Article

AMERICAN MARKETING ASSOCIATION

Journal of Marketing
2022, Vol. 86(4) 73-94

DOI: 10.1177/00222429211031922
journals.sagepub.com/home/jmx
SAGE

Examining Why and When Market Share Drives Firm Profit

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Abstract

Many firms use market share to set marketing goals and monitor performance. Recent meta-analytic research reveals the average economic impact of market share performance and identifies some factors affecting its value. However, empirical understanding of why any market share–profit relationship exists and varies is limited. The authors simultaneously examine the three primary theoretical mechanisms linking firm market share with profit. On average, they find that most of the variance in market share's positive effect on firm profit is explained by market power and quality signaling, with little support for operating efficiency as a mechanism. They find a similar explanatory role of the three mechanisms in conditions where market share negatively predicts profit (for niche firms and those "buying" market share). Using these mechanism insights, the authors show that the value of market share differs in predictable ways between firms and across industries, providing new understanding of when managers may usefully set market share goals. The authors also provide new insights into how market share should be measured for goal setting and performance monitoring. They show that revenue market share is a predictor of firm profit while unit market share is not, and that relative measures of revenue market share can provide greater predictive power.

Keywords

market share, quality, efficiency, market power, niche, firm profit, revenue share, unit share

Online supplement: https://doi.org/10.1177/00222429211031922

Many firms use market share to set goals and monitor marketing performance, and market share is also widely used in research examining marketing's performance impact (Farris et al. 2010; Katsikeas et al. 2016). Edeling and Himme's (2018) recent meta-analytic study (hereinafter, E-H 2018) reports a significant positive relationship between a firm's market share and its economic performance and identifies contingencies affecting this relationship. However, while the literature suggests several reasons market share may drive firm performance, few empirical studies have directly examined any (and none more than one) of these mechanisms. Thus, little is known about the underlying "why" of mechanism(s) linking firms' market share and economic performance and how they may both explain previously identified moderators and facilitate identification of additional moderators of this important relationship. In addition, when understanding of the mechanisms linking market share with firm performance suggests that it is economically valuable to measure market share for goal setting and performance monitoring purposes, managers currently have no empirical insights into how to do so.

These knowledge gaps are important because understanding why market share is linked to firms' future profit can provide new insights into when and where market share is most likely to be valuable. While many firms use market share as a marketing performance metric, our research identifies new ways for managers to assess when this is most appropriate—and when it may not be. Because market share is such a common marketing goal, this is also important in delineating the role that marketing plays in determining firm performance and in understanding contingencies that may affect this role. Exploring the predictive value of alternative measures of

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market share, we also provide important new insights into how market share goals should be set and performance assessed via different market share measurement options in terms of unit versus revenue market share and absolute versus relative market share.

In addressing these key questions, this study offers several contributions. First, we provide the first direct empirical assessment of the three primary causal mechanisms that have been theorized to link market share with firm profit: market power, operating efficiency, and quality signaling. Using direct measures, we examine each of these three mechanisms simultaneously and show that both market power and quality signaling are key mechanisms linking market share with firm profit. On average, we find little evidence of theorized economies of scale and learning benefits of market share, but we identify conditions under which such efficiency benefits do exist. We find no support for a fourth theorized mechanism linking market share negatively with profit as a result of a strong competitor orientation. However, we do find support for the same three mechanisms in conditions under which the market share–firm profit relationship is negative—for niche firms and when a firm "buys" market share. Overall, these findings provide important new empirical insights into market share's value-creating role.

Second, using these new causal mechanism insights, we explore the consistency of the market share–profit relationship across different types of marketplaces and firms where the relative value of market share via the three mechanisms may be expected to vary. We show that the market share–profit relationship varies across industries and firms, and that the different causal mechanisms identified provide high explanatory power for such variations; thus, all three theories from which the hypothesized mechanisms arise can be "correct." In addition, this insight provides an empirically supported way for managers to identify when setting market share goals and monitoring market share performance may be more or less valuable. In contrast, we find that using indirect contingencies to try to infer the mechanisms linking market share with performance relationship often does not align with the directly observed mechanism effects, further indicating the value of direct measures in understanding the "why" mechanisms involved.

Third, we extend recent meta-analytic insights regarding the nature of the relationship between market share and firms' economic performance by using direct measures of the three most widely cited mechanisms: measures of both revenue and unit market share and different market share benchmarks, firm size controls to isolate the benefits of market share versus firm scale, and different econometric approaches to address panel data and endogeneity estimation concerns. These aspects of our study enable us to provide several new insights. For example, we show that for most firms, economies of scale arise from firm size and not firm market share. They also allow us to identify which market share metrics are most predictive of profit for different types of firms and the economic value of increasing market share on these metrics. This is useful new knowledge for managers because it provides new insights into how market share should be measured in goal setting and performance monitoring as well as the scale of profit benefits that may be expected from any gain in a firm's market share.

The article is organized as follows. First, we develop a conceptual framework and hypothesize relationships involving the three key mechanisms by which market share may be linked with firms' future profit. Next, we use the three mechanisms to identify three conditions under which the market share–profit relationship may be expected to be stronger versus weaker. We then describe the data set assembled and analysis approaches used to test the hypotheses and discuss the results. Having shown that the three mechanisms collectively mediate the market share–profit relationship, we then assess whether this remains true even under conditions when the market share–profit relationship is negative. Next, having shown that managers can use knowledge of the three mechanisms to identify when market share is likely to be economically valuable for their firm, we assess how managers may best measure market share. Finally, we assess the implications of our study for theory and practice and identify new questions for future research suggested by our findings.

Conceptual Framework and Hypotheses

Much of the theorizing regarding market share and firm performance in economics and management concerns related but distinct phenomena such as firm size and market concentration. We focus only on relationships that directly pertain to firm market share and the mechanisms underlying its economic value. As a result, we center our market share conceptualization on revenue market share—units sold × realized price (i.e., sales revenue) divided by total market sales revenue. In doing so, we conceptualize and measure the "market" as comprising firms selling similar product/service offerings. However, we also examine unit market share—units sold divided by total market unit sales—as well as several different operationalizations of revenue market share in robustness checks and post hoc analyses.

Market Share and Firm Economic Performance

The marketing literature generally views market share as an indicator of the success of a firm's efforts to compete in a product-marketplace (e.g., Chaudhuri and Holbrook 2001; Varadarajan 2020). From this perspective, market share is an outcome of a firm's marketing efforts including its advertising and promotion, product/service offering quality and price, channel and customer relationships, and selling activities (Farris et al. 2010). All of these are evaluated relative to those of other suppliers by customers (channel members and end users) when they consider and select offerings, which is what conceptually distinguishes a firm's market share (how the firm's sales compare with those of the total market) from its sales revenue (the number of units sold × price). Importantly, this means that (unlike sales revenue) market share is not a component variable in any indicators of firm economic

performance,[1] so there is no synthetic (or "hard-wired") market share–firm economic performance relationship.

Historically, the empirical literature provided conflicting and equivocal answers concerning the "main effect" relationship between firms' market share and their economic performance (e.g., Buzzell, Gale, and Sultan 1975; Jacobson 1988; Jacobson and Aaker 1985). However, the recent E-H (2018) meta-analysis using more sophisticated methodological approaches has provided new insight on this question, showing a generally positive effect of market share on firm economic performance. We corroborate this in our data and focus our hypothesizing on why this relationship exists and how this "why" understanding may help explain and predict differences in the strength of the relationship across firms and industries.

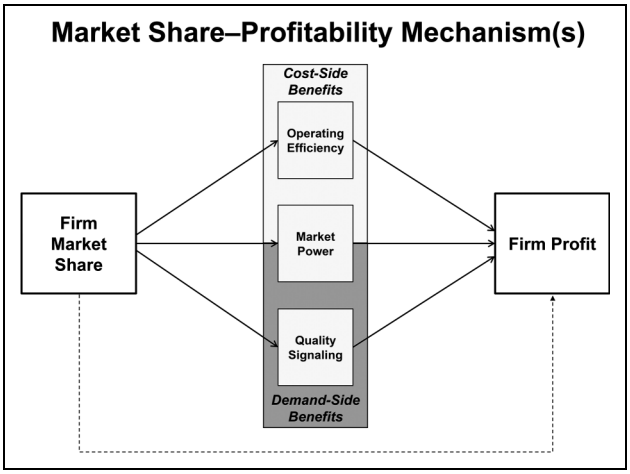

Figure 1. Conceptual framework.

Mechanisms Through Which Market Share May Impact Profit

While several explanations have been independently proffered for why a firm with higher market share may enjoy superior economic performance, three mechanisms are much more widely discussed than others. As Figure 1 shows, we focus our theorizing on these mechanisms and consider how each may link a firm's market share with its profit.

Market power. The first proposed mechanism by which market share may be linked with firm profit is via market power (i.e., the firm's ability to influence the price of its product/service offerings by exercising control over demand, supply, or both; e.g., Bresnahan 1989; Shy 1995). Industrial organization theory posits that firms enjoy superior profit when they are able to charge higher prices than rivals, which is determined by the availability of alternatives to customers and firms' ability to create and/or control resources that give them stronger market positions (e.g., Scherer and Ross 1990). Market share may be a resource that provides a firm with the opportunity for greater market power over both "upstream" suppliers and "downstream" channels and customers and thereby control prices in several ways.

For upstream suppliers, buyer firms with higher end-user market share are more attractive, which may allow them to negotiate lower prices and/or higher-quality inputs from their suppliers (Boulding and Staelin 1990). For example, Apple's smartphone market share allows it to both charge app developers for selling their products and enforce strict quality controls on the apps it sells. It may also increase supplier willingness to cooperate with others in the buyer's supply network to further lower the buyer's input costs and improve input quality (Gooner, Morgan, and Perreault 2011). For downstream channels, higher–market share firms are more attractive upstream partners because they generate end-user demand for more and/or higher-value products. They may also attract larger customer numbers and/or more frequent interactions for channels to engage in cross-selling. This may enable higher–market share firms to negotiate better list prices than rivals in downstream channels and to benefit from greater channel cooperation (e.g., preferred shelf-space, merchandizing support). For example, PepsiCo's snacks division leverages its leading market share position to obtain preferential shelf and display access in many U.S. retail chains. The input and go-to-market cost and quality benefits of higher–market share firms should allow them to provide better value offerings, which may thus allow them to charge higher prices to end users (as in the case with Apple) and/or enjoy higher profit margins on each unit sold (e.g., Walmart). Thus,

> **H_1:** The positive effect of market share on firm profit is mediated by the firm's market power.

Operating efficiency. The second theorized mechanism by which a firm's market share may lead to profit is via increasing the firm's operating efficiency (e.g., Demsetz 1974). Disputing market power arguments, the "Chicago school" in economics argues that market share is an outcome of firm efficiency that allows a firm to sell quality-equivalent offerings at lower prices than rivals, attracting greater demand (e.g., Conner 1991; Posner 1979). Following this logic, strategic management scholars propose that higher market share may also allow firms to further increase their efficiency in a recursive relationship with lowering firm costs via learning effects (e.g., Amit 1986; Haleblian, Kim, and Rajagopalan 2006). Much of this logic is framed in terms of a firm's position on the production "experience curve" as a function of the volume of units sold, with greater experience allowing production-related learning and lower production costs (e.g., Hall and Howell 1985). Thus,

[1] Sales revenue is used in calculating revenue market share but is conceptually and arithmetically distinct from it. The correlation between revenue market share and sales revenue in our data is .14. Nonetheless, we assess how this may affect our hypothesis testing results in a robustness check using revenue market share ranks and controlling for revenue.

firms selling a greater number of units produce more and learn how to do so more efficiently. For example, Tesla has used its greater accumulated experience in producing electric vehicles (EVs) to lower its costs compared with rivals.

Conceptually, this may also be possible via market share impacting the number of interactions a firm has with suppliers, channels, and customers, enhancing opportunities for higher–market share firms to learn and use knowledge gained to improve their supply-and-demand chains (Richardson 1993). For example, Tesla has used its greater EV sales to learn how to drive improvements in battery designs and configurations from suppliers as well as to optimize its own software to increase EV range. More interactions also increase the likelihood that suppliers, channels, and customers will trust higher–market share firms, increasing information sharing, lowering coordination costs, and enhancing cooperation in changes designed to enhance the firm's supply-and-demand chains (Dabholkar, Johnston, and Cathey 1994; Glazer 1991). This should enable higher–market share firms to lower costs and enhance supply-and-demand chain quality and reliability, allowing superior value offerings for customers and/or greater margins. Thus,

H_2: The positive effect of market share on firm profit is mediated by the firm's operating efficiency.

Quality signaling. The third mechanism by which market share may enhance firm profit is by signaling unobserved quality. Information economics theory posits that customers' limited evaluative knowledge often makes it difficult for them to observe "true" product/service quality (e.g., Jin and Leslie 2003; Kirmani and Rao 2000). Empirical studies also show that customers are often unable to accurately (or confidently) evaluate an offering's quality prior to making purchase decisions, and they frequently rely on indirect cues (e.g., Parker, Lehmann, and Xie 2016; Teas and Agarwal 2000). Market share may signal quality by increasing the credibility of firm claims and thereby lowering customer perceived risk (Erdem and Swait 2004; Hellofs and Jacobson 1999). Customers may also infer that "everyone can't be wrong" in choosing the offerings of a high–market share firm (e.g., DiMaggio and Louch 1998). For example, Toyota campaigns have touted that its products are "#1 for a Reason." Thus, to the extent that market share signals higher quality, it should increase future demand and reduce customer churn. It may also lower the firm's costs relative to rivals, because alternative ways to signal quality (e.g., advertising) may be more costly.

Market share may also signal quality to suppliers and channel members. Firms that are perceived to be producing high-quality offerings may be viewed by suppliers as not just attractive buyers, in terms of their own demand, but also as potentially providing a halo image spillover benefit. Similar to customers viewing them as having "too much to lose" to provide inferior offerings, supplier choices made by high–market share firms may be viewed as being based on ensuring high quality and reliable inputs to protect their reputation and market position. For example, Apple's suppliers are frequently identified as such in business press reports. This could also apply to channel partners where selling offerings that are perceived as higher quality can provide a halo effect making the channel member more attractive to other suppliers and end-user customers (e.g., Knight, Holdsworth, and Mather 2007). All of these arguments suggest the following:

H_3: The positive effect of market share on firm profit is mediated by the firm's perceived quality.

Using Mechanism Insights to Predict Where Market Share Is Valuable

Prior research suggests that the value of market share varies across industries (e.g., Bass, Cattin, and Wittink 1978), indicating that setting market share goals may be more beneficial for some firms than others. To explore this, E-H's (2018) meta-analysis examines the sample characteristics most commonly reported in prior studies and reports that market share is more valuable in business-to-customer (B2C) markets and in markets with medium market concentration, whereas it is less valuable in the banking industry. While offering initial useful insight to managers, these boundary conditions are limited in number and scope—and the "why" mechanisms involved are unobserved. Robust empirical understanding of the mechanisms using direct assessments should allow additional boundary conditions to be identified and provide empirically verified principles for managers to distinguish when they should and should not care about market share.

To provide an initial assessment of the predictive value of our mechanism results and offer new insights for managers, we next examine the extent to which the market share–profit relationship varies under conditions in which each of the three mechanism in turn may be expected a priori to be more versus less important. For each mechanism, we identify a condition expected to be particularly impactful on that particular market share–profit pathway. However, in our analyses we also allow for the possibility that each of the conditions we identify may affect the strength of all three mechanisms linking market share with profit. First, in terms of market power we examine industries characterized by higher customer switching costs, where firms are more easily able to retain customers. Firms should benefit more from the market power provided by market share when switching costs are high because they are better placed to increase prices without fear of customers switching (Farrell and Klemperer 2007; Shi 2013; Snyder 2008).

Second, in terms of the value of operating efficiency in explaining the market share–profit relationship, the literature suggests that cost-reducing learning effects are more likely earlier in the life of a firm (e.g., Yli-Renko, Autio, and Sapienza 2001). For example, "experience effect" studies of the value of a firm's cumulative doubling of output show that

this is more likely to occur early in a firm's existence (e.g., Hambrick 1983). In addition, learning effects require changing and adapting firms' processes—which tend to become more rigid over time (e.g., Repenning and Sterman 2002). Thus, younger firms are less knowledgeable in their operations and less "set in their ways," providing incentives to seek out the learning opportunities presented by market share and the ability to exploit the efficiency-enhancing knowledge gained via process changes.

Third, to explore conditions where the quality-signaling value of market share may be stronger, we examine differences between "service-dominant" and "goods-dominant" industries.[2] A key difference between these markets is the greater intangibility of service offerings, which creates more quality uncertainty for customers (Zeithaml, Bitner, and Gremler 1996). Under such conditions, customers are more likely to use cues such as market share as indicators of the quality of a firm's offerings (e.g., Carman 1990). Interestingly, this prediction is the opposite of E-H (2018), who reason that physical goods manufacturers may benefit more from efficiency, and that this may be more important in driving profit than any dampening of the quality-signaling effect of market share in physical goods-focused markets. We explore this reasoning empirically when we directly examine the three mechanisms underpinning the market share–profit relationship.

We therefore hypothesize the following:

H_4: The effect of market share on firm profit via market power is stronger in marketplaces with higher switching costs.

H_5: The effect of market share on firm profit via efficiency is stronger for younger firms.

H_6: The effect of market share on firm profit via perceived quality is stronger for firms selling service- versus product-dominant offerings.

Methodology

Data

We combine secondary data from a variety of sources. From Compustat, we obtained data to construct measures of market power and operating efficiency, firm economic performance indicators, firm-specific controls, and a set of industry and competitive context control variables. Equitrend provided data on the perceived quality of firms' offerings. To calculate measures of unit market share, we use unit sales data from the Global Market Information Database (GMID). We assembled our initial data set by merging data from Compustat and GMID. To test the mediation hypotheses, we also require data from Equitrend, for which our access covers only the years 2000–2013. Because each data source has distinct firm and year coverage, the compiled data set used to confirm the main effect of market share on firm profit and test the hypothesized mediation effects contains 3,058 firm-year observations from 244 individual firms, operating in 126 North American Industry Classification System (NAICS) four-digit industries, 2000 through 2013. The average firm in this sample has $13.81 billion in assets and has been operating for 45 years. Table 1 shows summary statistics and correlations for the main variables in our sample and additional details are contained in Web Appendix 1. To test H_4–H_6, we also required American Customer Satisfaction Index (ACSI) data (to measure switching costs), which reduced our sample for testing these three hypotheses to 2,629 firm-year observations from 207 firms (2000–2013).[3]

Hypothesis Testing Variable Measurement

The Appendix contains definitions and operationalization details of all variables described next.

Market share. Market share is the percentage of a market's total sales garnered by a firm over a specified time period (Ferrier, Smith, and Grimm 1999). The market may consist of all suppliers selling products/services with the same characteristics, or those that are thought of similarly by customers and are purchased for the same use. We follow Hoberg and Philips (2010) to compute a measure of market share using a set of competitors and market definitions derived from business descriptions in firm 10-Ks. This allows market definitions to be dynamic, where a firm may move in and out of any given market depending on whether its offerings changed over time and thus compete with a different set of firms.

To compute market share, we divide the total sales of each firm by the aggregate sales for that market for that year, where the market is dynamically defined as described previously using data from all 22,076 firms in Compustat for the 2000–2013 period. In defining markets, we note that each firm has a similarity/competition score with respect to any other firm (i.e., all possible dualities are computed) in the Compustat database. In line with Hoberg and Philips (2010), the number of competitors can be defined using a threshold of similarity scores and/or specified number of nearest neighbors (e.g., 50 or 20). We combine the two approaches and specify 50 as the largest number of neighbors, while also imposing a minimum threshold limit. Thus, our market definition comprises a maximum of 50 firms per industry, while allowing for fewer firms, to maintain a minimum level of similarity among competitors in the same market.[4]

[2] Although firms may sell both types of offerings, for brevity we use the simple terms "services" and "products" to denote which type of value offering is the primary focus of the firm.

[3] The main effect and mediation hypothesis testing results reported are robust to using only this smallest (n = 2,629) "core" data set used in testing H_4–H_6 firms (see Web Appendices 16 and 17). A list of all firms contained in the full hypothesis-testing data set is provided in Web Appendix 20.

[4] All variables calculated using industry-level data in our hypothesis testing use the same industry definitions.

Table 1. Descriptive Statistics and Correlations (N = 3,058).

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Firm Profit ($M)	839.10	1,104.10	1.00													
2. Market Share (%)	6.85	9.59	.14	1.00												
3. Sales Revenue ($M)	3,907.08	5,747.18	.77	.14	1.00											
4. Market Power (%)	30.79	10.90	.23	.13	.09	1.00										
5. Firm Efficiency (Index)	50.09	9.06	.10	.08	.38	.23	1.00									
6. Perceived Quality (Index)	65.35	16.95	.18	.07	.06	.35	−.05	1.00								
7. Firm Size ($B)	13.81	62.89	.39	.16	.69	.17	.03	.22	1.00							
8. Market Growth ($M)	122.23	523.18	.10	.02	.03	.14	−.04	−.10	.30	1.00						
9. Advertising ($M)	53.92	255.75	.44	.34	.36	.07	−.01	.01	.31	.03	1.00					
10. R&D ($M)	64.92	366.32	.40	.30	.22	.15	−.02	−.07	.32	.05	.48	1.00				
11. Service Indicator (0/1)	.19	.39	−.02	−.10	−.15	−.03	.18	−.05	.08	−.04	−.08	−.05	1.00			
12. Switching Costs (Index)	−.01	1.11	.33	−.14	.06	.16	.07	.02	.18	.14	.19	.07	.11	1.00		
13. Firm Age (Years)	45.30	41.30	.21	.05	.09	.14	.10	.21	.18	−.08	.49	.41	−.08	.34	1.00	
14. Niche Focus (Index)	2.43	8.10	.02	−.15	−.02	.12	.06	.05	−.07	−.06	.06	.13	.12	.01	−.06	1.00

Notes: All descriptive statistics are for the "raw" (i.e., untransformed) variables. Correlations with an absolute value larger than .046 are significant at $p < .01$, and those greater than .035 are significant at $p < .05$.

To assess the robustness of the findings using this dynamic measure of market share, we also use a more static approach, defining markets via each firm's primary NAICS designation using the four-digit level that researchers suggest most closely represents the real "competed" market (e.g., Massey 2000). To calculate this, we first collect the total revenue-by-industry data that comprise gross domestic product (i.e., total expenditures on products and services) for all four-digit NAICS industries from the U.S. Bureau of Economic Analysis, which allows us to account for the sales of firms that are private, small, or otherwise not available in Compustat. We then divide the total sales of each firm by the gross domestic product value for that four-digit NAICS industry for that year. Firm market shares are computed from their revenues in their primary NAICS markets.

Firm profit. We use net income as our primary measure of firm profit, obtained from Compustat. We use this indicator of absolute firm profit (while controlling for asset size in our model) because economic theories of the value of market share assume that maximizing the amount of profit—not the efficiency with which profit is generated, which is what "return on asset" (or investment) relative profit measures capture—is a firm's superordinate performance objective.

Market power. We use profit elasticity relative to the industry average (similar to Boone [2008]) to indicate firm-level market power. This is calculated by estimating regressions of firms' profit (net income) on their total variable costs for each industry as follows:

$$\ln(\pi_{it}) = \alpha + \beta \ln(tvc_{it}) + \varepsilon_{it},$$

where π is firm profit and tvc is the firm's total variable cost (Cost of Goods Sold + Selling, General and Administrative Expenses) for firm i at time t. Both profit and variable costs are scaled by firm size (total assets). Because profit and costs are natural log transformed, the β from this regression captures the average profit elasticity within the industry, with less negative βs indicating the average ability of firms within the industry to mark up prices when costs rise and thus exercise market power (e.g., Kasman and Carvallo 2014). Firm-specific residuals measure each firm's margins relative to its industry's average, providing an indicator of firm's market power (Boone 2008). Positive residuals (equivalent to less negative elasticities) indicate greater market power, and negative residuals (i.e., more negative elasticities) indicate weaker market power. Web Appendix 2a indicates favorable face validity for this measure.

Firm efficiency. From an economic theory viewpoint, this concerns producing goods and services in ways that optimize the combination of inputs to produce maximum output at the minimum cost (Bauer, Berger, and Humphrey 1993). To operationalize productive (in)efficiency, we use a stochastic frontier estimation approach. Following Bauer, Berger, and Humphrey (1993), we use operating expense as the input and total sales as the output. In stochastic frontier estimation, the firm in the industry with the lowest input requirements to produce a given set of outputs forms the efficiency frontier and the closeness of a firm's inputs-to-outputs to this frontier determines its relative (to the industry's most efficient firm) efficiency. Web Appendix 2b provides evidence of strong face validity for this measure.

Perceived quality. We use the perceived quality measure of brands from the Equitrend database, which comprises

consumer ratings on an 11-point perceived quality scale. For multibrand firms, we take the mean perceived quality of all brands owned by the firm.[5] Face validity assessments for this measure (see Web Appendix 2c) provide strong support for the measure.

Switching costs. We use ACSI data and follow Rego, Morgan, and Fornell (2013) to construct an industry-level measure of switching costs as the "excess loyalty" displayed by customers to suppliers using the residual of regressing each industry's customers' loyalty onto its customers' satisfaction, controlling for time fixed effects (FEs). This measure has been shown to have strong face validity (Rego, Morgan, and Fornell 2013), and we also find evidence of this (Web Appendix 3).

Service- (vs. product-) dominant industries. Service- (vs. product-) dominant industries is a dummy variable identifying firms operating in nonbanking (banks have idiosyncratic characteristics we later explore) service-focused industries using Fama–French industry definitions (Fama and French 2008).

Firm age. Firm age is the number of years since the firm's founding using information from annual reports and websites.

Control variables. In addition to firm and year FEs used to control for unobserved heterogeneity, we employ several firm- and industry-level covariates in our analyses, including firm size, operationalized as the logarithm of each firm's total assets to account for scale economies not captured by market share, and the firm's advertising and research-and-development (R&D) expenditures to control for firm-level heterogeneity. We also control for market growth that may affect the profit outcomes of market share (Romanelli 1989), captured as the year-to-year change in total market sales.

The Appendix and Web Appendix 1 summarize descriptive statistics for all variables used in our analyses. To enable log-log specification and interpretation in our analyses and reduce deviations from normality present in several of our measures (market share, firm profit, market power, firm efficiency, perceived quality, advertising expense, R&D expense, and market growth), we applied log transformations to our data.[6]

Model Specification

We empirically test the hypothesized relationships using a fixed-effects autoregressive (FE-AR) estimation approach (Wooldridge 2015) for several reasons. First, we are using panel data, and the Hausman test indicates that an FE correction is needed to address unobserved heterogeneity and separate between time-variant and -invariant firm-specific errors. Second, several of our measures are longitudinally persistent, raising concerns about serial correlation—the AR correction of the errors addresses any potential bias to the estimates. The modified Durbin–Watson and Baltagi–Wu LBI tests indicate that an AR1 correction is appropriate. In addition, we control for heteroskedasticity using cluster-adjusted robust standard errors at the firm level. Finally, we estimate our hypothesis-testing models using generalized least squares (GLS), because OLS are statistically inefficient and may result in biased inference in the presence of serially correlated residuals.

We first verify the average positive relationship between market share and profit (E-H 2018) and estimate the total effect using the following model specification:

$$\begin{aligned}\text{Profit}_{i,t+1} = {} & \alpha_0 + \alpha_1 \text{Market Share}_{i,t} + \alpha_8 \text{Firm Size}_{i,t} \\ & + \alpha_9 \text{Advertising}_{i,t} + \alpha_{10} \text{R\&D}_{i,t} \\ & + \alpha_{11} \text{Market Growth}_{i,t} + \text{Year FEs} \\ & + \zeta_i + \varepsilon_{i,t+1}, \end{aligned} \quad (1)$$

where i stands for firm and t for time (year), ζ_i is a time-invariant firm FE, and $\epsilon_{i,\,t+1}$ is the random error representing all unobserved influences on future profit, modeled as an AR1 process such that $\epsilon_{i,\,t+1} = \rho\epsilon_{i,\,t} + \eta_{i,\,t+1}$ and where $|\rho|<1$ and $\eta_{i,\,t+1}$ is an independent and identically distributed (i.i.d) error. Market Share, Firm Size, Advertising, R&D, and Market Growth are as described previously, and Year FEs are mutually exclusive year dummies. Lagged regressors are used to alleviate concerns due to simultaneity and reverse causality (i.e., future profit should not impact past market share).

Having selected an appropriate estimation approach given the nature of our data, we next deal with potential endogeneity concerns with respect to omitted variables—of which reverse causality and simultaneity are special cases (Wooldridge 2015). We examine the potential for the presence and effect of such endogeneity concerns using a Gaussian copula correction to Equation 1 and assess the presence and effect of any endogeneity (including potential selection bias introduced by the various data sets on which we draw for our measures) via a likelihood ratio test of whether there is a significant difference between the uncorrected set of parameter estimates and the endogeneity-corrected set (Wooldridge 2015).[7] Once we show that potential endogeneity issues are not material, we empirically test H_1–H_3 using an identical FE-AR approach by estimating the following equations:

[5] As we show in Web Appendices 18 and 19, our analyses are robust to using alternative firm quality indicators from *Fortune*'s "World's Most Admired Companies" database and Young & Rubicam's Brand Asset Valuator for the sample subsets where these data were available.

[6] We applied a log $(x+1)$ transformation to all variables; for variables that include negative values (e.g., profit), we transformed these via $-\log(|x|+1)$ to preserve rank (e.g., Galizzi and Zagorsky 2009).

[7] Even after our log transformation, the nonnormal distribution of the market share variable still meets the requirements for the use of a copula approach (Shapiro–Wilk test ($Z = 7.217$, $V = 16.888$, $p > z = .00$).

$$\begin{aligned}\text{Profit}_{i,t+1} = {} & \alpha_0 + \alpha_1 \text{Market Share}_{i,t} + \alpha_2 \text{Market Power}_{i,t} \\ & + \alpha_3 \text{Firm Efficiency}_{i,t} + \alpha_4 \text{Perceived Quality}_{i,t} \\ & + \alpha_5 \text{Switching Costs}_{i,t} + \alpha_6 \text{Services Dummy}_{i,t} \\ & + \alpha_7 \text{Firm Age}_{i,t} + \alpha_8 \text{Firm Size}_{i,t} \\ & + \alpha_9 \text{Advertising}_{i,t} + \alpha_{10} \text{RD}_{i,t} \\ & + \alpha_{11} \text{Market Growth}_{i,t} + \text{Year FEs} \\ & + \zeta_i + \varepsilon_{i,t+1}, \end{aligned} \tag{2a}$$

$$\begin{aligned}\text{Market Power}_{i,t+1} = {} & \beta_0 + \beta_1 \text{Market Share}_{i,t} \\ & + \beta_5 \text{Switching Costs}_{i,t} \\ & + \beta_6 \text{Services Dummy}_{i,t} \\ & + \beta_7 \text{Firm Age}_{i,t} + \beta_8 \text{Firm Size}_{i,t} \\ & + \beta_9 \text{Advertising}_{i,t} + \beta_{10} \text{RD}_{i,t} \\ & + \beta_{11} \text{Market Growth}_{i,t} + \text{Year FEs} \\ & + \tau_i + \xi_{i,t+1}, \end{aligned} \tag{2b}$$

$$\begin{aligned}\text{Firm Efficiency}_{i,t+1} = {} & \gamma_0 + \gamma_1 \text{Market Share}_{i,t} \\ & + \gamma_5 \text{Switching Costs}_{i,t} \\ & + \gamma_6 \text{Services Dummy}_{i,t} \\ & + \gamma_7 \text{Firm Age}_{i,t} + \gamma_8 \text{Firm Size}_{i,t} \\ & + \gamma_9 \text{Advertising}_{i,t} + \gamma_{10} \text{RD}_{i,t} \\ & + \gamma_{11} \text{Market Growth}_{i,t} + \text{Year FEs} \\ & + \mu_i + \varsigma_{i,t+1}, \end{aligned} \tag{2c}$$

$$\begin{aligned}\text{Perceived Quality}_{i,t+1} = {} & \theta_0 + \theta_1 \text{Market Share}_{i,t} \\ & + \theta_5 \text{Switching Costs}_{i,t} \\ & + \theta_6 \text{Services Dummy}_{i,t} \\ & + \theta_7 \text{Firm Age}_{i,t} + \theta_8 \text{Firm Size}_{i,t} \\ & + \theta_9 \text{Advertising}_{i,t} + \theta_{10} \text{RD}_{i,t} \\ & + \theta_{11} \text{Market Growth}_{i,t} \\ & + \text{Year FEs} + \nu_i + \varphi_{i,t+1}, \end{aligned} \tag{2d}$$

where Market Power, Firm Efficiency, Perceived Quality, Switching Costs, Services Dummy, and Firm Age are as described in the variable measurement section, and all other variables and subscripts follow Equation 1. Finally, we empirically test H_4–H_6 by estimating the moderated-mediation contingencies and include interactions between $\text{Market Share}_{i,t}$ and $\text{Switching Costs}_{i,t}$, $\text{Services Dummy}_{i,t}$, and $\text{Firm Age}_{i,t}$ in Equations 2a–2d. To estimate the relative effects of the three hypothesized mediation mechanisms (market power, firm efficiency, and quality signaling) and three moderated-mediation contingencies (switching costs, firm age, and services), we follow Preacher, Rucker and Hayes (2007) using Wetzel et al.'s (2018) approach to augment the FE-AR estimation.

Results and Discussion

Main Effect of Market Share on Firm Profit

Prior to testing the hypothesized mechanisms, we first verify the main effect results indicated in the E-H (2018) meta-analysis in our sample using several variants of the model specification detailed in Equation 1. We begin by estimating a model with FEs and cluster-adjusted robust standard errors that includes only the covariates as predictors (M1), to which we then add market share (M2), allowing us to verify the main effect of market share on firm profit and reveal its incremental predictive power. We also estimate this same model using an FE-AR error correction and cluster-adjusted robust standard errors (M3) to demonstrate the stability of the estimates across the different statistical corrections proposed. In M4 we examine whether the reported estimates suffer from endogeneity bias by including a Gaussian copula for the Market Share variable as a control function to empirically correct endogeneity bias. The likelihood ratio test for joint parameter differences (Wooldridge 2015) indicates that the endogeneity-corrected estimates in M4 are not statistically different from those in M3.

As Table 2 shows, the estimates are consistent across all four models, demonstrating the robustness of the effect of market share on firm profit. In addition, while the Gaussian copula estimate in M4 is significant (.048, $p < .05$) indicating the presence of some omitted variable endogeneity, the likelihood ratio test indicates no significant difference in the market share parameter estimates between M3 ($\beta = .137$) and M4 ($\beta = .159$). This supports the use of an FE-AR(1) (i.e., model specification M3) estimation approach and confirms that any remaining bias is modest and does not substantively impact the estimates. In a robustness check, we also replaced the dynamic market share measure with a four-digit NAICS alternative and again confirmed the main effect (Web Appendix 5). Finally, we further verified that endogeneity bias does not unduly influence our findings using a difference-in-differences version of Equation 1 comparing the market share–profit relationship for firms in industries that experience an exogenous demand shock (exit of bankrupt firms) with those that do not. The results (Web Appendix 6) again confirm the main effect findings.

Collectively, these analyses verify the main effect results in E-H (2018) that, on average, firm market share positively predicts future firm profit—and the effect sizes reported on Table 2 are both consistent and aligned with the average elasticity of .132 reported by E-H (2018), further enhancing confidence in our findings. Table 2 results also show the suitability of the FE-AR error correction and cluster-adjusted robust standard errors GLS estimation approach (model specification M3), which we employ in the hypothesis-testing analyses.

Hypothesized Mechanism (Mediator) Results

As Table 3 shows, in testing H_1–H_3 we find support for both market power in M1a (.230, $p < .001$) and quality signaling (.141, $p < .05$) in M1c as mechanisms linking market share with firm profit. However, while M2 confirms that firm

Table 2. Main Effect of Market Share on Firm Profit.

	Models and Dependent Variables			
Independent Variables	**M1** $Profit_{(t+1)}$	**M2** $Profit_{(t+1)}$	**M3** $Profit_{(t+1)}$	**M4** $Profit_{(t+1)}$
Main Effect				
Market $Share_{(t)}$		.153**	.137**	.159**
		(.053)	(.038)	(.052)
Controls				
Firm $Size_{(t)}$	.228*	.208***	.521***	.291***
	(.113)	(.067)	(.045)	(.051)
$Advertising_{(t)}$	.234***	.130**	.073***	.098*
	(.061)	(.045)	(.023)	(.044)
$R\&D_{(t)}$	.061*	.044	.066***	.042***
	(.027)	(.025)	(.014)	(.010)
Market $Growth_{(t)}$	.020	.012	.002	.029*
	(.017)	(.020)	(.002)	(.013)
Market $Share_{(t)}^{COPULA}$				.048*
				(.021)
Specification Tests				
Wald χ^2	125.32	198.12	188.36	115.92
R^2	.57	.59	.58	.59
Rho_AR			.40	.43

*$p < .05$.
**$p < .01$.
***$p < .001$.
Notes: All model specifications estimated using 3,058 firm-year observations. M1/M2: GLS estimation, FEs and cluster-adjusted robust standard errors. M3/M4/M5: GLS estimation, FEs with AR errors and cluster-adjusted robust standard errors. Z-test difference in share coefficients between M3 (.137) and M4 (.159) = .64 ($p > .05$).

efficiency predicts firm profit (.129, $p < .001$), M1b reveals that a firm's efficiency is not predicted by its market share (.024, $p > .1$). Thus, on average we find no evidence supporting efficiency as a mechanism linking firm market share and profit in our sample. Overall, these results provide support for H_1 and H_3 but not for H_2. As M2 shows, all three of the mechanism variables are significant predictors of firm profit, and the main effect of market share becomes insignificant (.031, $p > .10$) in the presence of these three variables. To examine the relative strength of the mediator role played by the three mechanism variables in explaining the market share–profit relationship, we follow Wetzel et al.'s (2018) approach. This reveals that the three mechanisms collectively explain 77.37% of the total effect of market share on firm profit, with 63.21% of this flowing through market power, 33.96% via perceived quality, and 2.83% through firm efficiency.

To check the robustness of the mechanism results, we conducted four additional analyses. First, to check for any potential scale effect of absolute sales revenue beyond firm size, we reestimated our model using market share ranks and adding firm sales revenue as a separate control. The estimates replicated the hypothesis-testing results (Web Appendix 7). Second, to check for any potential biasing effect of firm orientation to market share (Maciel and Fischer 2020) we used text analysis of 10-K reports to construct an annual measure of each firm's market share focus based on the number of times "market share" is mentioned relative to the total number of words. When this is added to our model, we find that the results remain essentially unchanged (Web Appendix 8). Third, to ensure that results are robust to alternative firm performance measures, we replaced net profit in turn with return on assets and Tobin's q as dependent variables. As shown in Web Appendices 9 and 10, we replicate the hypothesis-testing results. Fourth, we also checked that a firm's competitor orientation—a potential fourth mechanism linking market share (negatively) with firm profit (Armstrong and Collopy 1996)—does not explain additional variance in the market share–profit relationship. Using 10-K reports and Bhattacharya, Misra, and Sardashti's (2019) text-based measure, we computed the competitor orientation of each firm in our sample and included this in our model. As Web Appendix 11 shows, we find that while competitor orientation predicts firm market share, it does not materially affect the market share–profit relationship.

Hypothesized Moderating Condition Results

Having demonstrated the robustness of the hypothesized mechanism results, we next examine whether the market share–profit relationship may be stronger in industry and firm conditions in which each of the three mechanism variables in turn may be expected a priori to be more versus less important as captured in H_4–H_6. The results are summarized in Table 4, with M1

Table 3. Mechanism for Market Share Effect on Firm Profit.

	Models and Dependent Variables			
Independent Variables	**M1a** **Power$_{(t+1)}$**	**M1b** **Efficiency$_{(t+1)}$**	**M1c** **Quality$_{(t+1)}$**	**M2** **Profit$_{(t+1)}$**
Direct Effect				
Market Share$_{(t)}$	.230***	.024	.141*	.031
	(.081)	(.016)	(.065)	(.018)
Indirect Effect				
Market Power$_{(t)}$				.302***
				(.042)
Firm Efficiency$_{(t)}$				.129***
				(.029)
Perceived Quality$_{(t)}$				.274***
				(.061)
Controls				
Firm Size$_{(t)}$	.029*	.027***	.039***	.210***
	(.013)	(.006)	(.008)	(.029)
Advertising$_{(t)}$	.020	.021	.022*	.090*
	(.023)	(.020)	(.010)	(.043)
R&D$_{(t)}$	.032**	.013***	.028**	.023***
	(.011)	(.002)	(.011)	(.005)
Market Growth$_{(t)}$	.012	.007	.012	.008
	(.019)	(.009)	(.010)	(.007)
Specification Tests				
−Log-likelihood	2,810.17			
R^2	.16	.18	.10	.68

*$p < .05$.
**$p < .01$.
***$p < .001$.
Notes: 3,058 firm-year observations covering 244 firms for the 2000–2013 period (Equitrend available 2000–2013). Total effect (from Table 2: M3) .137 (100.00%) minus direct effect (from M1a) .031 (22.63%) = indirect effect of .106 (77.37%). Indirect effect via (1) Power = .067 (63.21%); (2) Quality = .036 (33.96%); and (3) Efficiency = .003 (2.83%).

showing that firms in industries with higher customer switching costs are more profitable (.137, $p < .05$), and M2 supporting H_4 by confirming that market share is more valuable in such industries (.087, $p < .001$) via its stronger effect on market power (.157, $p < .05$). In addition, M4c reveals that firms also gain stronger perceived quality benefits from market share in industries with higher switching costs (.203, $p < .05$), suggesting that some of the switching costs we observe are due to customers continuing to choose a provider because of positive relational bonds that may influence both customers and others' perceptions of the quality of such firms' offerings.

The interactions reported for M2 also show that market share is generally less valuable for older firms (−.069, $p < .001$), and consistent with H_5, the mechanism estimates in M4b provide strong evidence supporting the expected effect of market share on firm efficiency being weaker for older firms (−.109, $p < .001$). This is aligned with our rationale that efficiency-enhancing learning effects associated with market share accrue mainly to firms that are earlier in their development. M4c estimates also reveal that older firms benefit less from market share via quality signaling (−.092, $p < .05$). We reason that older firms that have been in the marketplace for longer are likely to be better known and also that firm age may indicate a firm's stability and lower risk, which reduce the signaling value of its market share.

In terms of services-dominant firms, the significant positive estimate in M2 for the services × market share interaction (.056, $p < .001$) indicates that service firms benefit more from market share. However, our mechanism estimates in M4c show that this is not a result of the expected strengthening of the quality-signaling benefit of market share (.012, $p > .10$) posited in H_6 but rather, as shown in M4b, that service firms benefit more from the efficiency-enhancing effect of market share (.148, $p < .001$).[8] Because controlling for scale effects via firm size isolates the efficiency-enhancing learning effects of market share, this finding suggests that market share provides a greater opportunity for service firms to learn how to operate more efficiently and to use this knowledge to change their

[8] E-H (2018) find a marginally ($p < .10$) stronger effect of market share on performance in manufacturing industries, which is inconsistent with our findings. However, 92% of the service firms in their sample are banks, and using only banks and simultaneous cross-sectional analyses as they do, we reproduce E-H's results. Thus, differences in banks' accounting and financial reporting appear to affect the observed economic impact of market share in ways not true of other service firms.

Table 4. Main Effect and Mechanisms for Market Share Effect on Firm Profit in Hypothesized Moderators.

	Model Specifications (M) and Dependent Variables									
Independent Variables	**M1** $Profit_{(t+1)}$	**M2** $Profit_{(t+1)}$	**M3a** $Power_{(t+1)}$	**M3b** $Efficiency_{(t+1)}$	**M3c** $Quality_{(t+1)}$	**M3d** $Profit_{(t+1)}$	**M4a** $Power_{(t+1)}$	**M4b** $Efficiency_{(t+1)}$	**M4c** $Quality_{(t+1)}$	**M4d** $Profit_{(t+1)}$
Direct Effects										
Market $Share_{(t)}$	.118***	.114***	.105*	.031	.278**	.017	.136***	.028	.149***	.030
Indirect Effects										
Market $Power_{(t)}$						.210***				.223***
Firm $Efficiency_{(t)}$						.075**				.083***
Perceived $Quality_{(t)}$						.169***				.163***
Moderators										
Switching $Costs_{(t)}$	.137*	.149*	.093*	.005	.051*	.013	.107	.015	.077*	.027
Firm $Age_{(t)}$	.178	.208	−.002	.013	.006	.015*	.034	−.031	.004	.019
Services $Dummy_{(t)}$	−.058*	−.059*	.017	−.033*	.008	−.004	.093	.509***	.028	−.006
Interaction Effects										
Market $Share_{(t)}$ × Switching $Costs_{(t)}$		.087***					.157*	.017	.203*	.033
Market $Share_{(t)}$ × Firm $Age_{(t)}$		−.069***					−.048	−.109***	−.092*	−.043
Market $Share_{(t)}$ × Services $Dummy_{(t)}$		.056***					−.006	.148***	.012	.020
Controls										
Firm $Size_{(t)}$	.514***	.534***	.025***	.031***	.046***	.028***	.030***	.083*	.041***	.046***
$Advertising_{(t)}$	.278***	.281***	.008	.022	.006	.011	.007	.010	.039	.039***
$R\&D_{(t)}$	.274***	.272***	.039***	.010	.059*	.034***	.029***	.012	.062***	.031***
Market $Growth_{(t)}$	.014	.015*	.011	.008***	.002	.004	.011	.017	.012	.003
Specification Tests										
Wald χ^2	303.11	358.07								
−Log-likelihood			2,489.31				2,913.87			
R^2	.50	.52	.24	.21	.22	.69	.25	.29	.26	.70

*$p < .05$.
**$p < .01$.
***$p < .001$.
Notes: 2,629 firm-year observations covering 207 firms for the 2000–2013 period (sample size due to ACSI data availability).

Table 5. Indirect Effects for Market Share Effect on Firm Profit in Hypothesized Moderators.

	Market Share–Profit Effects					Indirect Effect Mechanisms		
Moderator Variable Conditions	**Total Effect**	**Direct Effect**	**% of Total**	**Indirect Effect**	**% of Total**	**Power**	**Efficiency**	**Quality**
Overall	.086*	.030	34.9%	.056*	65.1%	62.0%	6.0%	32.0%
Switching costs	.287***	.092*	32.1%	.195***	67.9%	50.9%	2.5%	46.6%
+1 SD	.345***	.111*	32.2%	.234***	67.8%	51.2%	2.4%	46.4%
−1 SD	.218***	.073*	33.5%	.145***	66.5%	51.1%	2.4%	46.5%
Service dominant	.032*	.020	62.5%	.012	37.5%	41.0%	21.0%	38.0%
Product dominant	−.032*	−.010	31.2%	−.022	68.8%	54.0%	3.0%	43.0%
Firm age	−.136***	−.014	10.3%	−.122***	89.7%	12.1%	45.5%	42.4%
+1 SD	−.170***	−.018	10.6%	−.152***	89.4%	17.1%	40.2%	42.7%
−1 SD	−.081*	.011	−13.6%	−.092*	113.6%	2.7%	56.8%	40.5%

*$p < .05$.
**$p < .01$.
***$p < .001$.
Notes: 2,629 firm-year observations covering 207 firms for the 2000–2013 period (sample size due to ACSI data availability).

operations to do so. We reason that this may be because the greater direct customer interactions from higher market share are more valuable in helping service firms learn how to efficiently deal with customer heterogeneity, and that applying what is learned may also be less capital-intensive for service firms (vs. manufacturers).

Additional Analyses of Hypothesis-Testing Effects

To provide additional insight into how the hypothesized moderators affect the profit value of market share via the three mechanisms, we examined these effects in an additional analysis (Table 5). Of the .086 total effect (elasticity) of market share on profit when the moderator variables are included in the model, .056 is indirect (65% of the total) via the three mechanisms, with 62% of this flowing through market power, 6% through firm efficiency, and 32% via perceived quality. Consistent with the H_4 testing results (Table 4), the effect of market share on firm profit is strengthened by switching costs, with the total effect amplified by .287 for each unit increase in switching costs, of which .195 is indirect via market power (50.9%), firm efficiency (2.5%), and perceived quality (46.6%). These direct and indirect effects of switching costs on market share's effect on firm profit are proportionately lower (higher) at lower (higher) levels of switching costs (i.e., ± one standard deviation around average switching costs) with the indirect effects flowing through the three mechanisms in very similar percentages.

Consistent with H_5 testing results (Table 4), the total effect of market share on firm profit is also amplified for service-dominant firms by an extra .032, of which .012 is indirect (38% of the total) and flows through market power (41.0%), firm efficiency (21.0%), and perceived quality (38.0%). Meanwhile, for product-dominant firms, the total effect is reduced by −.032, of which −.022 is indirect, with 54.0% flowing through market power, 3.0% through firm efficiency, and the remaining 43.0% via perceived quality.

Finally, in line with H_6 testing results (Table 4), Table 5 shows the effect of market share on profit is weakened by firm age with each additional year reducing the total effect of market share on profit by −.136, of which −.122 is indirect (90% of the total) and flows through market power (12.1%), firm efficiency (45.5%), and perceived quality (42.4%). As we expected, the total effect of firm age on the market share–profit relationship is more pronounced for very high (old) versus very low (young) age levels, with a marked increase in the indirect effect flowing through firm efficiency (from 40.2% to 56.8%) and decrease in that flowing through market power (17.1% to 2.7%) in the case of very young firms. This is consistent with our Table 4 hypothesis testing results revealing stronger efficiency gains with market share for younger firms.

Market Share–Profit Mechanisms When Market Share Negatively Impacts Firm Profit

Aligned with E-H's (2018) finding that 82% of market share–performance elasticities in prior research are positive (82% of the same elasticities in our sample are also positive), our hypotheses are framed in terms of a net positive performance effect of market share. However, conceptual arguments concerning potential negative outcomes of market share have also been proposed (e.g., E-H 2018; Hellofs and Jacobson 1999). Drawing on our theorizing, we expect that the three mechanisms we identify should empirically capture any negative and positive effects of market share. For example, any associated diseconomies of scale will reduce a firm's efficiency while a reduction in perceived exclusivity will affect the quality-signaling value of market share. To empirically verify this

expectation, we identify two conditions under which market share's positive benefits may be outweighed by negative consequences, such that larger market share might reduce firm profit and reestimate the mediation effects of the market power, firm efficiency, and quality-signaling mechanism in these conditions.

Niche firms. One condition in which market share may negatively predict profit concerns firms with a strategic focus on serving a smaller segment of a market, usually a group of customers with a distinct set of needs and requirements (e.g., Porter 1996). For example, Louboutin specializes in high-fashion stiletto shoes. By serving distinctive needs, niche-focused firms make money by occupying positions in a segment of a broader market in which competition is more limited (e.g., Echols and Tsai 2005). As a result, they may not serve enough customers to gain market power benefits from market share, and their specialist positioning may diminish any quality-signaling benefit. They are also unlikely to gain from any learning effects in production. However, niche-focused firms with higher overall market shares are likely to have achieved this by selling to customers beyond their original niche (Uslay, Altintig, and Winsor 2010). This may negatively impact the firm's profitability by reducing its original niche appeal via a negative effect on perceived quality (e.g., Hellofs and Jacobson 1999) and also attract more competition (e.g., Hamlin, Henry, and Cuthbert 2012). These downsides may outweigh any potential market power and/or firm efficiency benefits of having a larger market share.

Firms buying market share. Another circumstance when market share may negatively impact profit is when firms "buy" market share by lowering prices relative to rivals. This is analogous to findings in the sales promotion literature that price promotions often produce negative returns (e.g., Hanssens 2015). In this circumstance, any market share gain via greater market power and the ability to charge higher prices is not only relinquished but reversed. In addition, because there is a price-perceived quality heuristic among customers in many markets (e.g., Rao and Monroe 1989), charging lower prices may offset any quality-signaling benefit of higher market share, and the net result on perceived quality could be negative. Our previous results suggest that in most circumstances, these negative market power and quality-signaling effects are likely to outweigh any firm efficiency gains via learning produced by increasing market share.

Empirical test of the two conditions. To assess the robustness of our mechanism results under conditions when the market share–profit relationship may be negative, we first identified firms that are likely pursuing a niche strategy by combining a new text measure indicator of the degree to which a firm has a niche strategic emphasis (for details, see Web Appendices 4a and 4b) with the number of brands they market (both firms with both a high niche-focus in their product-market coverage strategy and those that offer only a single brand are likely to be niche firms). The face validity assessments in Web Appendices 4a and 4b support this identification logic. Second, to identify firms that may be "buying" market share, we created a dummy variable indicator for firm-years in which a firm both reduced its average prices (computed using GMID data) and experienced a positive market share change.

We then reestimated our market share–profit models from Table 3 with the addition of the new niche firm measure and buying share dummy indicator, along with their respective interactions with market share. As Table 6 shows, model M1 shows that higher market share reduces profit for niche firms ($-.115$, $p < .05$). As we expected, M2c reveals that this is a result of a strong negative effect of market share via perceived quality ($-.062$, $p < .001$). M1 also shows that the effect of market share on firm profit is significantly lower for firms "buying" market share ($-.036$, $p < .001$).[9] The mechanism results indicate that this is caused by a significant reversal in both the market power (M2a: $-.047$, $p < .001$) and firm efficiency (M2b: $-.033$, $p < .001$) effects of market share and a reduction of the perceived quality mechanism to insignificance (M2c: $-.022$, $p > .1$). These findings suggest that any supplier input cost benefits of greater market power from market share are more than offset by lowering downstream prices to "buy" the market share. In addition, consistent with the well-known "bullwhip" effect, rapid increases in short-term demand resulting from lowering price seems to disrupt the efficient production and delivery of these firms' products and services. Overall, the Table 6 results provide support for the robustness of the three mechanism variables in mediating the relationship between firm market share and profit, even in the relatively rare conditions under which the relationship is negative.

Comparison with E-H's (2018) Indirect Moderator Inferences

Having provided robust evidence to support the three mechanisms, to offer additional insight on the utility of the direct measures of the three mechanisms employed, we also examined how the results compare with previous indirect inferences regarding these mechanisms drawn from observable moderators of the market share–profit relationship. To accomplish this, we first replicated E-H's (2018) measures as well as main effect and substantive moderator results (banking services, concentration, and B2C). We then examined the mechanisms explaining the effect of these moderators of the market share–profit relationship in our sample, and the results are revealing (Web Appendix 12). For example, we find that while E-H's theorizing focuses on quality signaling, the reason for the stronger market share–profit relationship in B2C industries is a significant

[9] We also found this to be true for contemporaneous profit in post hoc tests. Such negative effects may be well-known in practice, as buying market share does not seem to be common or a long-term strategy (we find fewer than 7% of firm-year observations where firms appear to be buying market share, and very few examples of these firms doing so in sequential periods).

Table 6. Moderating Effect and Mechanism When We Include Conditions in Which Market Share May Have a Negative Effect on Profit.

	Model Specifications and Dependent Variables				
	M1 $Profit_{(t+1)}$	**M2a** $Power_{(t+1)}$	**M2b** $Efficiency_{(t+1)}$	**M2c** $Quality_{(t+1)}$	**M2d** $Profit_{(t+1)}$
Direct Effect					
Market $Share_{(t)}$	.058***	.091***	.034	.108***	.033
Indirect Effect					
Market $Power_{(t)}$					.218***
Firm $Efficiency_{(t)}$					.095***
Perceived $Quality_{(t)}$					.179***
Moderators					
Switching $Costs_{(t)}$	.149*	.118	.021	.081***	.041
Services $Dummy_{(t)}$	−.042*	.088	.510***	.027	−.010
Firm $Age_{(t)}$	.193	.037	−.036	.008	.021
Niche Focus $Firms_{(t)}$	.078***	−.025***	.027	.119**	.180*
Buying Share $Dummy_{(t)}$	.016	.024	−.032*	−.009	−.026
Prior Moderator Effects					
$Share_{(t)}$ × Switching $Costs_{(t)}$	.050*	.162*	.022	.200*	.037
$Share_{(t)}$ × Services $Dummy_{(t)}$	.063***	−.011	.166***	.018	.019
$Share_{(t)}$ × Firm $Age_{(t)}$	−.053***	−.055	−.113***	−.078	−.009
Proposed Negative Moderators					
Share × Niche Focus $Firms_{(t)}$	−.115**	−.016	−.001	−.062***	−.010
Share × Buying Share $Dummy_{(t)}$	−.036***	−.047***	−.033***	−.022	−.036
Controls					
Firm $Size_{(t)}$	.490***	.035***	.086*	.039***	.049***
$ADV_{(t)}$	.233***	.008	.010	.018	.041*
$R\&D_{(t)}$	.241***	.031***	.015	.055***	.059***
Market $Growth_{(t)}$	.022***	.023	.018	.015	.012
Specification Tests					
−Log-likelihood		3,104.92			
R^2	.55	.30	.39	.20	.72

*$p < .05$.
**$p < .01$.
***$p < .001$.
Notes: 2,629 firm-year observations covering 207 firms for the 2000–2013 period (sample size due to ACSI data availability). For Niche Firms, indirect effect = 58%, of which Power = 21%; Efficiency = 0%; and Quality = 79%. For Firms Buying Share, Indirect Effect = 33%, of which Power = 56%, Efficiency = 22%, and Quality = 22%.

strengthening of all three mechanisms relative to business-to-business (B2B) industries (market power: .143, $p < .001$; efficiency: .044, $p < .05$; quality: .082, $p < .05$). In addition, we find that while banks are in general more profitable (.426, $p < .01$) and have greater market power (.042, $p < .05$), this is in spite of—not due to—their market share (−.087, $p < .05$). In fact, results reveal that market share reduces banks' profitability by lowering their efficiency (−.410, $p < .001$). We also find a direct moderating effect for concentration (.109, $p < .05$), whereas E-H found a nonlinear effect, and we observe that this is via increasing the market power benefit of market share (.110, $p < .01$). These results show that using moderators to indirectly infer the three mechanisms underlying the market share–profit relationship often does not do a good job of isolating these mechanisms. This reinforces the value of direct empirical understanding of the mechanisms linking market share with firm profit in predicting when market share is more valuable and thus when managers should set market share goals.

When Its Value Is Indicated, How Should Managers Measure Market Share?

The new empirical understanding of the mechanisms linking market share with firm profit revealed in our analyses can help managers evaluate when market share may be a valuable goal. When its value is indicated, a manager's next task is to decide how to measure market share for goal setting and performance monitoring. To provide insights on this question, we examined two key market share measure design choices facing managers. First, "share of what?," in terms of unit sales volume or sales revenue, should be used in computing market share (Bendle and Bagga 2016). Managers use both types of indicators to track market share, and both rank among the most popular measures of marketing performance in practice (e.g., https://marketbusinessnews.com/financial-glossary/market-share/). The second is "relative to what?," in terms of whether and how the firm's market share is

Table 7. Market Share–Profit Relationship Using Alternative Market Share Measures and Benchmarks.

	Market Share Measure, Model, Benchmark, and Dependent Variable			
Independent Variables	**Unit Market Share M1 Absolute $Profit_{(t+1)}$**	**Revenue Market Share M2 Absolute $Profit_{(t+1)}$**	**Revenue Market Share M3 Relative to Market Leader $Profit_{(t+1)}$**	**Revenue Market Share M4 Relative to Top 3 $Profit_{(t+1)}$**
Main Effect				
Market $Share_{(t)}$	.009	.151*	.222***	.392***
Controls				
Firm $Size_{(t)}$	.201***	.270***	.213***	.243***
$Advertising_{(t)}$	.081**	.121***	.121***	.123***
$R\&D_{(t)}$	.033	.024	.033	.030
Market $Growth_{(t)}$	.001	.001	.004	.006
Specification Tests				
Wald χ^2	115.23	188.91	210.81	167.81
R^2	.18	.59	.52	.52

*$p < .05$.
**$p < .01$.
***$p < .001$.
Notes: 3,058 firm-year observations covering 244 firms for the 2000–2013 period, except for model specification M1, which is estimated using 2,214 firm-year observations covering 235 firms for the period 2004–2013 (due to GMID data availability). In a subsequent robustness check, model specifications M2 through M4 were reestimated using the same 2,214 firm-year observations, and estimates remain identical.

benchmarked—as an absolute value (% of total market sales) or relative to others in the market (the market share leader or the top three players).

Revenue versus unit share. To provide insights on the first question, we replicated model M3 in Table 2 and replaced the sales revenue market share with unit sales volume market share using the same dynamic market definition. As we show in Table 7, in contrast to revenue market share (M2: .151, $p < .05$), unit market share (M1: .009, $p > .1$) does not predict firm profit. This result is robust to all of the same checks performed on our revenue market share main effect testing analyses and also to using benchmarked (vs. absolute) values of unit market share. Post hoc analysis of the mechanisms associated with unit share (Web Appendix 13) reveal that although it has a small positive effect on both market power and firm efficiency (consistent with the learning effect logic that market share is a proxy for number of units produced), this is insufficient to overcome the significant negative relationship with quality signaling. We reason that the weaker effect of unit (vs. revenue) market share on market power is a result of unit market share ignoring prices charged to customers (a downstream indicator of market power). The negative quality-signaling effect of unit market share is consistent with both ignoring price (which is often a quality cue for customers) and the notion that ubiquity reduces perceived exclusivity (e.g., Hellofs and Jacobson 1999). These results show that when the presence of the three mechanisms indicates market share's value, managers should set market share goals and monitor performance in terms of revenue market share.

Absolute versus relative share. In terms of the "relative to what?" question, in Table 7 we compared the market share–profit estimates of the absolute value of market share used in the main effect testing (M2) and two different relative market share benchmark operationalizations: relative to the market share leader (M3) and relative to the combined market share of the top three market share firms (M4).[10] The results indicate that benchmarked measures of firm market share provide stronger predictive power (of future profit) (M3: .222, $p < .001$; M4: .392, $p < .001$, respectively) than using absolute market share (M2: .151, $p < .05$). Subsequent analysis of the three mechanisms show that this is a result of the relative market share measures "dialing up" the market share–market power link (Web Appendix 14). This is likely due to such "relative to others in the same industry" measures capturing some of the industry-level market concentration power that our previous analysis showed increased the market share–market power relationship in terms of both switching costs (which are higher when markets have fewer equivalent players) and average market share (as an indicator of market concentration in the E-H [2018] replication analyses).

Implications

Implications for Theory

This study offers several new insights into theories of firm behavior and performance. First, economic theory assumes

[10] Results from Uslay, Altintig, and Winsor (2010) indicate that most industries evolve to an equilibrium with three large market share firms.

that market share predicts firm profit but offers different reasons for why this relationship exists. We provide the first simultaneous test of three mechanisms proffered in competing economic theories for this relationship and show that in combination, they explain the vast majority of the variance in the market share–profit relationship. This suggests that individual single-theory lens explanations of the mechanisms linking market share with profit are incomplete, and all three mechanisms can provide higher (or lower) explanatory power under different conditions. While, on average, market power provides the highest level, and firm efficiency the lowest level, of explanatory power, we also identify conditions under which the reverse is true (e.g., for young firms). Thus, none of the three theories from which the hypothesized mechanisms arise is "correct" or "incorrect," but market power and quality signaling generally explain more of the variance in the market share–profit relationship across firms and industries.

Second, our results offer new insights into efficiency-enhancing experience-based "learning effects" identified in strategic management theorizing (Argote 2011). Management scholars have used this logic to explain why market share (a proxy for the number of times a firm may have produced a value offering) may be positively related to firm profit (e.g., Haleblian, Kim, and Rajagopalan 2006). We find that while firm efficiency is valuable (predicts profit), on average it is explained mainly by a firm's size rather than its market share. This suggests that for most firms, scale economies are more important in driving profit than economies of learning. However, for young firms, we find that market share delivers significant efficiency benefits above and beyond those associated with size, and we also find significant efficiency benefits from market share among service businesses. This suggests that "learning by doing" effects occur where organizational routines are less set and when firms can use experience gained to update and change their processes with lower investments.

Third, we find support for information economics theorizing on the value of signals of unobservable firm quality. While prior research has explored market share's role in consumer evaluations of quality (Hellofs and Jacobson 1999), we provide the first empirical evidence that market share generally signals firm quality and thereby increases firm profit. The negative effects on perceived quality we observe when using unit (vs. revenue) market share also suggest that price combines with market share in signaling quality to customers. In addition, we find that market share's positive quality-signal effect depends on previously unidentified industry and firm conditions (stronger for younger firms, in B2C markets, and for those with switching costs).

For researchers, our study also has broader implications. Not least, it clearly shows the effect that sampling can have on the findings and inferences drawn in firm-level empirical research. We find wide variance in both the main market share–profit relationship and in the specific mechanisms accounting for the relationship across industries. Thus, samples made up of a single industry, or an industry dominated by certain types of firms, would lead to very different results and widely varying inferences being drawn as to which theory may be supported in empirical tests. This is unlikely to be unique to the market share phenomenon we examine. In addition, our study also reveals the desirability of directly observing (or at least finding direct indicators of) mechanisms believed to underlie relationships of interest. In particular, our results highlight the need for researchers to be careful about using indirect contingencies to infer such unobserved mechanisms when there may be more than one mechanism involved.

Implications for Practice

This study also provides new insights for managers regarding how market share should be measured. Although unit (volume) market share is widely used in practice to set marketing goals and monitor performance (e.g., auto and motorcycle manufacturers, many consumer packaged goods companies), our results reveal that it is not predictive of firm profit, whereas revenue (value) market share is. We also find that in terms of predicting profit, relative (to others) measures of revenue market share can be superior to absolute measures. Post hoc analyses suggest that such relative measures can enhance the market power value of the observed market share, and that benchmarking a firm's market share relative to the top three market share firms versus the market share leader offers a stronger predictor of future profit. This is aligned with the intuition that benchmarking against others provides an indicator of both the firm's market share and the concentration present in the marketplace, which we show interact significantly in predicting firm performance.

To provide finer-grained managerial insights, we also examined (1) which measures of market share were the strongest predictors of future profit for different types of firms to help managers select the most appropriate market share metrics for goal setting and performance monitoring and (2) the average profit value of a 1% increase in the average firms' market share for different types of businesses to give managers a calibration of the dollar-value benefits that may be expected when evaluating costs associated with share building strategies. Given our sample size, we are somewhat limited in how fine-grained we can be in these analyses without running into power issues. We therefore split our sample in a managerially meaningful way by identifying firms on the basis of whether they serve primarily consumer or business customers and whether their value offerings are mainly product- versus service-based. As shown in Table 8, the results vary across the four cells, with B2C product firm and B2B service firm profit being most strongly predicted by absolute revenue market share, whereas for B2C service and B2B product firms, it is revenue share relative to the top three market share players. The one-year profit increases associated with a 1% improvement in the average firm's market share vary across the four cells from a low of just over $1 million to almost $6 million. These findings have clear and important implications for managers setting market share goals and monitoring market share performance in their firms and offer a useful dollar benefit scale calibration for managers with respect to the

Table 8. Managerial Matrix: Metrics.

		Products	Services
B2C	Strongest market share–profit predictor	Absolute revenue share	Relative to top three revenue share
	Mean firm market share	6.80%	7.19%
	Profit value of 1% increase in mean market share	From 6.80% to 6.87%: .121% ($p < .001$) × \$840 million = \$1.02 million	From 7.19% to 7.26%: .704% ($p < .001$) × \$840 million = \$5.9 million
	Observations	1,910 firm/year observations (136 firms)	484 firm/year observations (52 firms)
B2B	Strongest market share–profit predictor	Relative to top 3 revenue share	Absolute revenue share
	Mean firm market share	6.68%	7.31%
	Profit value of 1% increase in mean market share	From 6.68% to 6.75%: .309% ($p < .001$) × \$840 million = \$2.6 million	From 7.31% to 7.38%: .146% ($p < .01$) × \$840 million = \$1.2 million
	Observations	322 firm/year observations (32 firms)	342 firm/year observations (24 firms)

Notes: Unit share is not predictive of firm profit in any one of the four cells. Reported elasticities estimated via a model specification equivalent to M3 in Table 2, with the noted strongest market share predictor measure as a regressor and using the observations specific to each of the Product/Services and B2C/B2B cells. Profit increase \$ values are for a 1% increase in the mean firm's market share in each cell (e.g., 7.310% to 7.383%) not an increase of 1 point of total market share (e.g., from 7.310% to 8.310%). Because we estimate log-log models, the estimated coefficients in each condition can be interpreted as market share–profit elasticities (%) which can be converted to a dollar profit value by multiplying them by the mean profit in our sample (i.e., \$840 million).

Table 9. Managerial Matrix: Contingency Effects on Share-Profit Mechanisms.

	Relative Mechanism Importance		
Contingency	**Market Power**	**Firm Efficiency**	**Perceived Quality**
Switching costs (high)	+	n.s.	+
Service (vs. product)	n.s.	+	n.s.
Firm age (older)	n.s.	−	−
Concentration (more)	+	n.s.	n.s.
B2C (vs. B2B)	+	+	+
Banking (vs. others)	n.s.	−	n.s.

Notes: n.s. = not significant. This table summarizes analyses reported in Table 4 and Web Appendix 12, with mechanism importance indicated relative to the average displayed by all firms in our sample.

potential payoffs they may expect from investments in market share–building strategies.

In terms of where managers would be advised to pursue market share to a greater or lesser degree, our results provide several new insights (Table 9). For younger firms and for non-banking services firms, it may make sense to set market share goals and monitor performance. It may also be more beneficial for firms operating in marketplaces with high levels of quality uncertainty and those with higher switching costs. However, it may make less sense for banks and firms in industries in which pricing power is low and/or quality is relatively certain. Older firms may also find market share to be of less value as a marketing goal and performance metric. Firms pursuing a niche strategy would be well advised to either ignore market share or ensure that they assess it only within their selected niche market definition. Finally, we show that, while relatively rare, "buying share" is not a profitable move.

Implications for Policy

For policy makers, this study provides new insights with respect to when market share may lead to market power and potential abuse that requires regulation. Importantly, our results show that firm profits from market share result from quality signaling and learning-based efficiencies as well as market power. Thus, policy makers need to be careful not to directly equate market share and market power; we show that while they are often related, they are far from synonymous. Rather, our results suggest that regulatory authorities can be less concerned by a firm's market share in marketplaces where customer quality uncertainty is significant and where efficiency-enhancing learning benefits from market share may exist (e.g., young firms, service firms). In such conditions, market share could enhance rather than harm consumer welfare by reducing consumer–firm information asymmetry and potentially lowering costs.

Limitations and Future Research

This study has some limitations that should be taken into account when considering the findings. First, because we require public data to explore our research questions, our sample is naturally skewed toward larger firms. While we include small, nonpublic firms in the definition of the total market sales used in constructing the robustness check NAICS measure of market share, we are unable to include such firms' individual market shares in the hypothesis testing because these firms' sales data are private. Although we have a wide range of market shares in our sample (with a low of less than 1%, a high of 77%, and a mean of less than 7%), and no evidence of range restriction in our key variables, researchers with access to private firm data could test the generalizability of this study's findings to firms with much smaller market shares.

Second, our data are focused on firms with U.S. listings. However, including studies covering broader geographies and

longer time period data, E-H (2018) suggest that the market share–profit relationship is weaker in recent times in Western Europe than the United States, so future research in other regions is required to examine how the mechanisms we identify may differ across geographies. Third, our study examines market share at a firm level. However, market shares may also be computed at other levels (e.g., brand or geographic market level). A post hoc analysis of monobrand firms in our sample suggests that the same market share–profit main effect and mechanism relationships hold (Web Appendix 15); however, research is required to confirm this.

Our study also reveals several new avenues for theoretically interesting and managerially relevant research. First, we find that the vast majority of market share's effect on profit is mediated through its effects on firm market power, perceived quality, and efficiency. This suggests that new theorizing regarding why market share is valuable may be of limited value. However, in light of our findings, new research on the details of how each of the three mechanisms works is clearly required. For example, what is the relative effect of market power on upstream versus downstream parties, and how much is contributed by cost reductions versus pricing versus coordination benefits? Similarly, what types and levels of quality uncertainty create conditions that lead to market share's value in signaling quality? How much of market share's signal value is to upstream versus downstream parties?

Second, this study reveals market power, quality signaling, and operating efficiency as the mechanisms linking market share with firm profit. Because market share is a market-based outcome of firms' marketing efforts, this raises the interesting possibility that these three mechanisms may also mediate the relationship between other marketing-related phenomena and firm performance. For example, are market-based assets such as brand equity and customer relationships also linked to firm profit via the same three mechanisms? Are there also other mechanisms that may be available to such market-based assets but not to market share?

Third, given that market share is more or less valuable under different market and firm conditions—and that buying share is both rare and ineffective—does it also matter how firms create and leverage market share? For example, are market shares more or less valuable to firms pursuing low-cost business strategies versus those pursuing differentiated advantages? Are the three mechanisms linking market share and profit the same for these different strategies, or are some mechanisms more important to one strategy than another? Addressing these questions would provide important new insights for both managers and researchers.

Appendix: Measure Details

Variables	Measurement Details	Data Source/Literature
Firm Profit	Net income of the firm (Item NI).	Compustat
Market Share (Revenue)	Percentage of an industry or market's total sales garnered by a particular firm over a specified time period. Markets are defined through text analysis of similarity between product-market descriptions within 10-Ks. Sales for each firm obtained from Compustat.	SEC, Compustat Hoberg and Phillips (2010)
Market Share (Units)	Units sold by each firm were obtained directly using the GMID (Euromonitor) database. Market definition for firms with unit share data calculated as for revenue share.	GMID
Market Power (Power)	Operationalized based on a profit elasticity measure following Boone (2008), estimated by regressing (at the industry level) firms' profit (Item NI) on their total costs (Items COGS and XSGA). Firm-specific residuals are used to calibrate each firm's margins relative to industry average, providing a firm-level indicator of market power.	Compustat Boone (2008)
Firm Efficiency (Efficiency)	Concerns producing goods and services with the optimal combination of inputs to produce maximum output at the minimum cost. We use a stochastic frontier estimation approach with operating expense (Item XOPR) as the input and total sales (Item SALE) as the output.	Compustat Bauer, Berger, and Humphrey (1993)
Perceived Quality (Quality)	Measured using customer perceived quality ratings of the firm's brand(s) from Equitrend database.	Equitrend Morgan and Rego (2009)
Switching Costs	These are perceived costs associated by the firm's customers with moving to an alternative supplier. We calibrate these costs as the degree to which customers exhibit loyalty to a firm that cannot be explained by the level of satisfaction delivered by the firm's offerings. Using ACSI data, we estimate customer-level loyalty as a latent factor comprising variables capturing customers' repurchase intentions and price sensitivity. Satisfaction is the ACSI measure	ACSI (firm/year-level aggregation of individual-level respondent survey response data). Rego, Morgan, and Fornell (2013)

Variables	Measurement Details	Data Source/Literature
	detailed previously. We estimate switching costs for each firm/year as the residual of regressing each firm's customers' loyalty onto its customers' satisfaction, controlling for industry and time. $Loyalty_{(it)} = \beta_0 + \beta_1 \times Satisfaction_{(it)} + ID_{(it)} + YD_{(it)} + \epsilon_{(it)}$, where $ID_{(it)}$ are industry and $YD_{(it)}$ year dummies. $\epsilon_{(it)}$ is the residual of this regression and is used as our estimate of switching costs, which are firm- and year-specific.	
Niche-Focused Strategy (Niche)	Text analysis employing a new dictionary utilizing an inductive word search with exemplar niche firms. The analysis is then performed using a bag-of-words approach where each firm gets a score corresponding to the ratio of niche-related words and total words in each firm 10-K. To ensure that we were isolating the types of niche firms where market share was expected to be negatively associated with profit, suggested in the theorizing (i.e., those pursuing a single niche in a market vs. those targeting several different segments with different offerings), we then identified mono- versus multibrand firms by multiplying the niche-focus score for each firm by the dummy variable (1 for monobrand firms, 0 for multibrand firms).	New measure
Service-Dominant Markets (Services)	Dummy variable identifying service firms/ industries using Fama–French NAICS industries.	Fama and French (2008)
Firm Age	Number of years of operation of the firm since incorporation, obtained from the firm's annual reports and websites.	
Industry Concentration	Industry-level average market share.	Edeling and Himme (2018)
B2C versus B2B Firms	Dummy variable capturing whether the firm caters mainly to business customers. Each firm was coded manually by three coders who used information on categorization from secondary sources such as Hoover's. Reliability was >85%.	
Services (Banking)	Dummy variable capturing whether a firm belongs to the banking sector (SIC Code 602).	Compustat
Competitor Orientation	Text analysis of 10-K reports following dictionaries on competitor orientation (as a part of Market Orientation) developed in prior literature (Zachary et al. 2011).	SEC Zachary et al. (2011)
Controls		
Firm Size	The firm's reported total assets (Item AT).	Compustat
Market Growth Annual	change in cumulative industry sales (Item SALE).	Compustat
R&D Expense	Firm's reported expenditures on Research and Development (Item XRD).	Compustat
Advertising Expense	Firm's reported expenditures on Advertising (Item XAD)	Compustat
Robustness Check Variables		
ROA	The ratio of current year income before extraordinary items (Item IB) to the firm's previous year total assets (Item AT).	Compustat
Tobin's q	Ratio of the firm's market value to the replacement cost of physical and intangible capital of the firm We measure the firm's market value as the market value of outstanding equity (Items PRCC_F × CSHO), plus the book value of debt (Items DLTT + DLC), minus the firm's current assets (Item ACT). The firm's replacement cost of physical capital is measured as the book value of property, plant, and equipment (Item PPEGT). Intangible capital is estimated as the sum of the firm's knowledge capital (the capitalized value of firm R&D expenditures) and organizational capital (a fraction of the capitalized value of firm SGA expenditures) following Peters and Taylor (2017).	Peters and Taylor (2017)
Alternate Market Power	Operationalized based on Lerner Index as profit margin relative to price. Average variable costs are used as a proxy for marginal costs, operationalized using total variable costs divided by sales (Items XOPR and SALE). Average price was estimated dividing sales revenues (Item SALE) by unit sales (obtained from GMID database).	GMID, Compustat Boone (2008)

Variables	Measurement Details	Data Source/Literature
Market Share Focus	Based on text analysis of 10-K reports, estimated as the ratio of the number of times "market share" is reported relative to the total number of words in the annual 10-K report.	New measure
Perceived Quality	Measured via average annual perceived quality ratings of the firm's brand(s) from the Brand Asset Valuator database.	Brand Asset Valuator Mizik and Jacobson (2005)
Perceived Quality	Measured using average annual firm quality ratings from *Fortune*'s World's Most Admired Companies database.	AMAC Cretu and Brodie (2007)

Notes: SEC = Securities & Exchange Commission; SGA = selling and general administrative.

Associate Editor

Debanjan Mitra

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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