Situational effects of marketing strategies on financial performance

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While a plethora of studies have investigated market orientation (MO) and entrepreneurial orientation (EO), prior research is unclear about their interaction and has largely neglected possible contingencies of their performance. Against this background, based on the results of Bhattacharya et al. (2019), we investigate the effects of MO and EO and their interaction on financial performance, and the role of the situation and how it may have a different impact on the performance effect of each strategy. To analyze our conceptual model, we use consistent computer-assisted test analysis (CATA) procedures on annual reports and ad-hoc announcements of 292 companies. We assess the market situation using the risk-optimism framework of Pröllochs and Feuerriegel (2020), which classifies internal and external situations based on capabilities and opportunities or threats. Our findings provide important contributions to our understanding of MO and EO, and valuable recommendations for management. Thus, we found a positive performance-enhancing effect of EO in the context of risk. Even if the negative effect of risk predominates, EO can help to reduce losses.

Track: Marketing Strategy & Theory

1 Introduction and Research Objective

Strategic orientations are highly complex guiding principles which companies use to align their actions in order to gain a competitive advantage (Noble et al., 2002). The two most studied strategies are market orientation (MO) and entrepreneurial orientation (EO). While MO relates to the level to which a company dedicates itself to meeting customer needs and outperforming the competition along the way (Narver & Slater, 1990), EO focuses on the decision-making styles, processes, and methods that drive entrepreneurial actions (Lumpkin & Dess, 1996).

The predominant literature assumes that MO and EO are complementary and each have a positive significant impact on performance (Dutta et al., 2016). However, while studies on the interaction of both orientations have observed positive effects (Atuahene-Gima & Ko, 2001), others have found negative interactions (Bhuian et al., 2005). To investigate this deviation, Bhattacharya et al. (2019) used CATA to analyze effects on a large scale. They leave out almost all of the situational influence assumed by prior research. We adopt this analysis and add an analysis of situational influences. By measuring with Pröllochs (2020), we thus achieve a more comprehensive unprecedented model based purely on CATA. In this way, more detailed statements on the effects of the strategies can be made. As Wit and Meyer (2010) describe, strategies are dynamic processes that have to be adjusted to external conditions. Since managers have little or no control over external factors, it is crucial to be informed about these external changes in order to be able to react accordingly. In addition, in increasingly complex and dynamic markets, an inadequate strategy can lead to the loss of a market position (Davis et al., 1991).

2 Conceptual Framework and Hypotheses

As depicted in Figure 1, in this paper, we focus on situational effects on the financial performance outcomes of MO, EO, and their interaction. In this study we measure financial performance as abnormal return using the five-factor model (Fama & French, 2015). To conceptualize the situation, we use the risk-optimism framework of Pröllochs and Feuerriegel (2020). The framework is in line with the strategic concept of situational analysis and compares the company's own assessments of internal capabilities against the one of the external environment. *Situational Optimism* describes the internal dimension, with all available capabilities and know-how. A situation is called optimistic, if a company evaluates its available resources as sufficient to handle that situation. *Situational Risk* represents the external dimension regarding its opportunities and potential threats. Classifying a situation as risky means that threats exceed opportunities and market changes occur that can negatively affect performance. Having a good fit between environment and strategy helps outperform other companies. If the fit is lost due to market turbulence, companies can be negatively affected.

FIGURE 1: Conceptual Model
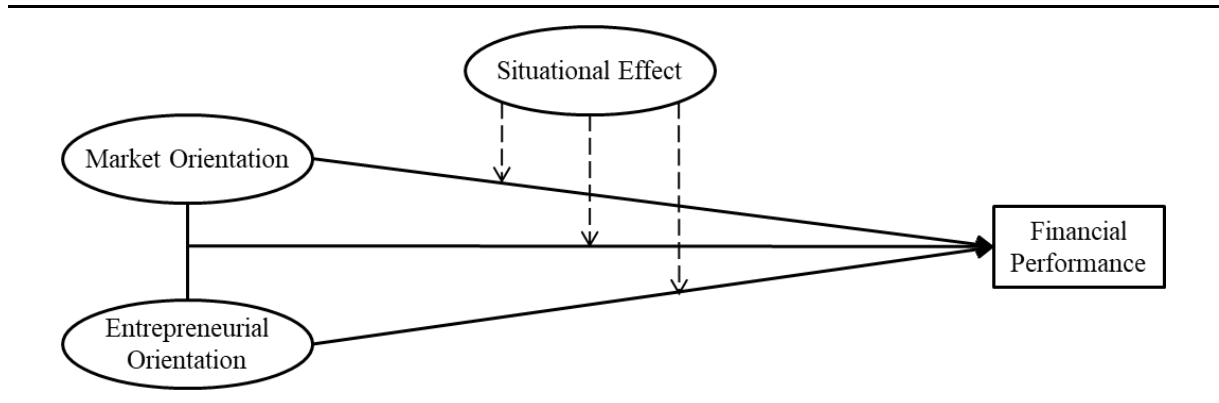
Prior research has conceptualized market orientation as a three-dimensional concept consisting of the behavioral dimensions of customer orientation, competitor orientation, and interfunctional coordination (Narver & Slater, 1990). *Customer orientation* is the sufficient understanding of the target customer in order to continuously create superior value for them. *Competitor orientation* relates to operating successfully in the market and requires a company to understand the strengths and weaknesses of its competitors. Both dimensions include a focus beyond the status quo. With the correct understanding of the development of the market or available technologies a company can generate competitive advantages. *Interfunctional coordination* refers to the holistic use of all available resources to generate superior benefits for the target customer. It is closely tied to the other two components. Narver and Slater (1990) also discuss long-term focus and profitability as two possible components of the concept of market orientation, and see them as decision criteria and consequence rather than dimensions of the construct. We follow this line of thought and define market orientation as consisting of customer orientation, competitor orientation, and interfunctional coordination.

Aligning actions with customer needs leads to an increase in customer loyalty (Webb et al., 2000). This loyalty, combined with a proper understanding of the strengths and weaknesses of the competition, enables a company high on MO to build switching barriers to prevent customers from leaving and thus increase abnormal returns (Bhattacharya et al., 2019). Following Jaworski and Kohli (1993) the need of such interventions varies depending on the market situation. Organizations that operate in markets perceived as risky need to modify their offer permanently in order to satisfactorily serve the changing preferences of their customers. In stable markets however, companies are less reliant on adjusting their supply. This matches the findings of Davis et al. (1991) who observed an increase in information gathering activities. The additional effort involved causes costs and lowers returns. Furthermore, if markets change dramatically, customer needs can change significantly and the accumulated knowledge about them loses value. A loss of the main advantage would lead to a negative effect on abnormal return, since customer loyalty and switching barriers are in danger. Building up sufficient new customer knowledge also requires a long time and money. We therefore expect that a situation classified as risky will reduce the effect of MO on financial performance. In situations that are assessed as optimistic companies judge their customer knowledge to fit to the external environment (Alba & Hutchinson, 1987). Having the right fit helps to outperform other companies (Pröllochs & Feuerriegel, 2020). We therefore expect a positive impact on financial performance if optimism is high.

H1a: Situational risk has a negative moderating effect on the relationship of market orientation and financial performance.

H1b: Situational optimism has a positive moderating effect on the relationship of market orientation and financial performance.

Prior research has conceptualized entrepreneurial orientation as a five-dimensional concept consisting of risk-taking, innovativeness, proactiveness competitive aggressiveness and autonomy (Lumpkin & Dess, 1996). Companies high in EO take risky investments in order to outperform the competitors with proactive innovations and thus achieve first-mover advantages (Miller, 1983). *Risk-taking* describes the level to which a manager is willing to take on risky liabilities. The risk taken is often used to enable innovations which result in new products, services or technical processes. *Innovativeness* indicates the extent to which such developments are encouraged. *Proactiveness* describes the degree to which a company anticipates and responds to future needs. While proactivity focuses on achieving a lead in new markets, *competitive aggressiveness* refers to a direct or indirect challenge of existing demand in order to weaken the market position of the competition. *Autonomy* is the freedom given to the employees to engage in new ideas, experimentation and creativity, and to act free from organizational constraints.

Evidence of a general positive relationship between EO and performance is well established (Wiklund & Shepherd, 2005). In order to improve performance, firms high in EO use competitive aggression as well as proactive innovation to shape demand to their favor in existing as well as new markets (Lumpkin & Dess, 1996). If the attack on the market position, however ends in a long-term reaction it risks permanently lowering the profitability of both companies (Young et al., 1996). EO motivates to take such risks in order to generate higher returns (Lumpkin & Dess, 1996). But cash flows do not guarantee long-term security, especially in rapidly changing markets (Wiklund 2005). Thus, companies find themselves under pressure to seek out new market opportunities anytime. This seeking for opportunities is a known key characteristic for companies high in EO which should give them an advantage to actively shape demand (Lumpkin & Dess, 1996). Due to competitive aggressiveness and proactiveness companies high in EO are trained to be exposed to risks. The companies know how to take advantage of such situations and do not panic. EO can therefore be used to provide a faster response to the perceived risk (Davis et al., 1991). We therefore assume a positive effect in situations perceived as risky. Similar to MO, we expect a positive effect for situations perceived as optimistic in which a company considers its expertise to fit to the external environment. If this is not the case the effect is estimated negative.

H2a: Situational risk has a positive moderating effect on the relationship of entrepreneurial orientation and financial performance.

H2b: Situational optimism has a positive moderating effect on the relationship of entrepreneurial orientation and financial performance.

While both EO and MO can lead to an increase in future performance, Bhattacharya et al. (2019) found that using them in combination can create additional value. They argue that EO benefits from being market-aligned through MO. This reduces blind spots in the market and provides greater satisfaction of customer needs. However, following Narver et al. (2004), MO can also benefit from EO by balancing its reactive nature. MO alone fails to recognize the need for unprecedented innovation, which poses the risk that a competitor will outpace the company with a disruptive innovation. EO can proactivity change the character of the company and reduce that risk. Atuahene-Gima and Ko (2001) see the optimal orientation as high-MO/high-EO. Bhuian et al. (2005) however found a negative impact if EO is too high. They suggest the best combination to be high MO/moderate EO, so still a positive effect if both orientations are

used simultaneously. Accordingly, this only applies as long as the firm's internal skills fit to the external situation. If optimism regarding the fit is missing, we expect a negative effect. Even if the effect of EO is supposed to increase in the presence of situational risk, it still reduces the effect of MO (Davis et al., 1991). Since EO still poses some risk, we expect the negative effect on MO to predominate, even though the reduction should be smaller than for MO alone.

H3a: Situational risk has a negative moderating effect on the relationship of a combined use of market and entrepreneurial orientation and financial performance.

H3b: Situational optimism has a positive moderating effect on the relationship of a combined use of market and entrepreneurial orientation and financial performance.

3 Method

3.1 Data

To answer the hypotheses, we gathered annual reports (Form 10-K) of the companies that are members of the S&P 500 stock index. We chose these sources because they provide insights in management perceptions, as well as business strategies (Zachary et al., 2011). They also offer the advantage that they are published regularly, which makes it possible to analyze their development (Bhattacharya et al., 2019). In addition we collected all available ad hoc announcements (Form 8-K) to measure situational effects. For the period from 2009 to 2019, a total of 76,096 8-K reports and 5,121 10-K reports were collected from the SEC database. We obtained the control and financial variables from the Refinitiv EIKON database. The variables financial leverage (long-term debt/total assets), current ratio, total assets, return on assets and marketing expenses (SG&A-R&D) were used to control for possible side effects. Daily stock returns were used to estimate abnormal returns. The portfolio factors needed for this were obtained from the Dartmouth *Tuck School of Business* database. After combining data from all data sources, missing data for some variables resulted in a balanced panel dataset containing 292 firms from 11 sectors with a total of 1,909 observations.

3.2 Measures

In order to avoid the dependency from low response rates in the evaluation of manager questionnaires, we measure the extent of the respective marketing strategy (MO or EO) using CATA. For this purpose, we program a web scraper using python that downloads all available 10-K and 8-K reports and cleans them to the respective text. For the analysis, the text is divided into individual words and assigned a meaning using dictionaries (Loughran & McDonald, 2016). The frequencies of the words then reflect the relevance of each word's meaning. We apply the dictionary of Zachary et al. (2011) for MO and the dictionary of Short et al. (2010) for EO to the 10-K reports. To describe the situation, we use the 8-K reports. For this purpose, we use the dictionaries of Pröllochs and Feuerriegel (2020) for situational risk and Loughran and McDonald (2016) for situational optimism. In order to eliminate inaccurate documents, only reports with more than 200 (8-K) / 2000 (10-K) words were analyzed.

We calculate four scores for each analyzed document (equation 1-5). Each score consists of the sum of the individual dimensions of the corresponding construct and sets them in relation to the total amount of words within the document. For situational optimism, the negative words are subtracted from the positive words. Therefore this score is the only one that can become negative. We then average the scores for each fiscal year of the companies. MO ranged between 0.0321 and 0.0894. EO on the other side falls between 0.0091 and 0.0514.

$$MO_{D,t} = \frac{\substack{Customer\ Orientation_{D,t} \\ +Competitor\ Orientation_{D,t}+interf.Cooridination_{D,t}}}{Word\ Count_{D,t}} \qquad (1)$$

$$EO_{D,t} = \frac{\substack{Autonomy_{D,t}+Innovativeness_{D,t} \\ +Risk\ Taking_{D,t}+Proactiveness_{D,t}+Competitive\ Aggressiveness_{D,t}}}{Word\ Count_{D,t}} \qquad (2)$$

$$SO_{D,t} = \frac{Positive_{D,t}-Negative_{D,t}}{Word\ Count_{D,t}} \qquad (3)$$

$$SR_{D,t} = \frac{Risk_{D,t}}{Word\ Count_{D,t}} \qquad (4)$$

As a measurement of financial performance we use the five-factor model of Fama and French (2015) to receive the abnormal return of the companies. The model describes the relationship between risk and return using the factors to estimate the parameters of the following regression equation (5). Here R_{it} represents the stock return of company i at day t, R_{ft} is the risk free rate of return at day t and R_{mt} describes the average market rate of return on day t. The used factors control the estimation of the portfolio on their size (small minus large), price (high minus low), profitability (robust minus weak), and the type of their investments (conservative minus aggressive) The parameters α_i and β_i capture abnormal return, and systematic risk.

$$R_{it} - R_{ft} = \alpha_i + \beta_{1i}\left(R_{mt} - R_{ft}\right) + \beta_{2i}\ SMB_t + \beta_{3i}\ HML_t + \beta_{4i}\ RMW_t + \beta_{5i}\ CMA_t + \varepsilon_{it} \qquad (5)$$

We use the same control variables as Bhattacharya et al. (2019). We therefore control our regression using financial leverage, as the ratio of a company's long-term debt to its total assets. In this way, we aim to avoid a situation where interest payments reduce expected cash flows and thus have an impact on future risk. Using the total assets, economies-of-scale effects should be extracted. The current ratio is used to control for the liquidity of a company. An effect of marketing expenses is captured by subtracting R&D expenses from SG&A. Finally, we use return on assets as a control for both profitability and risk taking propensity of the firms. For a better overview, the effects of the control variables are hidden in the regression output.

3.3 Analytical Approach

We use a fixed-effects estimation method with first-order autoregressive correlation structure (FE-AR1) because the explanatory characteristics of firms remain constant over time. Since the scores cannot be negative, except for situational optimism, they exhibit a strong left skewness. The variables are therefore first mean-centered. We construct the model hierarchically. Thus, in the first step we estimate the effects of marketing strategies separately and in the second step we add the situational moderators. In the last step, we then add the combined use of EO and MO into a 3-way-interaction. Overall, we estimate the following complete model to test the hypotheses:

$$\begin{aligned} AR_{i,t+1} = & \ \beta_1 EO_{i,t} + \beta_2 MO_{i,t} + \beta_3 EO\ X\ MO_{i,t} + \beta_4 O_{i,t} + \beta_5 R_{i,t} + \beta_6 EO\ X\ O_{i,t} \\ & + \beta_7 MO\ X\ O_{i,t} + \beta_8 EO\ X\ R_{i,t} + \beta_9 MO\ X\ R_{i,t} + \beta_{10} EO\ X\ MO\ X\ O_{i,t} \\ & + \beta_{11} EO\ X\ MO\ X\ R_{i,t} + \beta_{12} Controls + \eta_i + \varepsilon_{i,t} \end{aligned} \qquad (6)$$

where i stands for firm and t for time (year), η_i is the time-invariant unobservable firm-fixed effects and $\varepsilon_{i,t}$ is the random error representing all unobserved influences on future returns. The control variables are summarized in the matrix $Controls$.

4 Major Results

FIGURE 2: Development of average scores
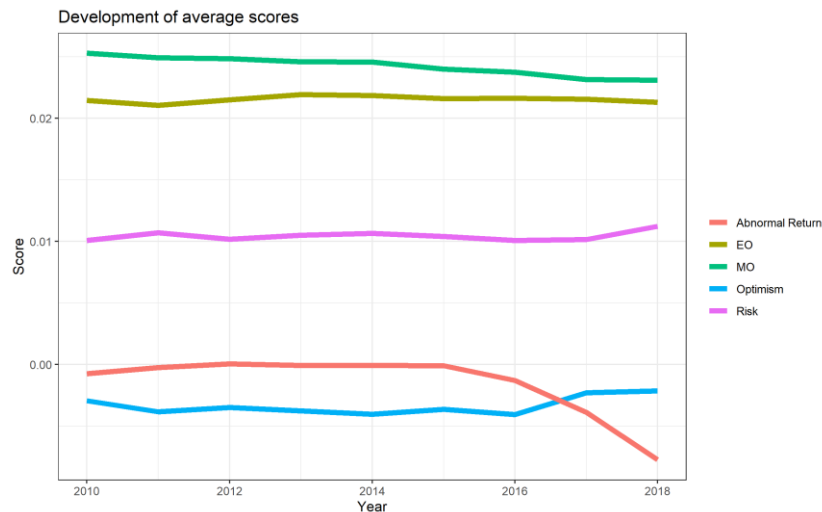
When looking at the average development of the scores, it is noticeable that a change occurs around 2016. Figure (2) shows that prior to that year, the average abnormal return remained at a constant level around 0. Starting in 2016, it steadily falls. The average optimism also leaps in 2016 and stays at the less negative level. While MO slightly decreases over time, EO remains constant. For risk, an increase can be observed in 2017. A reason for the observable development is not yet found. Further analysis is therefore required.

TABLE 1: Regression output

	Abnormal Return		
	(1)	(2)	(3)
Entrepreneurial Orientation	-.007 (.025)	-.016 (.026)	-.025 (.027)
Market Orientation	.082** (.026)	.079** (.026)	.073** (.027)
Situational Risk	-.097*** (.026)	-.125*** (.028)	-.126*** (.028)
Situational Optimism	-.134*** (.025)	-.149*** (.026)	-.148*** (.028)
EO X MO			.018 (.019)
EO X Situational Risk		.053* (.023)	.052* (.024)
EO X Situational Optimism		.021 (.030)	.026 (.032)
EO X MO X Situational Risk			.004 (.018)
EO X MO X Situational Optimism			-.002 (.017)
MO X Situational Risk		.012 (.027)	.005 (.030)
MO X Situational Optimism		.013 (.026)	.011 (.027)
Wald χ^2	743.070***	738.458***	738.780***
AIC	5412.254	5434.664	5458.377
Note:	*** p < 0.001; ** p < 0.01; * p < 0.05; + p < 0.1		

Based on the regression outcomes, we see a positive effect of MO on abnormal returns (.082, p < .01). The size of the effect slightly decreases (to .073, p < .01) by adding the

interactions. Since the effects refer to the word frequencies in the documents, it is not possible to interpret the exact effect size. There is no direct relationship between using a word in a report and increasing abnormal Return. We can just interpret the sign, as we assume that a more pronounced use of the corresponding words reflects a stronger presence of the marketing strategy in the company. We do not find this effect for EO. But in context with situational risk, a positive interaction effect can be identified (.053, p < .05). H2a can therefore be accepted. Still, the negative impact of a risky situation (-.125, p < .001) outweighs the positive interaction effect. Our data shows no situational impact on the effect of MO, thus H1a and H1b must be rejected. Similarly, no differences were found for a combined use of MO and EO (H3a and H3b). Optimism also behaves differently than assumed. While we expected a positive effect, it shows a negative effect on abnormal returns (-.149, p < .001) similar to the effect of situational risk (-.097, p < .001).

5 Discussion

5.1 Limitations

Our research has several limitations which could also serve as targets of future research. First, since we use CATA the used dictionaries for determining the strategy may not be fully comprehensive in this context (Pröllochs & Feuerriegel, 2020). A re-examination, could be useful to check the validity of our results and give insights whether the strategies differ within the organizations. Currently, the used measurement is not able to capture the strategies of the individual SBU's. Additionally, the approach carries the risk that the measurement of the actual strategy is mitigated by irrelevant words. A more detailed view on specific chapters of the reports may help in future analysis. Managers can also (un)intentionally use negations when formulating the reports, which lead to misinterpretations. However, this bias is well known in the literature and yet it's still recommended (Loughran & McDonald, 2016; Pröllochs & Feuerriegel, 2020). The finding of an negative impact of optimism is contrary to our expectations and therefore need further research. It could be possible, that the effect is biased because companies primarily publish 8-K reports in response to negative events. Alternatively the effect may not be linear but inverted U-shaped because of a negative impact in case of overoptimism. In that case companies falsely assess their capability to positive.

5.2 Implications

Overall, this research highlights that the successful use of marketing strategies hinges on characteristics of the market situation. Our first theoretical contribution is to provide empirical insights on contingencies effects of MO and EO on performance. While we find a positive effect for MO, this is not the case for EO. In our data, EO appears to have a positive effect only when interacting with situational risk. Here no effect is significant for MO. Further research is therefore needed for both EO and MO. We also see a negative influence of a situation classified as risky alone. While the negative effect of the situation perceived as risky was as expected, our analysis also shows a negative effect for optimism, meaning the assessment of own strengths. This may indicate a naive assessment of the situation. However, further investigations are required for a more precise statement.

With our study, we support the use of CATA to examine the marketing strategy but additionally to use it for the assessment of the situation. Therefore recommendations can be adapted in more detail and gain informative value. Furthermore, the use is more manageable, since far more sources can be added to the analysis. Companies could use these CATA-tools to run a permanent analysis of the market including the competitors' assessments for themselves. This would help them to adjust their actions closer to what the situation requires, especially if the market situation is considered risky. Then, based on our data, we can recommend the use

of EO. The negative effect caused by perceived risk can thus be mitigated. Outside of risky situations, companies should go with MO to increase their performance. The effect of optimism is negative, which currently indicates that situations should be handled with caution if they are classified as optimistic. A too naive approach bears dangers, which can be seen in our data set.

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