

Standing out from the crowd: Dedicated institutional investors and strategy uniqueness

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Abstract

Research summary: This article examines the effect of dedicated institutional investors on firms' strategy uniqueness. We build on the uniqueness paradox where unique strategies are important drivers of economic rent, yet create an information problem whereby CEOs face discounts from the capital market, thus discouraging them from selecting unique strategies. We propose dedicated institutional investors as a partial remedy to the uniqueness paradox. Dedicated institutional investors invest in gaining private information about their investments, devote effort to understanding firms' strategies, and reduce capital market pressure. Thus, dedicated institutional investors can encourage CEOs to pursue more unique strategies. Our empirical results show the positive influence of dedicated institutional investors on strategic uniqueness, which is even stronger when firms operate in industries that are hard to value.

Managerial summary: Unique strategies can be an important way for managers to create long-term value. However, some managers shy away from implementing such strategies, fearing that the short-term oriented capital market does not fully understand the long-term benefits of unique strategies and hence punishes them. Our study shows that investors who are long-term-

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oriented, focused, and committed help resolve this issue. These owners gather in-depth private information about their investments, devote effort to understanding firms' strategies, and reduce capital market pressures. Hence, their commitment and patience can encourage CEOs to pursue more unique strategies. Our study reflects the high levels of responsibility that investors have on strategic decision-making. Therefore, we recommend to intensify the communication between investors and firms on strategic topics (e.g., in form of stewardship policies).

KEY WORDS

adverse selection, agency theory, corporate governance, dedicated institutional investors, strategy uniqueness

1 | INTRODUCTION

Previous research has shown that the uniqueness of a firm's corporate strategy in relation to its industry peers (strategy uniqueness) is a crucial condition to create economic rent, and, consequently, to increase the firm's long-term value (Barney, 1986; Litov, Moreton, & Zenger, 2012).¹ However, CEOs face a paradox when considering unique strategies (i.e., the so-called uniqueness paradox), as capital markets discount unique strategies (Litov et al., 2012). Since CEOs are held accountable for unsuccessful strategies (e.g., Crossland & Chen, 2013), these strategies may harm CEOs' careers through decreased reputation, lower compensation, and even potential dismissals. The uniqueness paradox may therefore discourage CEOs from pursuing a strategy that would potentially be more beneficial to their shareholders (Benner & Zenger, 2016). The discount for unique strategies arises from an information problem within the capital market where its participants avoid the effort to assess unique strategies and instead prefer more common strategies that are easier to evaluate using industry benchmark comparisons (Zenger, 2013). However, previous ownership literature suggests that certain types of investors—dedicated institutional investors—“are able to understand rich and complex information about firms in which they invest” (Shi, Connolly, & Hoskisson, 2017, p. 1271). In this study, we are interested in whether this understanding of rich and complex information can also help partly resolve the uniqueness paradox and, therefore, we ask whether *dedicated institutional investors affect strategy uniqueness of the firms in which they have invested*.

The uniqueness paradox is conceptually grounded in adverse selection (Akerlof, 1970; Benner & Zenger, 2016). The principals (i.e., shareholders on the capital market) have less information about the quality of a firm's strategy than the agents (i.e., CEOs). The principals' reaction to this information asymmetry can be adverse selection, meaning that they prefer

¹An additional test with our data supports the perception that more unique strategies can be related to a higher future firm value.

common strategies that are associated with lower information asymmetries over unique strategies and evaluate the latter with a discount. This, however, leads to the problem that even though CEOs know and intend to follow a unique (high-quality) strategy, the threat of a discount by the capital market could lead CEOs to compromise in strategy selection (Benner & Zenger, 2016). CEOs could fear that the discount linked to their unique strategy may be harmful to their careers (e.g., it could reduce their compensation and even put their jobs at risk when myopic capital market participants falsely relate poor short-term results to their strategy selection) and, thus, they may decide on a more easy-to-evaluate but potentially less valuable strategy over the longer term.

Institutional investors, who influence managerial decisions, and specifically, strategic outcomes (Chen, Harford, & Li, 2007; David, Hitt, & Gimeno, 2001; Tihanyi, Johnson, Hoskisson, & Hitt, 2003), can play different roles in the adverse selection problem of strategy uniqueness. On the one hand, "institutional investors evaluate strategy quality, thereby reducing information asymmetries and attenuating the adverse selection problem" (Benner & Zenger, 2016, p. 81). On the other hand, they might also increase the pressure on CEOs to follow the capital market evaluation (Helwege, Intintoli, & Zhang, 2012; Kang, Luo, & Na, 2018) and hence follow less optimal but better evaluated common strategies. Since institutional investors are not all the same (Boyd & Solarino, 2016), the actual effect of institutional investors on strategy uniqueness might depend on the type of institutional investor.

Institutional investors differ, for example, with respect to their time horizons (Hoskisson, Hitt, Johnson, & Grossman, 2002; Neubaum & Zahra, 2006), entry-and-exit strategies (Tihanyi et al., 2003), and information-processing behavior (Kochhar & David, 1996). Specifically, with respect to mitigating the adverse selection problem, possessing high levels of firm-level information and long-term orientation seem critical (Benner & Zenger, 2016). Dedicated institutional investors, who are known for their long-term orientation and their focused investment strategies (Bushee, 1998; Connelly, Tihanyi, Certo, & Hitt, 2010; Shi et al., 2017), might therefore be a partial remedy for the uniqueness paradox. Their large shareholdings provide strong incentives for them to expend the effort to understand the strategies of the firms they invested in (Porter, 1992). As these shareholders invest in private information and devote effort to understanding the firms' strategy (Zhang & Gimeno, 2016), we argue that they let the CEOs feel understood and less concerned about capital market discounts threatening their careers if they select a unique strategy. Therefore, we expect the influence of dedicated institutional investors to amplify strategy uniqueness. Furthermore, since CEOs are particularly concerned about misevaluations of strategic decisions when their industry is hard to value (Humphery-Jenner, 2014), we argue that CEOs especially need dedicated investors to devote effort to understanding unique strategies in such hard-to-value industries.

Our empirical analysis of 916 firms from the S&P 900 between the years 2005 and 2017 supports our prediction that dedicated institutional investors can help partly resolve the uniqueness paradox and that this effect is especially strong for hard-to-value industries. Since our theorizing is based on the assumption that career concerns caused by potential discounts for unique strategies discourage CEOs from pursuing these strategies and that dedicated institutional investors can relieve these concerns, we conduct additional tests about the effect of strategy uniqueness on the performance sensitivity of CEO dismissals. These results show that with more strategy uniqueness, the likelihood of the CEO being fired under weak performance is higher. We also show that this relationship does not exist under the strong influence of dedicated institutional investors.

We contribute to the literature on strategy and corporate governance in several ways. First, we contribute to research about the strategy-uniqueness paradox (e.g., Litov et al., 2012;

Zenger, 2013) by introducing dedicated institutional investors as a potential partial remedy to the problem. Conceptually and empirically, our study sheds light on the mechanisms that underlie this relationship. Specifically, we emphasize how the presence of dedicated investors reduces CEO career concerns about potential punishments for unique strategies.

Second, we add to the current research on the influence of institutional investors on strategic decision-making (Aghion, van Reenen, & Zingales, 2013; Chen et al., 2007; Tihanyi et al., 2003), and, specifically, on corporate strategy (Feldman, 2020; Goranova, Dharwadkar, & Brandes, 2010) and respond to the call to shed more light on the strategic influence of investors (Fitza & Tihanyi, 2017). We scrutinize the influence of institutional investors on strategic decisions by highlighting how dedicated institutional investors can impact strategic decisions by devoting more effort to understanding and valuing the CEOs' strategic decisions.

Third, we contribute to our understanding of adverse selection in the corporate governance research—the agency problem is at least as important as moral hazard, but is much more under-researched (Benner & Zenger, 2016). From previous research, we know how effective signals from the agent (Akerlof, 1970) and signals from the principal (Humphery-Jenner, Sautner, & Suchard, 2017) help in reducing adverse selection. We extend this research by showing how a certain principal's characteristics—such as being devoted to understanding rich and complex information—can reduce adverse selection.

2 | THEORY AND HYPOTHESES

Adverse selection originates from agency theory, and is, next to moral hazard, the major agency problem caused by information asymmetry (Akerlof, 1970). Whereas moral hazard focuses on opportunistic agents making use of information asymmetry for their own benefit, adverse selection describes the principal's reaction to information asymmetries. The higher the information asymmetries are, the more the principal fears that the agent is making use of these information asymmetries and disguising low-quality as high-quality products (Akerlof, 1970). Researchers have observed adverse selection in several markets such as the market for talent (Eisenhardt, 1989; Zajac, 1990) and the market for investment opportunities of established (Myers & Majluf, 1984) and entrepreneurial firms (Cumming, 2006). The market for used cars, however, typically serves as a prime example of adverse selection. In this market, buyers fear that sellers will camouflage specific damage and hence under-value all cars on the market for used cars (Akerlof, 1970). In consequence, sellers will then only offer damaged cars on the market since sellers of high-quality cars are not satisfied with the price and search for their buyers elsewhere (Akerlof, 1970).

Adverse selection also has consequences for firms' strategic decisions. New business models are evaluated as better by the market when good corporate governance serves as a quality signal and mitigates adverse selection (Sanders & Boivie, 2004). Firms are more likely to acquire public rather than private targets when the target is outside their industry due to adverse selection (Capron & Shen, 2007). Furthermore, cross-border acquisitions are prone to adverse selection problems (Li, Li, & Wang, 2019) and target signals as well as acquirer signals can be used to reduce these problems (Humphery-Jenner et al., 2017).

When it comes to strategy uniqueness, adverse selection helps us to understand the uniqueness paradox. On the one hand, strategy uniqueness is an important condition to create economic rent and increase firm value (Litov et al., 2012). Specifically, Brandenburger and

Stuart (1996, p. 5) suggest that “the key to a firm's achieving a positive added value is the existence of asymmetries between the firm and other firms”. On the other hand, CEOs face constraints from the capital market when implementing strategy uniqueness. The capital market, and specifically market intermediaries such as analysts, have less information about unique strategies, thus creating the adverse selection problem in that they evaluate these strategies with a discount—comparable to the example of used cars (Akerlof, 1970)—but now as the “market for strategies” (Benner & Zenger, 2016, p. 78). Following through with a discounted strategy might harm CEOs' careers in several ways. First, the success of unique strategies is visible in the long-run and may thus not be attributed to today's CEO anymore. Hence, the decision for a unique strategy hardly increases today's CEO reputation and could rather be seen as a missed chance. Second, being held accountable for today's comparably low-firm performance (due to the uniqueness discount), CEOs might risk reductions in compensation and even eventual dismissals. Therefore, they might abstain from unique strategies in favor of more common strategies, only offering compromise strategies. These sorts of career concerns about potential downsides for CEOs when deciding on a novel, hard-to-predict, and hard-to-judge path can already be observed in the innovation literature. Career concerns have been identified as being the major reasons why managers shy away from innovation (Aghion et al., 2013). However, these researchers have also found the first indications that institutional investors can play a crucial role in such CEO career concerns. Accordingly, we expect institutional investors to affect the implementation of strategy uniqueness, since they relate to both the type of investor putting the most pressure on CEOs (Helwege et al., 2012; Kang et al., 2018), and also to the type of investor being best equipped to provide good monitoring and governance (Goranova, Abouk, Nystrom, & Soofi, 2016; Sanders & Boivie, 2004).

2.1 | Institutional investors and a firm's strategy uniqueness

Institutional investors are the most active types of owners (Johnson, Schnatterly, Johnson, & Chiu, 2010). They start private discussions with managers (Becht, Franks, Mayer, & Rossi, 2010; Dimson, Karakaş, & Li, 2015), initiate shareholder proposals (David, Bloom, & Hillman, 2007; Hadani, Goranova, & Khan, 2011), and make use of proxy contests (David et al., 2001; Gillan & Starks, 2000) to improve firms' governance (Goranova & Ryan, 2014), as well as firms' economic, environmental, and social performance (Clark & Crawford, 2012; David et al., 2007; Dimson et al., 2015). Thereby, they influence strategic decisions such as M&A decisions (Andriopoulos & Yang, 2015; Chen et al., 2007), international diversification (Tihanyi et al., 2003), and R&D investments (David et al., 2001).

However, institutional investors' motivation and capacity to monitor can differ across investors (Bushee, 1998; Dharwadkar, Goranova, Brandes, & Khan, 2008; Hoskisson et al., 2002). Many of them are often in transit from one short-term investment to the next. These so-called *transient investors* trade frequently (Bushee, 1998) and rapidly change their broad investment portfolios (Zhang & Gimeno, 2016). Hence, they are primarily interested in the short-term profits of their investments and are highly dependent on the short-term reactions of the capital market. In contrast, some institutional investors are willing to attain additional information regarding their investments (Chen et al., 2007). These investors with large, long-term holdings concentrated in a few firms are called *dedicated investors* (Bushee, 1998; Eccles, Ioannou, & Serafeim, 2014; Porter, 1992). They invest intensely in gaining private information

about their investments (Bushee, 1998), and also make sense of complex information about their investments by devoting effort to understanding the business (Shi et al., 2017). Thereby, they offer the CEOs of their investment firms more independence from the short-term pressures of the capital market (Higgins & Gulati, 2006; Zhang & Gimeno, 2016) and increase the tolerance for failure (Connelly, Shi, Hoskisson, & Koka, 2019).

For the adverse selection problem of unique strategies, the presence of dedicated investors means that the CEOs face investors who engage in private conversations with the CEOs about their strategic ideas, devote effort to understanding the CEOs' strategies, and abstain from putting pressure on the CEOs due to short-term evaluations by the capital market. These investors use private analysts, who, compared to other analysts, are faced with a stronger incentive to evaluate the quality of the strategies of their portfolio and industry peers more precisely (Benner & Zenger, 2016). As a consequence, the CEOs can be more confident that their investors will understand a unique strategy. Hence, they feel less threatened about career penalties associated with short term capital market discounts for unique strategies. This idea is also echoed in the literature suggesting that dedicated institutional investors reduce the pressure that compels managers toward myopic behavior (Bushee, 1998). Hence, dedicated investors help partly resolve the uniqueness paradox that CEOs face and prevent them from making a compromise during strategy selection. The CEOs feel understood and less pressured to bring lemons (common strategies) to the market.

In summary, we argue that dedicated institutional investors' efforts in gaining private information, their devotion to understanding the information, and their independence from short-term capital market pressures provide CEOs with the incentive to follow unique strategies. Consequently, we hypothesize that:

Hypothesis 1 (H1). *The influence of dedicated institutional investors will be positively associated with strategy uniqueness.*

2.2 | The moderating role of a hard-to-value context

Investors who are dedicated to gaining more private information and to devoting effort to understanding the business fundamentals of firms are especially important for the strategy selection of CEOs in a hard-to-value context. The context of a firm is hard to value if the firm is affiliated with an industry in which evaluators have great difficulties to find a consistent firm valuation (Humphery-Jenner, 2014). Specifically, in such hard-to-value industries, analysts come more likely to inaccurate, heterogeneous, and inconsistent conclusions than in other industries. These valuation differences are a consequence of the uncertainties about the future development (Barron, Stanford, & Yu, 2009; Hope, 2003) and about difficulties in quantifying the investments and business models in these industries (Humphery-Jenner, 2014). Being active in such an industry could amplify career concerns for CEOs. Specifically, CEOs in hard-to-value industries may fear myopic reactions by the capital market, as the valuation difficulties of their firm could foster misinterpretations about the value of their strategic choices (Humphery-Jenner, 2014). Therefore, CEOs in hard-to-value industries may need extra commitment to engage in long-term and rather hard-to-value strategies (i.e., unique strategies).

With respect to strategy uniqueness, we expect that due to the CEOs' higher career concerns in hard-to-value industries, these CEOs will consider the information processing of investors more carefully before selecting a strategy than CEOs in other industries would. The CEOs in

hard-to-value industries know that, to understand and hence not discount unique strategies, investors have to invest in additional information via private analysts and engage in direct communication with the firm. Efforts of dedicated institutional investors to gain more private information and to understand the business fundamentals may, thus, serve as a credible extra commitment for CEOs in hard-to-value industries. The uncertainty in hard-to-value industries makes in-depth information that dedicated investors collect even more important. To dare to pursue unique strategies without risking career penalties, the CEOs of hard-to-value industries need the commitment of dedicated investors who diligently evaluate their firms' strategy even more.

In summary, since industries that are hard to value require that investors invest even more in private information, devote more effort to understanding that information, and create independence from the short-term capital market pressures, we expect dedicated institutional investors to be even more important for providing CEOs with the incentive to bring unique (non-lemon) strategies to the market. Accordingly, we suggest that:

Hypothesis 2 (H2). *A hard-to-value industry context strengthens the positive relationship between dedicated institutional investors' influence and strategy uniqueness.*

3 | METHODS

3.1 | Sample and data

We test our hypotheses on a panel dataset of S&P 900 firms (S&P 500 and S&P Mid-Cap 400) from 2005 to 2017. To be included in our initial dataset, the firms need to be listed and listed for at least 1 year of our time-frame as a constituent of the S&P 900. We excluded all financial firms (SIC codes 6,000–6,999). For this initial sample (11,807 firm years), we gathered data on strategy uniqueness by relying on segment data provided by Thomson Financial DataStream. We further collected data on dedicated and transient institutional investors by combining information from Thomson One Banker with the institutional investors' classification from Bushee (1998) and on analyst forecasts and dispersions from the Institutional Brokers' Estimate System (IBES) to capture valuation difficulties. Finally, we collected data on CEO compensation from Execucomp, CEO and board characteristics from BoardEx, and financial data from Thomson Financial DataStream. This process left us with 8,607 firm years for 916 firms. Table 1 summarizes this sample selection.

TABLE 1 Sample selection

Description	Obs.
+ Listed firm years of nonfinancial S&P 900 firms between 2005 and 2017	11,807
- Firm years without data for the uniqueness calculation	326
- firm years without data on institutional investors	784
- Firm years without data on analyst forecasts errors, dispersion, or variability	550
- Firm years without compensation, CEO, board, or financial data needed for control variables	1,507
- Firm years of firms that do not have two firm years in the panel (needed in the GEE for estimating the autoregressive correlation structure)	33
Final sample	8,607

3.2 | Dependent variable: Strategy uniqueness

We measure strategy uniqueness by following the approach of Litov et al. (2012). They classify strategy uniqueness as the (dis)similarity of a firm's strategy relative to other firms in its primary SIC industry (Litov et al., 2012). To capture this definition empirically, Litov et al. (2012) create a distance measure between a vector reflecting the sales distribution for a focal firm (across all segments) and an industry vector (centroid) reflecting the benchmark strategy in the focal firm's primary industry. Hence, to measure the distance, we need to capture a vector with the sales distribution of each firm and an industry benchmark vector. We focus on three-digit SIC industries² and start by creating the industry vectors as: $s_{j^*,t} = [\sum_i \text{sales}_{1,j}, \dots, \sum_i \text{sales}_{N,i}]$, where i indexes the firms in each of the N segment industries that have j as their primary segment in a given year (t). After that, we calculate the raw uniqueness measure by using the vectors of each firm and the industry centroid vectors. We calculate the product of the difference between these vectors as follows: $(s_{i,t} - s_{j^*,t})' (s_{i,t} - s_{j^*,t})$. As the raw uniqueness measure is left-skewed, we used a natural log-transformation for our final measure of *strategy uniqueness*.³

3.3 | Independent variable: Dedicated investor influence

To capture the influence of dedicated institutional investors, we follow the institutional investor classification by Bushee (1998), which is based on the portfolio turnover and holding concentrations of institutional investors. We received the most recent institutional investor classification by Bushee and merged it with ownership information from Thomson One Banker.⁴ Similarly, to previous management research, we particularly focus on dedicated and transient institutional investors (e.g., Connelly, Tihanyi, Ketchen, Carnes, & Ferrier, 2017; Zhang & Gimeno, 2016). Dedicated institutional investors are characterized by a low portfolio turnover and focused portfolio holdings. They actively manage their investments by following a long-term investment strategy (Shi et al., 2017). Transient institutional investors are the counterpart of dedicated institutional investors as they are characterized by a high portfolio turnover and highly diversified portfolio holdings. They follow a short-term investment strategy and thus may cause short-term pressures on invested firms (e.g., Zhang & Gimeno, 2016). In our hypothesis, we expect that a greater influence of dedicated institutional investors could lead to more strategy uniqueness. Given the adverse effects of dedicated and transient institutional investors, we expect that the influence of one of these investor types will depend on the shareholdings of its counterpart. Hence, similar to previous research (Brochet, Loumioti, & Serafeim, 2015; Eccles et al., 2014),

²We decided for a three-digit SIC instead of a four-digit SIC classification to base the industry vector (centroid) on a larger number of firms. Some four-digit SIC industries consist only of a limited number of firms. Nevertheless, we also tested whether our results hold if we use the four-digit SIC classification and found consistent results.

³We tested the raw uniqueness variables in additional tests and found consistent results (see the robustness section). While the GEE could deal with a left-skewed variable (e.g., selecting a gamma distribution), we decided to transform the variable as this would be needed to run several additional linear models (e.g., 2SLS in our endogeneity tests). Specifically, we aimed not to change the dependent variable for these additional tests to enable better comparisons. Moreover, as the raw uniqueness variables is between zero and one, we multiplied it by 100 before performing the natural log transformation.

⁴Bushee provides regular updates of the institutional investors' classification based on portfolio turnover and holding concentrations on his personal website: <http://acct.wharton.upenn.edu/faculty/bushee/IIClass.html>.

we measure the *dedicated investor influence* by considering all of the shareholdings of dedicated institutional investors and subtract the shareholdings of transient institutional investors.

3.4 | Moderating variable

3.4.1 | Hard-to-value industry

To capture the difficulty in evaluating firms, we focus on several analyst-related variables. We consider the analysts' forecast errors, the analysts' forecast dispersion, and analysts' forecast variability that are also part of Humphrey-Jenner's (2014) measure for valuation difficulties. We use the three variables to create a composite measure reflecting how hard it is for capital market participants to find a consistent valuation. We first calculate the three elements of our composite measures. The analysts' forecast errors are measured as the absolute difference between the actual earnings per share (EPS) and the consensus of the analysts' EPS forecast scaled by the stock price at the beginning of the year. The analysts' forecast dispersion is the standard deviation of the analysts' EPS forecast scaled by the stock price at the beginning of the year. The analysts' forecast variability reflects the volatility (standard deviation divided by the mean) of the analysts' consensus forecasts over a 3-year period. Finally, we used the three measures to create a composite hard-to-value measure. Considering the different scales, we created *z*-scores of the individual measures and added them up into a single measure. Finally, we defined a *hard-to-value industry* variable by calculating the industry average of the hard-to-value measure based on a three-digit SIC industry classification, excluding the focal firm.

3.5 | Control variables

We include a broad set of control variables capturing CEO, board, firm, ownership, analyst, and industry effects that may confound our empirical results. Several CEO-related variables can influence the willingness and ability of CEOs to select unique strategies. We consider explicit incentives in the form of total compensation and stock-related compensation. *CEO total compensation* is measured as the natural logarithm of the CEO's salary, short-term, and long-term compensation. *CEO stock compensation* is calculated as a CEO's restricted stock grants and options divided by the total compensation. We also include *CEO age*, *CEO tenure*, and the number of *CEO directorships*. Finally, we control for *CEO duality* as duality increases the CEO's power and thus may reduce his or her career concerns. To account for board characteristics, we include *board independence* as the percentage of board outsiders, *board tenure* measured as the average tenure of board members, and *board size* calculated as the number of board members calculated as a natural logarithm. We further included *board busyness* as the percentage of directors with five or more directorships as busy boards increase the discretion of CEOs. At the ownership level, we control for the power of a potential blockholder by including a variable that accounts for the share of the *largest investor*. Moreover, we also control for the third institutional investor classification of Bushee (1998) by including the sum of shareholdings by a quasi-indexer investor (*quasi-indexer ownership*). Since analysts have a crucial influence on the uniqueness of the discount, we included *analyst coverage* measured as the natural logarithm of the number of analysts covering the firm.

Finally, we include several variables capturing financial characteristics such as firm *size* as the natural logarithm of net sales, firm *leverage*, as a company's total debt to total assets, firm performance through a firm's *return on equity*, and *R&D intensity* measured as R&D expenses divided by net sales. Moreover, we also included a firm's *diversification* calculated as the number of product segments. Finally, we included industry effects by considering 10 industry dummies according to Fama and French.⁵

3.6 | Methodology

We gathered a large, longitudinal dataset of S&P 900 firms, which enables us to exploit its panel structure in our analysis. Similar to previous research focusing on strategy-related dependent variables, we decide to employ the generalized estimating equation (GEE) method (Gamache, Neville, Bundy, & Short, 2020; Ndofor, Sirmon, & He, 2011; Quigley & Hambrick, 2012). The GEE accounts for correlations within subjects and expected differences relative to the population average (Gamache et al., 2020). Moreover, GEE is, in particular, suggested to estimate more consistent and robust estimates than fixed or random-effects models can when autocorrelation is present (Liang & Zeger, 1986; Ndofor et al., 2011). As we examined our data using Wooldridge's test for autocorrelation (Wooldridge, 2001) and found that our dependent variable and independent variable measures were highly correlated between each subsequent year, we deemed the GEE as the most appropriate choice for our analyses. However, while random and fixed effects models estimate a firm-specific effect, it is important to keep in mind that the GEE fits a population-average model where the coefficient needs to be interpreted as the influence averaged across the population of firms. Hence, the coefficients in the GEE show the average change in the dependent variable for a one-unit increase in the independent variable across the population (Ballinger, 2004).

We operationalized the GEE in Stata 15 using the *xtgee* command. We specified a first-order autoregressive (AR1) correlation structure for our GEE. The autoregressive correlation structure is chosen to tackle the time-related correlation within the subjects (firms) of our dataset. We further specified a Gaussian distribution, an identity link function, and clustering of errors at the firm-level. The choice of this model is also supported by the highest fit according to the quasi-likelihood under the independence model criterion (QIC; Cui, 2007; Gupta & Misangyi, 2018).

4 | RESULTS

4.1 | Descriptive results

Table 2 displays the means, standard deviations, and correlations of all variables used in our models. The negative value for the dedicated investor influence is in line with other studies indicating that transient investors hold, on average, around 10–20% points more equity than dedicated institutional investors do (Borochin & Yang, 2017; Connelly et al., 2017). The correlation matrix indicates a positive but rather small correlation between strategy uniqueness and dedicated institutional investors. Moreover, most correlations are below critical thresholds,

⁵We also run our regression with several alternative industry classification such as three-digit, three-digit SIC, and found qualitatively and quantitatively similar results to those reported in Table 3.

TABLE 2 Mean, standard deviation, and correlation matrix of all regression variables

No.	Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	Strategy uniqueness ^a	1.29	0.95	1																				
2	Dedicated investor influence	-0.18	0.10	0.02	1																			
3	Hard-to-value industry	-0.06	0.43	-0.05	-0.12	1																		
4	CEO total compensation ^a	8.69	0.80	-0.01	0.01	0.08	1																	
5	CEO stock compensation	0.19	0.22	0.00	0.08	0.01	0.06	1																
6	CEO age ^b	56.30	6.45	0.06	0.03	-0.03	0.10	-0.07	1															
7	CEO tenure	5.22	5.19	-0.03	0.00	0.02	-0.04	0.03	0.35	1														
8	CEO directorships ^b	2.27	1.37	-0.01	0.03	-0.11	0.08	-0.05	0.15	0.02	1													
9	CEO duality	0.55	0.50	0.05	0.10	-0.03	0.14	0.02	0.28	0.20	0.18	1												
10	Board independence	0.96	0.08	0.07	-0.06	0.03	0.06	0.01	0.02	0.03	0.04	0.15	1											
11	Board size ^a	2.25	0.23	0.05	0.16	-0.14	0.35	0.01	0.02	-0.19	0.15	0.07	-0.06	1										
12	Board tenure	8.50	3.33	0.02	0.05	-0.03	-0.07	0.02	0.13	0.18	-0.05	-0.04	-0.09	-0.07	1									
13	Board busyness	0.18	0.15	-0.05	0.03	0.00	0.10	0.03	-0.05	-0.06	0.15	0.01	0.02	0.09	-0.12	1								
14	Largest owner	0.10	0.06	-0.06	0.22	-0.01	-0.13	-0.01	-0.03	0.06	-0.04	-0.08	-0.27	-0.09	-0.01	-0.01	1							
15	Quasi-indexer ownership	0.49	0.14	0.00	-0.21	0.04	0.04	0.01	0.02	-0.10	-0.02	0.09	-0.08	0.06	-0.03	-0.08	1							
16	Analyst coverage ^a	2.66	0.54	-0.14	0.06	0.18	0.42	0.08	0.02	-0.02	0.00	0.02	0.00	0.19	-0.05	0.10	-0.10	0.06	1					
17	Firm size ^a	15.23	1.35	-0.01	0.23	0.01	0.57	-0.02	0.12	-0.11	0.19	0.14	0.01	0.55	-0.08	0.14	-0.14	-0.10	0.52	1				
18	Diversification	2.67	1.47	0.23	0.11	-0.05	0.15	-0.03	0.05	-0.03	0.07	0.06	0.03	0.20	0.01	0.04	-0.05	-0.06	-0.02	0.28	1			
19	Leverage ^b	0.26	0.18	0.01	0.06	-0.02	0.13	-0.05	0.02	-0.08	0.11	0.03	0.01	0.17	-0.08	0.03	0.01	-0.12	-0.02	0.23	0.05	1		
20	R&D intensity ^b	0.04	0.07	-0.09	-0.07	0.19	-0.01	0.11	-0.15	0.06	-0.06	-0.12	0.07	-0.15	0.01	0.12	-0.01	0.07	0.15	-0.16	-0.14	-0.24	1	
21	Return on equity ^{b,c}	15.39	19.27	0.01	0.04	-0.13	0.11	0.01	0.02	-0.03	0.07	0.03	0.07	0.05	0.00	-0.04	0.01	0.07	0.01	-0.13	-0.07	1		

Note: N = 8,607.

^aMeasured as natural logarithm.^bWinsorized at 1st and 99th percentiles.^cPercentages.

while there are some strong correlations (e.g., size and CEO total compensation). We therefore also tested variance inflation factors (VIFs) that were all below the threshold of five.

4.2 | Regression results

Table 3 presents the GEE results for estimating the influence of dedicated institutional investors on strategy uniqueness. We expect a positive influence of dedicated institutional investors on strategy uniqueness. In line with this prediction, the Model 1 results show a positive coefficient with a low probability of error ($\beta = .266$; $p = .006$). Our results suggest that an increase from weak (-1 SD) dedicated investor influence to strong ($+1$ SD) dedicated investor influence in the population is associated with a 6% increase in the strategy uniqueness.⁶ This economically meaningful effect is, for example, comparable with the influence of CEO agreeableness (7%; Harrison, Thurgood, Boivie, & Pfarrer, 2019) or TMT demographic faultline strength (5.2%; Richard, Wu, Markoczy, & Chung, 2019) in the context of strategic change.

In our second hypotheses, we predicted that the influence of dedicated institutional investors would be more pronounced when the firm operates in hard-to-value industries. In Model 2 of Table 3, we therefore included the moderator variable *hard-to-value industry* and an interaction term between *dedicated institutional investors' influence* and *hard-to-value industry*. Before that, we centered both variables around their mean (Aiken & West, 1991). Consistent with our second hypothesis, we find a positive coefficient with a low probability of error for the interaction term ($\beta = .477$; $p = .034$). This indicates that a 2 SD increase in dedicated investor influence is even associated with a 9% increase in average strategy uniqueness in a harder-to-value industry (i.e., 1 SD higher than the mean), a 4% increase in an average hard-to-value industry, and only with a marginal increase (i.e., <1%) in a less hard to value (i.e., 1 SD below the mean) industry. Figure 1 further illustrates this result.

4.3 | Robustness analyses

4.3.1 | Considering potential endogeneity

Strategy selection is an endogenous choice and thus unobserved factors could drive strategy and investor selection at the same time. In addition to such omitted variable concerns, we cannot exclude the potential for reverse causation⁷ in the sense that strategy uniqueness may increase dedicated investor influence. Therefore, we used several methodological approaches to tackle these concerns.⁸

⁶As our dependent variable is log transformed the percent increase is calculated by exponentiating the coefficient, subtracting one from this number, and multiplying it by 100. As mentioned before, we also tested the raw variable and found a similar effect (i.e., a 5.7% increase in strategy uniqueness).

⁷We also tested the impact of dedicated investor influence on strategy uniqueness over the next 2 and the next 3 years and again found a statistically and economically strong and positive influence. We also tested the reverse relation by examining the influence of strategy uniqueness on dedicated investor influence over the next, next 2, and the next 3 years. We found positive but statistically rather weak coefficients for strategy uniqueness. This result does alleviate reverse causality concerns to some extent. However, we cannot exclude all the concerns and thus further tested a dynamic panel model, as described in this section.

⁸The results for the fixed effects, 2SLS and GMM analysis are not reported but are available from the authors on request.

TABLE 3 GEE regressions predicting strategy uniqueness

Model	1	2
Dependent variable	Strategy uniqueness	Strategy uniqueness
Dedicated investor influence	0.266 (0.006)	0.210 (0.034)
Hard-to-value industry		-0.240 (0.001)
Dedicated investor influence * hard-to-value industry		0.477 (0.034)
CEO total compensation	0.001 (0.952)	0.001 (0.955)
CEO stock compensation	0.026 (0.431)	0.027 (0.419)
CEO age	0.003 (0.160)	0.003 (0.167)
CEO tenure	-0.003 (0.242)	-0.003 (0.251)
CEO directorships	-0.015 (0.084)	-0.015 (0.081)
CEO duality	0.018 (0.528)	0.016 (0.577)
Board independence	0.236 (0.104)	0.242 (0.095)
Board size	0.030 (0.610)	0.026 (0.663)
Board tenure	0.004 (0.323)	0.003 (0.368)
Board busyness	-0.062 (0.393)	-0.061 (0.396)
Largest owner	-0.527 (0.017)	-0.514 (0.021)
Quasi-indexer ownership	0.091 (0.206)	0.080 (0.269)
Analyst coverage	-0.068 (0.023)	-0.066 (0.028)
Firm size	-0.024 (0.217)	-0.022 (0.256)
Diversification	0.034 (0.021)	0.034 (0.020)
Leverage	0.058 (0.462)	0.067 (0.391)
R&D intensity	-0.169 (0.130)	-0.155 (0.134)
Return on equity	-0.000 (0.125)	-0.001 (0.099)
Constant	1.577 (0.000)	1.454 (0.000)
Industry fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Wald χ^2	393.14	414.90
N	8,607	8,607

Note: All tests are two-tailed. P values are in parentheses. Standard errors are clustered at the firm-level. Coefficients are unstandardized. Year effects include dummy variables for each year. Industry effects include ten industry dummies according to Fama and French. Models 1 and 2 are estimated with a GEE regressions using a first-order autoregressive correlation structure.

First, we performed a propensity score matching (PSM) analysis that accounts for differences in observable characteristics between firms with strong versus weak dedicated investor influence and thus mitigate concerns about unobservable characteristics that may be linked to these observable characteristics (Chang, Chung, & Moon, 2013; Chen, Luo, Tang, & Tong, 2015). The PSM allows us to create a matched sample, where each treatment observation (i.e., firms with strong dedicated investor influence) is matched with a control observation (i.e., a firm with weak dedicated investor influence) that has similar observable characteristics. To estimate the propensity score, we used a probit regression and followed the recommendation

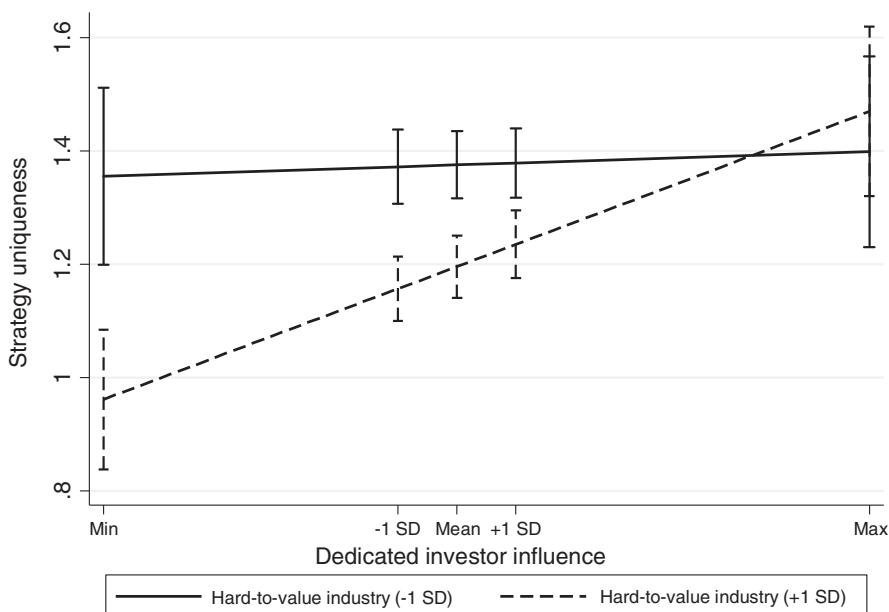


FIGURE 1 The moderating impact of being in a hard-to-value industry on the relationship between dedicated investor influence and strategy uniqueness.

Note: Confidence intervals are two-tailed, at a 90% confidence level

by Shipman, Swanquist, and Whited (2017) in matching all our independent variables including year and industry fixed effects. We further specified a one-to-one matching with a conservative caliper of 0.03 to only allow for highly similar matches. We performed a covariate balance test to validate the matching results. The test indicated that the mean differences of all control variables between treatment and control firm-years were statistically not significant ($p > .1$). We then rerun our regressions on a matched sample consisting of observations with strong dedicated investor influence and control observation with weak dedicated investor influence. The results with the matched sample again supported our two hypotheses. Moreover, comparable (slightly higher) as with our main results, a 2 SD increase in dedicated investor influence is associated with an 8% increase in the average strategy uniqueness. Table 4 displays the regression results on the matched sample.

Second, we considered a firm-fixed effects regression that accounts for any time-invariant firm-level omitted variables. However, as ownership structures are relatively consistent over time, we decided to focus only on substantial year-to-year increases in dedicated investor influence. Therefore, we created an alternative variable indicating whether dedicated investor influence increased by a stake size of 5%. In line with Hypothesis 1, a substantial dedicated investor influence increase, has a positive association with strategy uniqueness. Consistent with our second hypotheses, we also found that this association was stronger in hard-to-value industries.

Third, we decided to validate our findings by running a two-stage-least squares (2SLS) instrument variable approach. 2SLS is an effective method for tackling endogeneity concerns in the form of omitted variable bias and has been frequently used in management research (Connelly, Lee, Tihanyi, Certo, & Johnson, 2019; Luo, Wang, Raithel, & Zheng, 2015). The choice of the instruments is important for the validity of the 2SLS, so we used S&P 500 membership and the industry average of dedicated investor influence as instruments. We believe that

TABLE 4 Robustness analysis: Propensity score-matched sample

Model	1	2
Dependent variable	Strategy uniqueness	Strategy uniqueness
Dedicated investor influence	0.376 (0.076)	0.361 (0.096)
Hard-to-value industry		-0.334 (0.002)
Dedicated investor influence × Hard-to-value industry		0.991 (0.040)
CEO total compensation	0.000 (0.993)	-0.004 (0.918)
CEO stock compensation	0.159 (0.107)	0.159 (0.105)
CEO age	0.011 (0.045)	0.009 (0.070)
CEO tenure	-0.003 (0.616)	-0.003 (0.659)
CEO directorships	-0.056 (0.005)	-0.056 (0.005)
CEO duality	-0.015 (0.803)	-0.008 (0.897)
Board independence	0.142 (0.653)	0.128 (0.684)
Board size	0.098 (0.508)	0.087 (0.553)
Board tenure	-0.008 (0.378)	-0.009 (0.301)
Board busyness	-0.208 (0.241)	-0.169 (0.332)
Largest owner	0.034 (0.936)	0.117 (0.785)
Quasi-indexer ownership	0.019 (0.922)	-0.018 (0.926)
Analyst coverage	-0.028 (0.649)	-0.026 (0.667)
Firm size	0.002 (0.969)	0.011 (0.798)
Diversification	0.065 (0.023)	0.071 (0.012)
Leverage	-0.129 (0.382)	-0.106 (0.470)
R&D intensity	-0.411 (0.236)	-0.299 (0.379)
Return on equity	-0.001 (0.525)	-0.001 (0.430)
Constant	0.552 (0.394)	0.345 (0.601)
Industry fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Wald χ^2	176.28	202.58
N	1,362	1,362

Note: All tests are two-tailed. *p* values are in parentheses. Standard errors are clustered at the firm-level. Coefficients are unstandardized. Year effects include dummy variables for each year. Industry effects include 10 industry dummies according to Fama and French. All models are estimated with GEE regressions using a first-order autoregressive correlation structure. The matched sample is derived by PSM on all independent variables except dedicated investor influence. Observations with strong dedicated investor influence (highest quartile) are matched with (control) observation that have weak dedicated investor influence (lowest quartile).

the industry average of dedicated investor influence and S&P 500 membership are strong predictors of dedicated investor influence in a focal firm, while it is rather unlikely that they would affect the strategy uniqueness of the focal firm. While our tests for over-identification, a weak instrument, and under-identification strongly supported the validity of our instruments, we acknowledge that our instruments may still not be without caveats, and may not strictly be exogenous as, for example, a natural shock would be. Nevertheless, when including the fitted

values of *dedicated investor influence* and our interaction term between *dedicated investor influence* and being *hard-to-value* in a second-stage regression, we found results that are consistent with our main regressions.

Fourth, we ran a dynamic panel model (i.e., a system generalized method of moments [GMM] estimator) to alleviate the concerns regarding the exogeneity of our instrument and the validity of the 2SLS results. Using a GMM has several advantages. First, a GMM accounts for reverse causality by using instrumental variable estimates that are retrieved from the lagged values of the entire panel (deep lags). This eliminates the need for strictly external instruments (Roodman, 2009; Wintoki, Linck, & Netter, 2012). Second, a GMM accounts for unobservable heterogeneity on the firm-level by accounting for firm-specific heteroscedasticity using orthogonal conditions (Arellano & Bover, 1995). Hence, compared to fixed effects models, a GMM could provide more valid estimates in the presence of autocorrelation. Third, a GMM considers the dynamic relationship between dedicated investor influence and strategy uniqueness by allowing for the inclusion of the lagged values of strategy uniqueness, further tackling reverse causality (Girod & Whittington, 2016). Testing our hypotheses with a GMM model led to highly similar results.

4.3.2 | Alternative measures

We also ran several sensitivity checks with regard to our main variables of interest. Concerning strategy uniqueness, we first tested two long-term measures that account for the average strategy uniqueness of the next 2 years as well as the next 3 years. The results were consistent with our main findings. Next, we tested a uniqueness measure that was calculated based on 4-SIC digit industries and again found similar results. Finally, we also tested a strategy-uniqueness measure that was log-transformed and afterward industry-adjusted, as well as the raw strategy-uniqueness measure, and we found similar results. With regard to dedicated institutional investors' influence, we tested three alternative specifications. First, we tested an alternative proxy where we considered the non-permanent classifications by Bushee (1998) and found similar results. Second, we followed Connelly et al. (2017) in only considering the stakes of institutional investors that are above 1% and again found similar results when testing this adjusted measure. Third, we focused on a dummy variable indicating whether the dedicated investor influence is in the highest quartile, and again, we found similar results. Regarding our moderating variable *hard-to-value*, we also considered the industry median instead of peer average as well as alternative industry classifications (e.g., Fama and French 10). The tests with these alternative measures again indicated similar results.

4.4 | Additional analyses

We argue that CEOs have career concerns, as unique strategies may be harder to defend against the capital market when short-term results are missing and could thus put their jobs at risk when doing so. We outlined that dedicated institutional investors' efforts in gaining private information, their devotion to understanding the information, and their independence from short-term capital market pressures could alleviate these concerns and thus lead to CEOs selecting more unique strategies. While we find support for a positive impact of dedicated institutional investors on strategy uniqueness, we also aim to validate our proposed mechanism in

more detail. Therefore, we additionally investigate the role of strategy uniqueness for the CEO dismissal-performance sensitivity as a major driver of CEOs' career concerns (Hubbard, Christensen, & Graffin, 2017).

Following our previous arguments, we would expect that strategy uniqueness would increase the CEO dismissal-performance sensitivity. Moreover, our arguments suggest that this relation should depend on the influence of dedicated institutional investors in the sense that

TABLE 5 Additional analysis: Strategy uniqueness and CEO dismissal

Model	1	2 Dedicated influence strong CEO dismissal	2 Dedicated influence weak CEO dismissal
Sample	All firm years		
Dependent variable	CEO dismissal		
Strategy uniqueness	-0.275 (0.020)	-0.485 (0.006)	-0.058 (0.737)
Reversed TSR (1 year)	0.003 (0.026)	0.002 (0.443)	0.005 (0.008)
Strategy uniqueness * Reversed TSR (1 year)	0.002 (0.081)	0.001 (0.458)	0.003 (0.018)
CEO total compensation	-0.149 (0.432)	-0.445 (0.045)	0.187 (0.484)
CEO stock compensation	-0.790 (0.150)	-0.390 (0.631)	-1.637 (0.021)
CEO age	0.056 (0.001)	0.053 (0.044)	0.075 (0.003)
CEO tenure	-0.666 (0.000)	-0.501 (0.034)	-0.874 (0.000)
CEO directorships	0.063 (0.136)	0.028 (0.653)	0.149 (0.065)
CEO duality	-0.579 (0.010)	-0.301 (0.373)	-1.122 (0.003)
Board independence	3.438 (0.059)	3.564 (0.286)	3.524 (0.106)
Board size	0.350 (0.524)	0.218 (0.806)	0.840 (0.298)
Board tenure	-0.070 (0.012)	-0.107 (0.010)	-0.052 (0.196)
Board busyness	0.114 (0.874)	0.585 (0.564)	-0.715 (0.506)
Largest owner	-1.250 (0.408)	-0.688 (0.706)	-1.648 (0.636)
Quasi-indexer ownership	-1.474 (0.032)	-0.681 (0.482)	-3.225 (0.031)
Analyst coverage	0.662 (0.019)	1.166 (0.029)	0.480 (0.121)
Firm size	-0.105 (0.434)	-0.044 (0.791)	-0.401 (0.058)
Diversification	0.027 (0.714)	0.106 (0.321)	-0.047 (0.713)
Leverage	0.180 (0.760)	-0.333 (0.709)	0.774 (0.328)
R&D intensity	0.192 (0.545)	-0.868 (0.673)	0.345 (0.323)
Return on equity	-0.018 (0.000)	-0.017 (0.014)	-0.023 (0.002)
Constant	-7.331 (0.003)	-8.992 (0.060)	-8.514 (0.027)
Industry fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Wald χ^2	180.53	186.72	186.72
N	8,567	4,284	4,283

Note: All tests are two-tailed. *p* values are in parentheses. Standard errors are clustered at the firm-level. Coefficients are unstandardized. Industry effects include 10 industry dummies according to Fama and French. Models 1–3 are estimated with GEE logit regressions using an exchangeable correlation structure. Reversed TSR reflects the 1-year industry-adjusted TSR in a reversed form (i.e., high values indicate low performance).

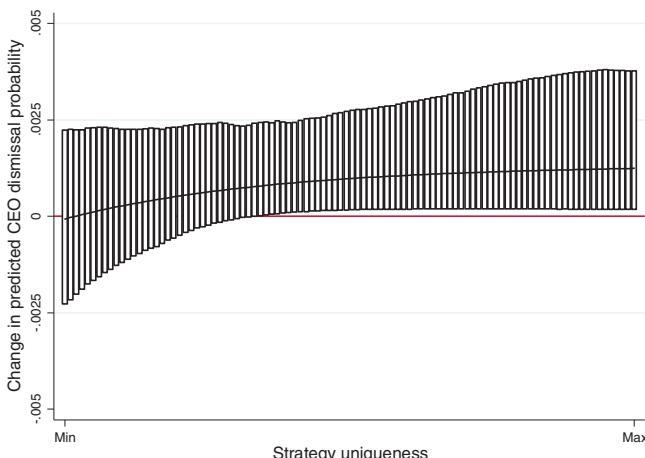


FIGURE 2 The moderating impact of strategy uniqueness on CEO dismissal-performance sensitivity.

Note: The graphs are based on the *intgph* logit command in Stata 15. The graph indicates the change in predicted probabilities of an increase in the reversed TSR from low (-1 SD) to high ($+1\text{ SD}$) for different levels of strategy uniqueness. The *y*-axis presents the change in the predicted CEO dismissal probability. The *x*-axis indicates the level of strategy uniqueness. Confidence intervals are two-tailed, at a 90% confidence level

strategy uniqueness should not affect the CEO dismissal-performance sensitivity under a strong influence from dedicated institutional investors. We, therefore, ran a GEE logit regression estimating the probability of CEO dismissal. We included the short-term (i.e., 1 year) industry-adjusted total shareholder return (TSR) as the performance variable predicting CEO dismissal⁹ and used strategy uniqueness as the moderator variable to focus on the interaction between strategy uniqueness and TSR. We tested this relationship on the entire sample and two subsamples: one with a dedicated institutional investor influence above the median and one sample with a dedicated institutional investor influence below the median. We reversed the TSR, hence expecting a positive influence. The results of these regressions are presented in Table 5.

In line with our arguments, Model 1 indicates that strategy uniqueness increases CEO dismissal-performance sensitivity ($\beta = .002; p = .082$). Moreover, Models 2 and 3 show that this positive influence of strategy uniqueness on CEO dismissal-performance sensitivity is limited to firms with weak dedicated institutional investor influence ($\beta = .003; p = .018$). Interestingly, the results also indicate that strategy uniqueness per se has a rather negative effect on CEO dismissal. However, this effect is limited to the subsample with a strong influence from dedicated institutional investors, thus supporting our arguments that dedicated institutional investors invest their resources to better understand strategy uniqueness. Moreover, similar to previous research (Hubbard et al., 2017; Li, 2018), we considered the difficulty in interpreting interaction effects in a logit model by following the graphical analysis suggested by Zelner (2009). Figures 2 and 3 provide this graphical analysis of the interaction terms. The figures illustrate the pattern that with higher levels of strategy uniqueness, CEO dismissal-performance sensitivity increases. Moreover, the graphical analysis supports that this effect is more pronounced under weak dedicated institutional investor influence and is not significantly different from zero for firms with a

⁹We hand-collected data on CEO dismissals. Specifically, we evaluated press releases and press articles associated with every CEO turnover to identify whether the turnover was voluntary or not. We classified a CEO turnover event only as dismissal when a dismissal was clearly mentioned or when weak performance, disagreements with the board or owners, pressure by owners, employees, or unions, a scandal such as an accounting manipulation, no agreement on contract extensions, or political pressure were mentioned. We also classified a turnover event as CEO dismissal when no reason were given, but the turnover was unexpected and an interim CEO took over. CEO dismissals are rare and occur in about 1.5% of all our firm years (about 20% of all CEO turnovers). This is well in line with other studies hand collecting CEO dismissal data (Shen & Cannella, 2002; Wang, Zhao, & Chen, 2017).

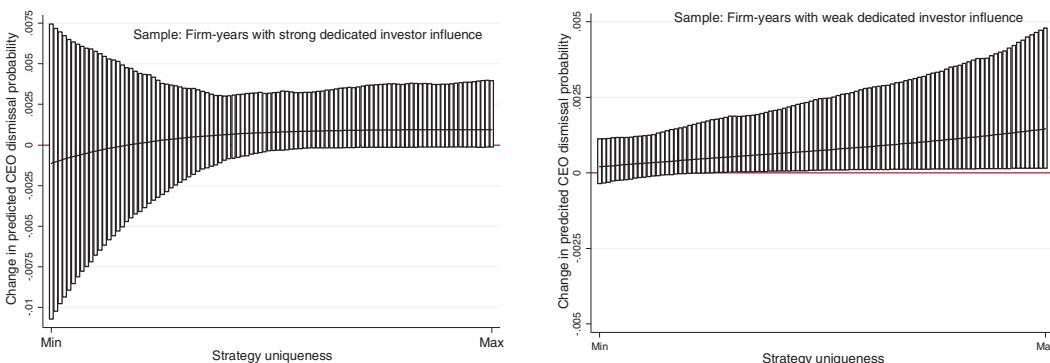


FIGURE 3 The moderating impact of strategy uniqueness on CEO dismissal-performance sensitivity in firms with strong (weak) dedicated institutional investor influence.

Note: The graphs are based on the *intgph* logit command in Stata 15. The graph indicates the change in predicted probabilities of an increase in the reversed TSR from low (-1 SD) to high ($+1\text{ SD}$) for different levels of strategy uniqueness. The left figure focuses on a subsample with firm years of those firms having a strong dedicated investor influence and the right figure is of firm years of those firms having a weak dedicated investor influence

strong dedicated institutional investor influence. In sum, this additional analysis provides empirical support for our proposed mechanism.

Furthermore, we ran an additional analysis to test whether strategy uniqueness is indeed a crucial condition to create firm value. We focused on the 1- and 2-year change in Tobin's Q and ran a GEE as well as a firm-fixed effects regression with strategy uniqueness as the independent variable. Our regression results support the findings of Litov et al. (2012) that strategy uniqueness can have a positive effect on firm value. Hence, the results highlight the lost potential when CEO career concerns incentivize CEOs to select more common (but less valuable) strategies and the relevance of enabling conditions that empower CEOs to select more unique strategies.

5 | DISCUSSION AND CONCLUSION

We examined the effect of dedicated institutional investors on the strategy uniqueness of firms and the moderating role of hard-to-value industries. Drawing on adverse selection, we suggested that dedicated institutional investors help mitigate the uniqueness paradox, since they invest in private information about the firm, devote effort to understanding the business in-depth, and mitigate the pressure that capital markets put on CEOs and their careers. Consistently, our results indicate that dedicated institutional investors have a significant positive effect on strategy uniqueness. Furthermore, we show that the relationship between dedicated investors and strategy uniqueness is even more pronounced in industries that are hard to value. In these industries, the need for investors mitigating the pressure of the short-term capital market on CEOs and their careers is especially high. For further support for our assumption of CEOs' career concerns as a key fundament of the mechanism, we conducted an additional analysis. Indeed, this analysis indicated that the performance sensitivity of CEO dismissals is higher with strategy uniqueness, and this effect is especially pronounced in firms with the weaker influence of dedicated institutional investors.

The findings provide several contributions for strategic management and corporate governance research. First, we contribute to research about the strategy-uniqueness paradox (e.g., Litov et al., 2012; Zenger, 2013) by carving out how dedicated institutional investors can help mitigate the paradox. By doing so, our study provides important insights about how governance shapes the decision to select novelty over commonness and challenges the notion that strategy arises only at the management level and not below or above it. Instead, our results provide further support for the claim that we need to continue investing in the role of firm ownership in strategic management (compare, e.g., Fitza & Tihanyi, 2017) and how the interface of owners and managers matters for strategy and consequently firm performance.

Second, we add to current research about the influence of institutional investors on strategic decision-making (Aghion et al., 2013; Chen et al., 2007; Tihanyi et al., 2003). Albeit recent findings have elucidated the institutional investor's effect on firm outcomes, studies call for additional investigations about how institutional investors impact firms (Boyd & Solarino, 2016; Fitza & Tihanyi, 2017; Johnson et al., 2010). Traditionally, investors' tasks are modeled as reducing agency costs by monitoring opportunistic managers and avoiding problems of moral hazard (Desender, Aguilera, Crespi, & Garcia-Cestona, 2013; Shi, Connelly, Hoskisson, & Ketchen, 2019), whereas incentives are embedded in the compensation contract (Carpenter & Sanders, 2002; Oehmichen, Jacobey, & Wolff, 2020). The focus on a prominent adverse selection problem—the uniqueness paradox—enables us to paint a clearer picture of how investors can shape managerial incentives in strategic decision making through commitment and patience. We show that dedicated institutional investors, who typically provide this commitment and patience, can reduce CEOs' career concerns and encourage them to pursue more unique strategies. These results advance research knowledge about the interface between CEOs and their firms' shareholders and allow us to contribute to the CEO interface literature, which has primarily focused on CEOs' interfaces to TMTs (Georgakakis, Heyden, Oehmichen, & Ekanayake, 2019) or boards (Boyd, Haynes, & Zona, 2011) in the past. We are confident that this literature could benefit from using our results as a starting point for the complex and puzzling relationship between CEOs and their firms' shareholders. Interesting research questions could be whether the commitment of dedicated institutional investors also helps incentivizing CEOs to favor critical strategic decision with uncertain outcomes and long-time horizons which tackle grand challenges such as the climate change and the digital transformation, or whether CEOs are willing to accept less compensation in exchange for the commitment of dedicated institutional investors. This might be particularly interesting for the case of extreme compensation such as that of Elon Musk. He partially justifies this with the need to invest in his own firms to be more independent from the impatience of the capital market (Sorkin, 2018).

Third, we contribute to corporate governance research about adverse selection. We agree with Benner and Zenger (2016) that this is the agency problem that is at least as important as moral hazard, and that is unfortunately much more under-researched. We build on the existing literature that theorizes about the signaling effect of owners (Sanders & Boivie, 2004; Vasudeva, Nachum, & Say, 2018) by theorizing how certain types of owners send signals of commitment to CEOs and thereby manage to shape the CEOs' strategic decision-making.

Regarding practical implications, we hope to raise awareness of the roles and benefits of dedicated institutional investors and the effect they can have in terms of shaping strategies. These insights are relevant for investors since they reflect the high levels of responsibility that investors have on strategic decision-making. Our study puts special emphasis on the mechanisms, or in other words, the different approaches that owners can follow to have an impact. To induce change and impact decision-making, it is not only pressure that matters. A behavior that

signals commitment can also have beneficial effects on strategic decision-making and can strengthen the relationship with the CEO. Furthermore, our study has implications for other stakeholders of the firm such as employees. Highly skilled employees usually have some choice in the labor market. To decide on a future employer where the employees can enjoy being part of a team working on novel ideas with long-term impacts, it could be worth appraising the ownership structure of potential employers, giving a preference to firms with more dedicated owners.

Apart from these contributions, our findings are subject to limitations. First, even though dedicated institutional investors are related to high levels of private information gathering and a devotion to understanding firm strategy (Bushee, 1998; Shi et al., 2017), we do not directly capture their level of activity. Hence, the actual involvement of institutional investors in a firm's strategic decision-making is not assessed. However, since most engagement with the firms is conducted privately (McCahery, Sautner, & Starks, 2016), shedding more light on these mechanisms would require investor-internal data about the engagement with their investments. Based on such information, future research could assess in more detail whether a dedicated private relationship between the investor and the CEO mitigates adverse selection and increases strategy uniqueness.

Second, we chose to develop our arguments from the perspective of the CEO. While our additional analysis provides support for this idea, we do not rule out the coexistence of other effects and therewith alternative or additional theoretical explanations. Previous research argued that institutional investors can serve as a quality signal to other shareholders when investing in unknown business models and help mitigate adverse selection in this way (Sanders & Boivie, 2004). Hence, future research could question in more detail how dedicated investors shape the stock-picking behavior of less active investors in both common strategy and unique strategy firms. Furthermore, it would be interesting to investigate how influential the CEO actually is when it comes to decisions about strategy uniqueness. Future research could, for instance, investigate how the level of strategy uniqueness is influenced by the CEO's personality, assuming that strategies are more unique with, for example, promotion-focused CEOs (Gamache, McNamara, Mannor, & Johnson, 2015).

Third, we acknowledge that strategy uniqueness is one of several decisions being made in terms of corporate strategy (Feldman, 2020). Setting and overseeing the scope of the firm can also involve decisions about the level of diversification. Comparably to strategy uniqueness, diversification is also a strategic decision that is potentially linked to a discount by the market—the so-called diversification discount (Feldman, Gilson, & Villalonga, 2014; Villalonga, 2004). We are confident that strategic uniqueness as a phenomenon is distinct from diversification. Our correlations indicate that the correlation of both variables is relatively low and there are firms in all four boxes of the diversification-uniqueness matrix (e.g., 3 M is rather unique and diverse, International Paper is rather not unique but diverse, Ametek is rather unique and focused, and Kroger is rather not unique and focused). To examine the principals' role in adverse selection in strategic decision-making, we feel that diversification would be a noisier strategic decision. Diversification can involve costs such as inefficient resource allocations among business units (Rajan, Servaes, & Zingales, 2000), but also provides more flexibility to reallocate resources (Dickler & Folta, 2020). Furthermore, managerial motivations are unclear, since diversification can also be a hedging strategy for risk-averse managers or an empire-building strategy for overconfident managers, which is indeed not in the interests of investors (Hoechle, Schmid, Walter, & Yermack, 2012). Hence, our expectation would be that the mechanisms of dedicated investors that our study

elaborates on would be transferable to the adverse selection problem of other corporate strategy decisions, keeping in mind that these decisions might be affected by various agency conflicts and that dedicated institutional investors might have different stakes in these other agency conflicts.

Fourth, we build our assessment of strategy uniqueness as a strategy that is associated with positive rents from previous research (Barney, 1986; Litov et al., 2012) as well as on our additional analyses that also demonstrate that uniqueness can be positively associated with firm value. Nevertheless, we acknowledge that strategy uniqueness, especially when managed badly, can also be associated with costs through reduced legitimacy from the major stakeholders such as customers and employees. Puzzling future research questions emerge when asking why most firms manage to turn strategy uniqueness into success, but others such as Dreamworks do not (Garrahan, 2015).

Finally, as any other study that lacks a strictly exogenous shock, our study leaves some questions open about the causality of the results. Although we run several additional tests tackling endogeneity concerns, we acknowledge that the actual causal story might be more complicated. In particular, it might be that CEOs actively court more patient dedicated investors as they decide to pursue a unique strategy. This would be in line with recent research indicating how firms can actively steer whether they are attractive investments to transient or dedicated investors (Serafeim, 2015; Williamson & Babcock, 2020). While dedicated investors would still play an important role in strategy uniqueness in this scenario, the initial impetus would be the CEO. Future research could dig deeper into this scenario and investigate whether, when, and how CEOs identify and attract investors that might better support their strategic decisions or whether specific investors actively chose certain types of firms to invest (e.g., in line with the model of Foss, Klein, Lien, Zellweger, & Zenger, 2021).

In summary, our findings highlight the importance of considering the role of institutional investors in influencing strategic decision-making. We hope to encourage future research to investigate the underlying mechanisms between investors and strategy uniqueness and the relationship between investors and CEOs. Such research can further broaden the understanding of why some firms stand out from the crowd, while others do not.

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from commercial vendors such as Thomson Financial DataStream, Thomson One Banker, and Institutional Brokers' Estimate System (IBES). Furthermore, the identification of dedicated investors is based on (Bushee, 1998). Bushee provides regular updates of the institutional investors' classification based on portfolio turnover and holding concentrations on his personal website: <http://acct.wharton.upenn.edu/faculty/bushee/IIClass.html>.

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