁵	***	(.000)
Leverage	-.272	**	(.106)
R&D	.272		(.483)
Profitability	-.110	**	(.047)
Market Share Response Model			
Dependent Variable: Market share			
	Estimate		(Std. Error)
<i>Focal Variable:</i>			
CSI events	-.0380	**	(.002)
<i>Controls:</i>			
Leverage	4.224e ⁻⁰⁶		(.000)
R&D	-5.875e ⁻⁰⁶		(.002)
Advertising	1.912e ⁻⁰⁶		(.000)
Profitability	1.574e ⁻⁰⁶		(.000)
Market share	.804	***	(.005)
Adj. R ²	.54		

*p < .1. **p < .05. *** p < .01.

Table 1. Results of ZINB model and market share response model

The log odds of having an excessive zero increase by 1.343 if a firm is the market leader. In other words, it is less likely that a market leader belongs to the group of unethically behaving companies. In addition, a higher market share decreases the likelihood that a company belongs to the group of unethical companies, whereas a higher difference between the market share of the firm and the next bigger company (MS gap 1) increases this likelihood. If the next bigger competitor is “far away” with respect to market share, it is more likely that the firm belongs to the group of unethical companies.

A market leader has an expected log(CSI events) of .223 smaller than that of a non-market leader. Thus, the fact that a company is a market leader decreases the expected number of CSI events by 19.9% $((1 - e^{-.223}) * 100)$. A one percentage-point increase in market share increases the number of CSI events by 26.6%. The change in log(CSI events) for a one-unit increase in rank is -.001. Thus, a one unit increase in the rank – indicating a reduction of the market share size – decreases the number of CSI events by .1%. The smaller the difference between the market share of a firm and the market share of the next smaller firm (MS gap 2), the higher is the number of CSI events (20.2% per unit). MS gap 1 is the only competitive variable that does not influence the number of CSI events significantly. One additional CSI event reduces the market share in the next year by .038%. It is relevant to evaluate this effect size in relation to the average market share size of .88%. A CSI event therefore decreases this market share by 4.31% $((.00038 / 0.0088) * 100)$. The adj. R^2 in the response model equals 54%.

5. Conclusion

For the first time, we present the joint effect of a number of competition variables on unethical firm behavior. We also show how unethical behavior affects the competitive position and thus reveal the dynamics between competitive pressure and CSI. Interestingly, if a company has a higher market share or is the market leader, the probability that the company belongs to the group of unethically behaving companies decreases. The market leader status also reduces the expected number of CSI events by 19.9%. Market leaders appear to be in a situation in which unfair means are rarely needed to survive in competition. The fact that a company is a market leader therefore seems to protect it from unethical behavior. Although a higher market share increases the likelihood that a firm is generally an ethical company, our results show that when it is an unethical company, the frequency of unethical behavior increases with a larger market share. The results regarding the rank variable confirm this effect, as a lower rank relates to an increase in CSI events. Thus, it is highly relevant to identify the

high market share companies that belong to the unethical ones, since they behave unethically to a particularly high degree.

Confirming our expectations, the number of CSI events increases if a company is in a situation in which it is being closely followed by another company. This competitive position seems to create so much pressure on managers that they feel forced to make unethical decisions. Furthermore, the probability of belonging to the unethical group of companies increases when the distance to the next larger company increases. It seems that companies lagging far behind in the competition aim to reduce the competitor's large lead by engaging in unethical behavior. This is in line with existent psychological mechanisms leading managers to evaluate the company's performance relative to that of competitors (Armstrong & Collopy, 1996). The relative performance equals the absolute performance of one's own company minus the absolute performance of the competitor (Harris & Bromiley, 2007). Harris and Bromiley show that the worse the relative performance, the higher the probability of accounting fraud, which is in line with our result that the probability of unethical misconduct is highest for the most negative value of relative performance. Although the relationship between competitive pressure and unethical behavior has already been recognized, there has been no theoretical evidence on the effect of the specific competitive position of companies. In addition, marketing research is particularly sparse when it comes to understanding the drivers of CSI.

The insights are also relevant for managers. We show instances when competitive pressure causes unethical behavior and that these situations create a negative feedback effect: Although the initial goal of the unethical behavior is actually to strengthen the competitive position, this position is weakened as the market share per additional CSI event decreases by 4.31% on average. Managers should be aware of this paradoxical relationship when developing competitive strategies and should not assume that a market share orientation is infallible. The insights can improve internal corporate risk management: Companies may reduce the risk or initiate appropriate actions in response to the CSI event to reduce negative consequences (Backhaus & Fischer, 2016). For example, firms may implement internal monitoring measures that warn of corporate misconduct. The corporate risk management may strive to prevent unethical behavior by decision makers through communication and monitoring activities: It is important to convince managers that potential unethical behavior tends to set back the company in the competitive arena. Unethical decisions are counterproductive and increase the pressure on managers. Finally, this study has value for shareholders. CSI events may have a negative effect on the stock market performance of companies (Flammer, 2013). Investors

could use the insights to optimize their investment decisions and to adapt their investment portfolio proactively by analyzing the competitive positions of firms they potentially invest in. If they want to avoid potential share price losses due to unethical behavior, investors should, for example, limit themselves to stocks of market leaders or take the intensity of the industry battles (i.e., the proximity of the respective market shares) into account.

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