The role of founder decision rights and operating and disclosure mechanisms in firm value creation

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ABSTRACT

We find that founder firms use operating performance and transparency as mechanisms more effectively than non-founder firms for creating value. The greater effectiveness comes from the founders choosing their inputs strategically. Specifically, they increase the gross margin in differentiated firms that demand organizational agility and they increase asset usage efficiency in cost-leadership firms. Founder firms exhibit higher transparency than non-founder firms in differentiated and cost leadership firms. The improvements in operational performance, transparency, and value are all greater when founders have more decision rights. Our results are consistent with the interpretation that influential founders use organizational performance and transparency to increase the firm value more effectively than managers of similar non-founder firms by providing a unified vision and a single point of control.

1. Introduction

The prior literature notes that 11% of the largest U.S. listed firms are headed by founders (Fahlenbrach, 2009) and that these firms differ from other firms because of the incentives of the founders. Consistent with the recommendations of financial advisors,[1] several studies also document that the equity of firms with a founder presence commands a higher market price than otherwise similar non-founder firms.[2][3] These studies attribute the incremental value to greater founder incentives for value creation than corresponding non-founder firm managers. They also argue that the incentive-alignment effect overcomes the founders' incentive to exploit non-controlling shareholders (Fahlenbrach, 2009; Villalonga & Amit, 2006; Zook, 2016).[4] However, these papers do not show *the mechanisms* that the founders use more effectively than non-founders to create higher market value for their firms. We investigate this question further in this paper.

In a founder firm, non-controlling investors are more likely to trade their equity than the founders. Their trading determines the market pricing of the founder firm's equity. Therefore, founders could increase the firm's market value in two ways: First, by *increasing the innate value* of the firm, and second, by *assuring the non-controlling investors* of a greater share of the innate value.

We refer to founders' ability to improve the firm's innate value as *Operational Performance.* Based on prior literature, we identify three primary reasons founders could be more effective in promoting firm value than professional managers in non-founder firms. First, the founder-managers face less separation between ownership and control, which reduces agency costs and gives them stronger incentives to create value for their firms than the managers of similar non-founder firms (Demsetz & Lehn, 1985). Moreover, founders' human and financial

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[1] For example, on Oct. 1, 2020, Motley Fool sent the following communication to its investors: *"Namely, we discovered that investing solely in The Motley Fool's recommendations of **founder-led stocks** would have allowed any investor to absolutely crush the market! I know that may be a bit surprising – but take a look back at the stocks I just mentioned above that have been on an incredible run in 2020…"* (**bold** print added)

[2] See for example Anderson and Reeb (2003), Anderson et al. (2009), and Wang (2006).

[3] In this paper, founder firms are those where the founder is present and retains at least some decision rights.

[4] Founders could exploit non-controlling investors because of their entrenched position in the firm. Johnson, Magee, Nagarajan, and Newman (1985) and Larcker and Tayan (2016) provide evidence of entrenchment and Type 2 agency costs. Also, see Morck, Shleifer, and Vishny (1988) and Bennett, Lawrence, and Sadun (2017).

resource investment in their firms is less diversified relative to that of managers of non-founder firms (Fahlenbrach, 2009; Srinidhi, He, & Firth, 2014). The founders' reputations are also often closely tied to the performance and conduct of their firms (Danes, Loy, & Stafford, 2008; Segeder, Mitter, & Feldbuer-Durstmuller, 2018; Zellweger, Nason, Nordqvist, & Brush, 2013).[5]

Second, having founded and nurtured the fledgling firm through the challenging early years, founders have more intimate and intuitive knowledge than the hired managers of the non-founder firms about the firm's operations and environment. They can use this knowledge to better identify the appropriate strategy for their firms - for instance, cost reduction for cost-leadership firms, prioritizing the proper marketing channels, and differentiating their firms' products and services from the competition for differentiated firms. Specifically, founders are better positioned than non-founder managers to (1) create greater operational efficiency through better cost management (cost-reduction mechanism) and (2) create differentiated and customized products and services that closely match customer demands (a margin-enhancement mechanism). Third, being generally the central decision-makers, the founders are less likely to engage in non-value-creating activities than non-founder managers. Furthermore, they can respond faster to changes in the firm's environment and implement the required strategies more precisely.

Although the founders are better positioned than the hired managers of non-founder firms to create a higher innate value for the firm, they could use their decision-making power to capture a larger part of the firm's innate value for their private benefits.[6] Therefore, non-controlling investors are likely to be more worried about the founders' capturing a large part of the innate value (leaving a smaller part for them) than non-founder firms. Jin and Myers (2006) point out that if the outside investors cannot see some part of the cash flows, the insiders' expected capture increases. To compensate for the potentially higher investor skepticism about founder intent, the founder firms need to be more transparent than similar non-founder firms.[7] Transparency allows outside investors to see and limit the insiders' capture and obtain a greater part of the firm's innate value, resulting in higher market valuation.[8]

In summary, founders have both the incentive and the opportunity to increase the innate value of the firm, but whether this translates to an increase in market value through greater transparency is an empirical question. Based on the prior literature (Ali, Chen, & Radhakrishnan, 2007; Tong, 2007; Wang, 2006), we conjecture that founder firms, on average, would be more transparent than similar non-founder firms. However, we recognize that when founders are entrenched, their motivation to "cash out" on the incremental value could compromise their incentive to increase value. In that case, they might be more inclined to reduce firm transparency and less motivated to improve operational performance. Therefore, there is greater ambiguity in whether highly entrenched founders increase or decrease transparency and the firm's operational performance.

We measure the firm's market valuation by Tobin's Q. We define

founder firms as those where founders have decision rights as CEO, Chairman or Director.[9] We capture the founder's presence (influence) by a binary (categorical) variable. We follow the approach of Demerjian, Lev, and McVay (2012) and use Data Envelopment Analysis (DEA) to estimate the firm's operating performance. DEA optimizes the ratio of revenue to inputs (net property, plant, and equipment, net operating leases, research and development costs, purchased goodwill, other intangible assets, cost of goods sold, and the selling, general, and administrative costs). We measure transparency using Anderson, Duru, and Reeb (2009)'s "opacity index," consisting of the trading volume, analyst following, analyst forecast error, and bid-ask spread.

Using a sample of listed U.S. firms from 2001 to 2015, we find, consistent with the earlier literature, that founder presence is significantly positively associated with Tobin's Q. We also find that in firms where founders are present, their influence is positively associated with Tobin's Q and that the association is economically material. Our analysis confirms that both operating performance and transparency increase Tobin's Q, consistent with the prior literature.

In keeping with our expectations, we also find that the founder's presence and influence are positively associated with operating performance and transparency. We conduct mediation analyses to show that founders use these two mechanisms to increase the firm's Tobin's Q incrementally. In the mediation analysis, we use operating performance and transparency individually and jointly as mediating variables to explain the relationship between the founder's presence/influence and Tobin's Q and show that they are both individually and jointly significant. Stated differently, relative to non-founder firms, founders improve operating performance and transparency in their firms to a greater extent than managers of non-founder firms to increase the incremental Tobin's Q for the firm.

We further investigate and find that the founders alter corporate strategy for improved operational performance for firms that follow different competitive strategies (Porter, 1980). Specifically, we show that founders deploy their ability and influence to increase the gross margin in firms that follow a differentiation strategy but focus on more efficient asset utilization in firms that follow a cost leadership strategy.

The founders' ability to use these value-creating mechanisms is limited if they do not have adequate decision rights. We show that these mechanisms are founder-specific, i.e., founders can better deploy them and increase the firm's value when they exercise greater decision rights (influence).[10] We also show that the higher transparency result is driven by founder firms in which the founders are not entrenched.[11]

We conduct three endogeneity tests to show that operating performance and value improvements are not driven by founders selectively retaining firms with high value and performance while divesting the other firms. First, we use a matched-pair design where the firms from

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[5] Many founders develop more than one start-up during their lifetimes.

[6] Prior studies show that incentive alignment of founders with investors outweighs the adverse effects of entrenchment. See for instance Anderson and Reeb (2003), Villalonga and Amit (2006), Pérez-González (2006) and Miller, Le Breton-Miller, Lester, and Cannella (2007)

[7] Jin and Myers (2006) illustrate this with a hypothetical example (pages 258–259).

[8] We note that if the protection of investor rights is weak, investors could see the cash flows yet not be able to prevent insider capture – also pointed out by Jin and Myers (2006). However, in a U.S.-based study such as ours, we assume that the protection of shareholder rights provided by the legal, regulatory, and political systems is good, and if the shareholders can see cash flows, the insiders are limited in the extent to which they can capture value, i.e., brazen value capture is minimal.

[9] Earlier papers such as Ali et al. (2007) used a list of family firms published in Fortune. However, this data is now available on GMI Metrics (originally, Corporate Library) database. The database identifies founder firms as those where the founders (or at least one of the founders) serve as the CEO or the Chairman or is a member of the board.

[10] We measure founder presence by an indicator variable that equals one if the founder has a role in the firm as the CEO, chairman, or director, or zero if they do not have a role. A founder who is both the CEO and Chairman of the board has the most decision rights over the firm's strategy and operations. Therefore, we designate such a founder as having the highest level of influence (value = 3). We designate a founder who holds only one of those two positions, either as CEO or as Chairman, as having the second-highest level of influence (value = 2). We designate the founder-director who is neither the chairman nor the CEO as the third-highest level of influence (value = 1).

[11] Accounting transparency is higher for both the entrenched and the non-entrenched samples. Although the founders make financial statements more transparent even when they are entrenched, the market exhibits higher skepticism when the founder is entrenched and attributes higher market transparency only to non-entrenched founder firms.

which founders exit are matched with firms where they continue, and find no difference in Tobin's Q, operating performance, and bankruptcy risk between the two samples. Second, we use a two-stage instrumental variable approach, and the instrumented variable for founder presence continues to be significant in the second stage. Finally, to rule out that systematic differences between the founder and non-founder firms drive our results, we conduct an entropy-balancing analysis and show that the founder effect remains.

We contribute new insights that advance understanding of how founders use their knowledge, engagement, and a single-point unified decision process to add incremental value to their firms. After confirming that founders create incremental value compared to non-founder firms, we use a mediation analysis to show that they do so by improving operational performance and transparency more effectively than non-founder firms. In effect, founders increase the innate value and improve transparency and allow the market to capture more of that value compared to non-founder firms. Further, we show that the firm's value and both of the value-creation mechanisms, namely, operating performance and transparency increase with the founders' decision rights. This insight is novel and helps financial analysts and investors in assessing the components of value creation in founder firms.

Consistent with our argument that founders have a relative advantage in deploying these value-increasing mechanisms, we find that founders adjust their operating performance improvement to the firm's competitive strategy. Specifically, they improve gross margin for differentiated firms and asset turnover for cost-leadership firms. This insight also helps analysts and investors in appreciating the adaptability of founders to the appropriate strategic needs of the firm.

We also find that when founders are entrenched, they do not increase operating performance and are not as transparent. Furthermore, the founder is likely to be more entrenched if they are at the helm of the firm for a long time and particularly more prone to cash out if their horizon is short. We test this and, consistent with this expectation, find that the founder's length of tenure and shortness of horizon reduces the incremental value they create for the firm. In their assessment of the performance of founder firms, analysts could use this result in projecting the value-generation capability of the founders.

In the next section, we discuss the prior literature, identify the measures for the variables used in our analysis and develop and present hypotheses. We discuss the empirical models used in our analyses in Section 3. We present our results in Section 4 and concluding remarks in Section 5.

2. Hypothesis development

2.1. Founder's incentives, decision rights, and transparency

The theoretical underpinning for our paper comes from the prior accounting, finance, and strategy literatures. Demsetz and Lehn (1985) argue that compared to professional managers in non-founder firms, there is greater incentive alignment and less separation between ownership and control in founder firms. The resulting lower agency cost in founder firms provides greater incentives for founders to exert greater effort and create more value. Fahlenbrach (2009) contends that founders invest greater human and financial capital in their firms than the professional managers of non-founder firms and shows that the founder-CEO firms invest more in R&D, have higher capital expenditures, and make more focused mergers and acquisitions. The founders' less diversified human and financial capital investments imply that the founders, in general, share more of the firm risk (including the idiosyncratic risk) than professional managers. Furthermore, the founder-family reputation that the founders cherish is strongly associated with the firm's reputation (Danes et al., 2008; Liao, Srinidhi, & Wang, 2022; Segeder et al.,

2018; Zellweger et al., 2013), increasing the engagement of founders in preserving the firm's reputation to a level higher than professional managers. These factors point to the founders' incentive to exert greater care and effort in making strategic, operational, and investment decisions than professional managers.

Having founded the firm and managed it through the initial stages of growth, the founders gain a more intimate, difficult-to-communicate knowledge about the firm's operations and environment than a professional manager. The founders' intimate awareness of the firms' operations helps to prevent waste and increase value. Their knowledge of the firm's environment enables them to anticipate strategic threats and opportunities to the firm better than a professional manager. Because of greater incentives to create value, the founders will likely deploy their superior knowledge of the operations and environment to increase firm value. In effect, they are likely to achieve greater operational efficiency and make more appropriate strategic choices than the professional managers of non-founder firms. Zook (2016) lists distinctive attributes that distinguish founder firms relative to non-founder firms: a 'business insurgency,' the propensity to set aside industry norms and forge ahead on initiatives; a 'front-line obsession' with responding to customer needs; and an 'owner's mindset' of taking more responsibility for costs and risks relative to managers at non-founder-controlled firms. The founders' keener focus on customer needs and external opportunities allows their organizations to become more agile in responding to changing customer needs, and their unwavering focus on their organizations instills their employees with a sense of purpose, encouraging them to be more effective problem-solvers. The owner's mindset improves accountability and motivates a greater effort toward organizational efficiency.

To effectively deploy their unique knowledge and ability to increase value, the founder must have sufficient decision rights (Johnson & Yi, 2013). Their distinctive advantage as informed single-point decision-makers is best realized when the founder is both the CEO and chairman of the firm's board of directors. The single-point decision-maker advantage is lost if the founder is either the chairman or the CEO but not both. Founders who are neither the chairman nor the CEO but hold only a director position have minimal decision rights that curtail both their ability and their incentive to use their knowledge effectively to improve the firm's value. Therefore, we argue that founders' decision rights are positively associated with the improvement in operating and reporting decisions and the incremental value they create.

However, there are reasons to also believe that founders with significant decision rights may not deploy these value-increasing mechanisms. Wasserman (2017) identifies a "control dilemma" facing the founders. While the founders have the incentive to deploy these mechanisms, they are also skeptical of losing control of the firms they founded. As a result, a founder with decision rights could make operating decisions that overly reduce risk. Such highly risk-averse decisions could, in theory, adversely affect operating performance.

Furthermore, the fear of loss of control and the possibility of blockholder and activist investor actions could incentivize founders not to be transparent in providing information about the firm. In essence, whether the founders deploy these mechanisms to increase value is an empirical question. However, given the overwhelming prior evidence that founders create incremental value, the question that remains is about the mechanisms used by them to create value. The bulk of evidence in prior literature points toward their deploying their greater knowledge and ability to improve operating performance and showcasing it with greater transparency, which leads us to believe that these are two major mechanisms they use. Therefore, we state our hypotheses in the alternative form.

We formally state the following decision-rights hypothesis.

Hypothesis 1. (Decision Rights Hypothesis): Founder decision rights

are positively related to the incremental value of founder firms over non-founder firms.

Our second hypothesis relates to the mechanisms through which founders create higher incremental value. Several prior studies show that operational performance is positively associated with firm performance and value (Fairfield & Yohn, 2001; Lev & Thiagarajan, 1993; Ou & Penman, 1989). Greene and Segal (2004) employ a measure of operational performance using data envelopment analysis and show that it is associated with future performance. Baik, Choi, and Farber (2013) also show that operational performance is associated with firm value. As we have contended in the previous paragraphs, there is a strong theoretical basis to expect that the founder has both the incentive and the ability to improve the firm's operational performance. A founder with more decision rights can better implement an improvement of the operating performance of the firm. Following these arguments, our second hypothesis is as follows:

Hypothesis 2a. Ceteris paribus, founder decision rights are positively associated with higher operational performance.

Hypothesis 2b. Operational performance acts as a mediating variable between founder decision rights and the incremental value of founder firms.

The founders' presence and influence determine their decision rights. We distinguish between the innate value created in the firm through operational performance and the share of the innate value that the outside investors can capture, following Jin and Myers (2006). The investors only value the cash flows that they can observe. This is because the insiders capture the cash flow that is hidden from investors. Even though founders might have incentives to increase the firm's innate value, they can also use their insider power to expropriate noncontrolling investors, i.e., capture the firm's cash flows. However, founders can mitigate these concerns and reassure the non-controlling investors by making the firm more transparent (Leuz & Verrecchia, 2000; Srinidhi et al., 2014). Further, we expect that the greater the founder's decision rights, the greater can be the founder's effect on transparency. Consistent with these arguments, we state the following directional hypothesis:

Hypothesis 2c. Ceteris paribus, founder decision rights are positively associated with greater transparency.

Hypothesis 2d. Transparency acts as a mediating variable between founder decision rights and the incremental value of founder firms.

To complete the mediation analysis where we use both operating performance and transparency as mediating variables, we state the following hypothesis.

Hypothesis 2e. Both Operating Performance and Transparency act as mediating variables.

2.2. Founder's unique advantage in promoting the firm's strategy

Our next hypothesis concerns channeling the founder's superior knowledge, ability, and discretion to boost the most appropriate strategic strength of the firm. Boeker (1989) shows that the founding strategy has a sustained and continuing influence on the firm's strategy, even after the firm grows. The founder is the originator of the firm and, therefore, of its competitive strategy. Presumably, the founder developed the firm's initial strategy to meet its competitive environment and improve its operating performance. Therefore, a founder is uniquely placed to adapt the strategy as the firm grows and faces different market conditions.

Using Porter's categorization of competitive strategies, we identify two broad strategies adopted by firms: Differentiation and Cost leadership. Differentiated firms provide customized products and services to select customer segments for which they can earn higher margins. Their focus is on customization, whereby they deploy revenue

enhancement rather than cost reduction to increase margins. In contrast, cost-leadership firms focus on improving operating efficiency by better asset utilization.[12,13] They refrain from charging higher prices to improve margins. Differentiated firms in industries where customer demands change frequently (such as clothing or retail) or where technology changes pose existential threats (high-tech, biotech, communications, etc.), need to respond quickly to environmental changes to thrive. The founders' greater knowledge and engagement enable their firms to react faster than non-founder firms. Therefore, we expect operational performance improvement in differentiated firms to manifest as a higher margin. However, in stable firms with a cost leadership strategy, the founder's knowledge is more appropriately utilized in improving operational efficiency. These arguments lead to our third hypothesis.

Hypothesis 3a. (Dynamic Adjustment): Ceteris Paribus, differentiated founder firms exhibit higher gross margins than similar non-founder firms.

Hypothesis 3b. (Dynamic Adjustment): Ceteris Paribus, founder firms following the cost leadership strategy exhibit higher asset turnover than similar non-founder firms.

3. Research design

3.1. Measures of variables used in the analysis

3.1.1. Measures of founder presence and influence (decision rights)

To capture founder decision rights, we utilize two measures: founder presence and founder influence. Founder presence is an indicator variable that equals one if the founder has a role in the firm as the CEO, chairman, or director, or zero if they do not have any of these roles. Founder influence is a categorical variable with four levels. A founder who is both the CEO and Chairman of the board has the most decision rights over the firm's strategy and operations. Therefore, we designate such a founder as having the highest level of influence (value = 3). We designate a founder who holds only one of those two positions, either as CEO or as Chairman, as having the second-highest level of influence (value = 2). The founder's influence in firms where he is a director but is neither the CEO nor the chairman is lower, although the board is likely to place a higher weight on the founder-directors' opinions and views than on those of other directors. Li and Srinivasan (2011) find that when founders are directors, their firms provide more high-powered incentives to the (non-founder) CEOs than other non-founder firms. We designate the founder-director who is neither the chairman nor the CEO as the third-highest level of influence (value = 1). If the founder is not on the board, there is little influence that he brings to bear on the decisions of the firm. This is the situation where the firm has no founder presence.

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[12] See Hall (1980) and Wahlen, Baginski, and Bradshaw (2015) for discussions on cost-leadership and differentiated firms. Cost-leadership firms typically sell commodity-like products and services with few entry barriers and significant competition. These constraints severely limit the ability of these firms to charge higher prices and improve margins. Instead, they take actions to control costs and offer low prices to gain market share. They rely on their ability to operate efficiently and achieve high asset turnover to survive. Differentiated firms typically charge higher prices to fund their promotional, research, and other product/service costs. They tend to generate higher profit margins by offering superior, price-justified products and are not as subject to capacity or competitive constraints as cost-leadership firms.

[13] Whalen et al. (2015) point out that grocery stores generally adopt a cost-leadership strategy, but there are still some variations within the industry. For instance, Kroger tends to have higher asset turnover and lower profit margins, whereas Whole Foods has lower asset turnover and higher profit margins. In the retail industry, specialty retailers follow a niche strategy and are better able to differentiate themselves than general merchandisers, enabling them to achieve higher profit margins.

We designate this situation as the lowest (zero) level of founder influence (value = 0).[14]

3.1.2. Measures of firm value, transparency, operating performance, and strategy

Following prior literature (e.g., Anderson & Reeb, 2003; Villalonga & Amit, 2006), we use Tobin's Q to proxy for the market valuation of a firm's assets. We calculate Q by adding up the market capitalization, book value of the preferred stock, and book value of debt and then dividing the total by the book value of total assets.

We measure transparency by the market-based measure developed by Anderson et al., 2009 which is comprised of an index of four ranked variables: trading volume, analyst following, analyst forecast error, and bid-ask spread. Based on our rationale that the firm's market valuation is determined by the investors' assessment of insider capture, the market-based measure of transparency is an appropriate measure of transparency for our study. Trading volume is the natural logarithm of the average daily dollar trading volume during that firm-year. Trading volume measures information asymmetry and uncertainty (Leuz & Verrecchia, 2000; Lo, Mamaysky, & Wang, 2004) and is an inverse proxy for transparency. Analyst following is the number of analysts who furnish earnings per share estimates for the firm within nine months of the actual annual earnings announcement date. Greater analyst following forces more information to be released to the market and is, therefore, a direct proxy for transparency. Forecast error is the square of the difference between the mean analyst earnings forecast and actual firm earnings, scaled by the firm's stock price. It is higher when the information is more uncertain and, therefore, is an inverse proxy for transparency. Bid-ask spread is the difference between ask-bid prices divided by the average of the two prices. We measure the bid-ask spread for each firm on the third Wednesday of each month and compute the firm-year average as the average of the twelve bid-ask spreads. The bid-ask spread is a measure of information asymmetry and is, therefore, also an inverse measure of transparency. The opacity index developed by Anderson et al. (2009) is obtained by first ranking each of the four components into deciles where the least transparent firms are given a value of 10 and the least opaque firms a value of 1. The sum of the four values for each firm is then divided by the total possible points (40) to construct the index, which ranges from 0.1 to 1, with a higher value indicating more opacity. We multiply the opacity index by −1 to attain the transparency index, with a higher value pointing to greater transparency.

Following Ali et al. (2007), as a sensitivity test, we also use an accounting measure of transparency. The rationale for using this measure is that it is what the managers control. A limitation of this measure is that it measures only the openness of the financial statements. However, a firm could also become more transparent by other means such as voluntary disclosures, trading by informed investors, and media exposure.

We measure accounting transparency as the negative of the signed Performance Adjusted Discretionary Current Accruals (PADCA), which Kothari, Leone, and Wasley (2005) describe in detail. This measure is based on the estimate of current accruals made by managers that are not explained by non-discretionary factors such as a change in sales, the investment in fixed tangible assets (Property, Plant, and Equipment), and accounting performance (Return on Assets). The signed PADCA measures the income-increasing discretionary accruals and is confined to current accruals that can be utilized by managers to manage income in the short run. A greater value of (−1) * PADCA means that a firm has fewer income-increasing discretionary accruals, a sign of lower earnings manipulation, and greater accounting transparency.

We measure *Operating Performance* using the Demerjian et al. (2012)

model, in which they use the DEA (Data Envelopment Analysis) methodology in converting the following input variables into revenue: (i) net property, plant, and equipment, (ii) net operating leases, (iii) research and development costs, (iv) purchased goodwill, (v) other intangible assets, (vi) cost of goods sold, and (vii) selling, general, and administrative costs.[15] Operating performance is defined as the ratio of outputs over inputs. The scores are scaled by the highest score within the group so that the most (least) efficient firms are assigned a value of 1(0). The benefit of DEA is that it neither assumes a single production function for all the firms nor linearity in the relationship between input costs and revenue. It only imposes weak restrictions of monotonicity and concavity in the relationship between inputs and output. Therefore, it incorporates the flexibility that different firms – both founder and non-founder firms – could use different ways of optimizing the conversion of the costs of inputs into revenue. Particularly, the operating performance can be improved either by more efficient use of assets (from the input variables (i), (ii), (iii), (iv), (v), and (vii)) or/and by greater organizational agility that increases the gross margin (input variable (vi)).

The operating performance measure includes both margin enhancement and cost-reduction performance. We decompose the operating performance using the DuPont profitability framework (Patatoukas, 2012; Radhakrishnan, Wang, & Zhang, 2014) into asset-utilization and margin-enhancement-related measures. We follow the findings from the prior literature (Balsam, Fernando, & Tripathy, 2011; Banker, Mashruwala, & Tripathy, 2014; Berman, Wicks, Kotha, & Jones, 1999; Chang, Fernando, & Tripathy, 2015; David, Hwang, Pei, & Reneau, 2002; Hambrick, 1983; Kotha & Nair, 1995; Nair & Filer, 2003) to determine whether a firm pursues a cost leadership or a differentiation strategy. Consistent with their arguments and findings, we use the ratio of net sales to capital expenditures on property, plant, and equipment (SALES/CAPEX), the ratio of net sales to net book value of plant and equipment (SALES/P&E), and the ratio of employees to total assets (EMPL/ASSETS) to measure resource allocation and labor productivity. These three ratios capture the cost leadership strategy construct as cost leaders focus on the efficient deployment of capital investments and firm resources. Cost leaders strive to achieve their profit goals through higher sales volume to make up for lower margins while using the minimum amount of inputs to generate the desired sales. Their constant pursuit of production efficiency results in a better capability to maximize outputs with a given amount of inputs. Higher levels of SALES/CAPEX, SALES/P&E, and EMPL/ASSET reflect efficiency maximization and thus are consistent with a cost leadership strategy. To capture the differentiation strategy construct, we use the ratio of selling, general, and administrative expenses to net sales (SG&A/SALES), the ratio of research and development expenses to net sales (R&D/SALES), and the ratio of net sales to cost of goods sold (SALE/COGS). Firms adopting a differentiation strategy separate themselves from their competitors by spending more on marketing activities to enhance their corporate image and boost brand recognition. They also invest more in innovation to provide high-quality products and customized services for which customers are willing to pay premium prices. Therefore, higher levels of SG&A/SALES, R&D/SALES, and SALES/COGS will be consistent with a differentiation strategy.

We conduct both a confirmatory factor analysis and a principal component analysis to identify the appropriate variables for cost leadership and differentiation strategies.[16] The factor score based on these

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[14] When a firm has more than one founder, and one of the co-founders holds a more influential role than the other(s), we designate our founder influence variable based on the most influential co-founder within the firm.

[15] We obtain the data from Peter Demerjian's website: https://peterdemerjian.weebly.com/.

[16] Banker et al. (2014) conducted both exploratory and confirmatory factor analyses to confirm that the variables are consistent with the predicted strategy. Similarly, we conduct a confirmatory factor analysis (Table 6 Panel A) and a principal component analysis (Table 6, Panel B) and find that all the variables load consistently with the prior findings.

six firm-level variables is used to determine the firm's strategic position as either a cost leader or a differentiator. We define high (low) scores as above (below) the median factor scores. To separate the cost leadership (CL) and differentiation (Diff) firms, we split the sample into four quadrants: High scores in both CL and Diff; High (low) scores in CL (Diff); Low (High) scores in CL (Diff); and low scores in both CL and Diff.[17] When a firm scores high or low in both CL and Diff, it is unclear what strategy the firm follows. We exclude those firms and categorize the firms with high CL and low Diff scores as CL firms and those with low CL and high Diff as Diff firms.

3.2. The models for testing the effects of founder presence and influence

We examine the relationship between founder decision rights and Tobin's Q using Model (1) below. *Founder Presence* is a binary variable equal to 1 if the founder serves as the CEO, Chairman, or a director on the board, and 0 otherwise. *Founder Influence* is a categorical variable with four levels (Founder CEO and Chairman = 3; Founder CEO or Chairman = 2; Founder Director = 1; No Founder = 0). All variables are defined in the Appendix.

$$\text{Tobin's Q} = \beta_0 + \beta_1 * \text{Founder Presence or Founder Influence} + \sum \beta_{2i} * \text{Controls}_i + \text{Fixed Effects} + \varepsilon \quad (1)$$

We use Model (2) below to test whether the mechanisms we consider – transparency and operating performance – are value-increasing.

$$\text{Tobin's Q} = \beta_0 + \beta_1 * \text{Transparency} + \beta_2 * \text{Operating Performance} + \sum \beta_{3i} * \text{Controls}_i + \text{Fixed Effects} + \varepsilon \quad (2)$$

Hypothesis 2a is tested using Model (3).

$$\text{Operating Performance} = \beta_0 + \beta_1 * \text{Founder Presence or Founder Influence} + \sum \beta_{2i} * \text{Controls}_i + \text{Fixed Effects} + \varepsilon \quad (3)$$

We conduct a mediation analysis to test Hypothesis 2b. Simultaneous equation models (4a) and (4b) are used for this test.

$$\text{Operating Performance} = i_1 + a \, (\text{Founder Presence}) + \text{Control Variables} + \varepsilon$$

$$\text{Tobin's Q} = i_2 + c \, (\text{Founder Presence}) + \text{Control Variables} + \varepsilon$$

$$\text{Tobin's Q} = i_3 + c' \, (\text{Founder Presence}) + b \, (\text{Operating Performance}) + \text{Control Variables} + \varepsilon \quad (4a)$$

$$\text{Operating Performance} = i_1 + a \, (\text{Founder Influence}) + \text{Control Variables} + \varepsilon$$

$$\text{Tobin's Q} = i_2 + c \, (\text{Founder Influence}) + \text{Control Variables} + \varepsilon$$

$$\text{Tobin's Q} = i_3 + c' \, (\text{Founder Influence}) + b \, (\text{Operating Performance}) + \text{Control Variables} + \varepsilon \quad (4b)$$

Hypothesis 2c is tested using Model (5).

$$\text{Transparency} = \beta_0 + \beta_1 * \text{Founder Presence or Founder Influence} + \sum \beta_{2i} * \text{Controls}_i + \text{Fixed Effects} + \varepsilon \quad (5)$$

We conduct a mediation analysis to test Hypothesis 2d. Simultaneous equation models (6a) and (6b) are used for this test.

$$\text{Transparency} = i_1 + a \, (\text{Founder Presence}) + \text{Control Variables} + \varepsilon$$

$$\text{Tobin's Q} = i_2 + c \, (\text{Founder Presence}) + \text{Control Variables} + \varepsilon$$

$$\text{Tobin's Q} = i_3 + c' \, (\text{Founder Presence}) + b \, (\text{Transparency}) + \text{Control Variables} + \varepsilon \quad (6a)$$

$$\text{Transparency} = i_1 + a \, (\text{Founder Influence}) + \text{Control Variables} + \varepsilon$$

$$\text{Tobin's Q} = i_2 + c \, (\text{Founder Influence}) + \text{Control Variables} + \varepsilon$$

$$\text{Tobin's Q} = i_3 + c' \, (\text{Founder Influence}) + b \, (\text{Transparency}) + \text{Control Variables} + \varepsilon \quad (6b)$$

Hypothesis 2e is tested using Models (7a) and (7b).

$$\text{Operating Performance} = i_1 + a \, (\text{Founder Presence}) + \text{Control Variables} + \varepsilon$$

$$\text{Transparency} = i_2 + b \, (\text{Founder Presence}) + \text{Control Variables} + \varepsilon$$

$$\text{Tobin's Q} = i_3 + c \, (\text{Founder Presence}) + d \, (\text{Operating Performance}) + e \, (\text{Transparency}) + \text{Control Variables} + \varepsilon \quad (7a)$$

$$\text{Operating Performance} = i_1 + a \, (\text{Founder Influence}) + \text{Control Variables} + \varepsilon$$

$$\text{Transparency} = i_2 + b \, (\text{Founder Influence}) + \text{Control Variables} + \varepsilon$$

$$\text{Tobin's Q} = i_3 + c \, (\text{Founder Influence}) + d \, (\text{Operating Performance}) + e \, (\text{Transparency}) + \text{Control Variables} + \varepsilon \quad (7b)$$

To test Hypotheses 3a and 3b, we first examine whether founders deploy the two mechanisms selectively for cost leadership and differentiated firms or use both mechanisms in both types of firms. We use Models (3) and (5) separately for the samples of differentiated and cost leadership firms for these tests. We then use Models (8) and (9) to test whether founders use the components of operating performance – gross margin and asset turnover - differently in cost leadership and differentiated firms. The models are applied separately for cost leadership and differentiated firm samples.

$$\text{Gross Margin} = \beta_0 + \beta_1 * \text{Founder Presence or Founder Influence} + \sum \beta_{2i} * \text{Controls}_i + \text{Fixed Effects} + \varepsilon \quad (8)$$

$$\text{Asset turnover} = \beta_0 + \beta_1 * \text{Founder Presence or Founder Influence} + \sum \beta_{2i} * \text{Controls}_i + \text{Fixed Effects} + \varepsilon \quad (9)$$

In all the above models, a positive (negative) coefficient estimate on the *Founder Presence* or *Founder Influence* variable is consistent with the argument that the presence of a founder or founder influence increases (decreases) firm value, transparency, operating performance, gross margin, or asset turnover, as the case might be. Control variables are discussed in detail in the next section.

3.3. Determinants of firm-level firm value, transparency, operating performance, gross margin, and asset turnover

Following previous studies (Anderson et al., 2009; Anderson & Reeb, 2003; Villalonga & Amit, 2006), we control for factors that have been shown to affect value and transparency. All variables are also defined in the Appendix. *Size* is the natural logarithm of total assets or market capitalization, depending on the analysis performed. We expect larger firms to be more transparent since they are under greater scrutiny and more information is available about them. *Firm Age* is the natural logarithm of one plus the number of years since the firm first appears on CRSP or Compustat. We expect older firms to have lower Tobin's Q since it is more difficult for the firms to sustain the higher growth rates usually achieved in the early stage of their life cycles. *Return Volatility* is defined as the standard deviation of monthly stock returns for the 36 months before the last month of the fiscal year. Firms with more volatile returns are harder for analysts to value and for the market to agree on a fair

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[17] We thank the reviewer for suggesting the quadrant analysis.

value of firms' equity. Therefore, we expect a negative relationship between return volatility and transparency. *Return on Assets (ROA)* is the operating income after depreciation expense divided by total assets at the beginning of the fiscal year. We expect firms with higher ROA to be more transparent and have higher Tobin's Q since profitable firms are more attractive to capital market participants. *Growth Opportunities* is research and development expenses divided by the book value of total assets at the end of the fiscal year. We expect firms with greater growth opportunities to have higher Tobin's Q since higher R&D expenditures convey more positive prospects to the market. *Leverage* is either the total long-term debt divided by the book value of total assets at the end of the fiscal year, or book value of total assets minus book value of stockholders' equity divided by book value of stockholders' equity, depending on the analysis performed. *Dual Class* is an indicator variable that equals one if the company has multiple classes of stock and is set to zero otherwise. Investors are more skeptical about insider entrenchment and potential expropriation in firms with dual-class shares. We expect these firms to have lower Q. *S&P 500* is an indicator variable that equals one if the company is included in the S&P 500 index and is set to zero otherwise. We expect firms that are members of the S&P 500 to have higher Q since they are more likely to be viewed favorably by investors. *Beta* is defined as the slope coefficient of the regression of a firm's monthly returns on the S&P 500 monthly returns over the previous 36 months. Ex-ante, we do not have a prediction for the direction of the effect of beta on Q since it can affect Q both ways.[18]

For *Accounting Transparency,* we follow Ali et al. (2007) and control for lagged accruals, mergers and acquisitions, financing, litigation, leverage, market-to-book ratio, a loss indicator, operating cash flow, the standard deviation of quarterly earnings, the firm's beta, the return on assets and the average return on investment for the last five years. *L1Accrual* is the last year's net income before extraordinary items plus depreciation and amortization minus operating cash flows divided by total assets at the beginning of the fiscal year. This variable is used to capture the reversal of accruals over time. *MA* is set to 1 if the company is identified as an acquirer in a merger and acquisition and 0 otherwise. We anticipate firms to have more positive (income-increasing) discretionary accruals when they engage in a merger and acquisition. *Financing* is set to 1 if MA does not equal 1, and the number of outstanding shares increases by at least 10%, or long-term debt increases by at least 20%, or the firm first appears in the CRSP monthly returns database during the fiscal year, and 0 otherwise. *Litigation* is set to 1 if the firm operates in a litigation-prone industry and 0 otherwise. *Leverage* is defined as the total long-term debt divided by total assets at the beginning of the fiscal year. *MB* is the market-to-book ratio. *Loss* is set to 1 if the firm reports a net loss for the fiscal year and 0 otherwise. *CFO* is operating cash flows divided by beginning-of-year total assets. *VAR* is the standard deviation of quarterly earnings over the past five years. *Beta* is the systematic risk, and *ROA* is the current year's return on assets. Both Beta and ROA are also controlled in the regression when the dependent variable is Tobin's Q. *PROA* is the average return on assets for the previous five years.[19]

For *Operating Performance,* we follow Demerjian et al. (2012) and control for the following variables. *Market Share* is the percentage of revenues generated by the firm within its industry, as defined by Fama and French (1997), during the fiscal year. *Free Cash Flow* is an indicator variable that is set to one if the company has nonnegative free cash flow and zero otherwise. *Business Segment Concentration* is the sum of the ratios of the individual business segments' sales to total sales for the fiscal year. *Foreign Currency* is an indicator variable that is set to one if

the company reports a nonzero value for foreign currency adjustment in the fiscal year, and zero otherwise. Size and market share are controlled because larger firms have greater bargaining power in negotiating terms with suppliers and setting prices with customers. Firm age is controlled because the corporate life cycle likely affects the opportunities and resources that are available to managers. Free cash flow is controlled because greater free cash flow allows managers to pursue positive net present value projects more effectively. Business segment concentration and foreign currency are controlled because firms that operate in multiple industries or countries require a broader knowledge base and greater coordination efforts, which makes it more difficult for managers to allocate capital efficiently.[20]

For *Gross Margin* and *Asset Turnover*, we include the control variables shown to be related to a firm's operating performance in the prior literature (e.g., Patatoukas, 2012; Radhakrishnan et al., 2014). We control for market capitalization, firm age, leverage, sales growth, number of business segments, customer concentration, order backlog, and the industry median of gross margin or asset turnover.

3.4. Endogeneity

We address the selection bias resulting from the founders selectively retaining the high value and good operating performance firms and selling off the firms with low value and poor operating performance in three ways. First, we compare the value, operating performance, and bankruptcy risk of firms that became non-founder firms with those of matched firms that remained as founder firms. Secondly, we conduct a two-stage instrumental variable approach wherein we predict the likelihood of a founder staying in the firm in the first stage and use the instrumented founder presence variable in the second stage regression. Lastly, we use an entropy-matching analysis to address the issue of systematic differences between the founder and non-founder firms potentially driving our results.

3.5. Founder entrenchment

Although there is considerable evidence that the alignment effect overwhelms the entrenchment effect, examining how the founder's entrenchment could affect our results is imperative. Specifically, the founders could use their superior knowledge and discretion to hide inside information when they have the incentive to do so.[21] We examine two factors that support the entrenchment effect. First, as the tenure of the founder increases, the founder likely becomes more entrenched in the firm. Therefore, we expect the incremental value creation and the mechanism to create value – operating performance and transparency – to be lower for long-tenured founders compared to short-tenured founders. Second, we examine the effect of the horizon of the founder-CEO at the time of public offering. Dechow and Sloan (1991) show that as the horizon of the CEO decreases, the likelihood of non-value-added activities (like cutting back on R&D) increases. Founders who have long horizons over which they will be associated with the firm will have greater incentives to create incremental value while deferring the personal consumption of such value to the future. However, if the tenure is short, the trade-off between value creation and value consumption tilts more toward consumption. As the horizon at the time of IPO becomes shorter, the incentive to use knowledge and discretion to expropriate the firm's value for personal benefits increases. In both cases, opportunistic personal consumption of value arising from entrenchment needs to be supplemented by opacity to hide it from the other shareholders.

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[18] To reduce the effect of outliers, we winsorize the continuous control variables at the 1% and 99% levels of the empirical distribution.

[19] Standard errors are clustered at the firm level for transparency and Q regressions and Huber-White standard errors are used for analyses to be consistent with prior studies (Anderson et al., 2009).

[20] Standard errors are clustered by firm and year to account for cross-sectional and intertemporal correlation to be consistent with prior studies (Demerjian et al., 2012). We obtain similar results to OLS regression when we use the Tobit regression (untabulated).

[21] We are thankful to the reviewer for pointing this out.

Table 1

Sample composition.

Panel A: Number and Percent of Firm-year Observations by Primary Two-digit SIC Code					
SIC code	Industry description	All firms	Founder firms	Founder firms (%)	Non-founder firms (%)
1	Agricultural Production - Crops	50	1	2.0%	98.0%
2	Agricultural Production - Livestock	9	4	44.4%	55.6%
7	Agricultural Services	14	10	71.4%	28.6%
10	Metal Mining	189	33	17.5%	82.5%
12	Coal Mining	96	1	1.0%	99.0%
13	Oil and Gas extraction	1188	259	21.8%	78.2%
14	Nonmetallic Minerals Mining	59	0	0%	100%
15	General Building Contractors	210	64	30.5%	69.5%
16	Heavy Constructions, Ex. Building	161	4	2.5%	97.5%
17	Special Trade Contractors	72	14	19.4%	80.6%
20	Food and Kindred Products	707	81	11.5%	88.5%
21	Tobacco Products	63	0	0%	100%
22	Textile Mill Products	91	13	14.3%	85.7%
23	Apparel and Other Textile Products	279	100	35.8%	64.2%
24	Lumber and Wood Products	148	10	6.8%	93.2%
25	Furniture and Fixtures	218	14	6.4%	93.6%
26	Paper and Allied Products	348	3	0.9%	99.1%
27	Printing and Publishing	320	21	6.6%	93.4%
28	Chemicals and Allied Products	2852	721	25.3%	74.7%
29	Petroleum and Coal Products	240	9	3.8%	96.3%
30	Rubber and Misc. Plastics Products	222	25	11.3%	88.7%
31	Footwear (Non-Rubber)	113	16	14.2%	85.8%
32	Stone, Clay, and Glass Products	143	2	1.4%	98.6%
33	Primary Metal Industries	444	38	8.6%	91.4%
34	Fabricated Metal Products	358	30	8.4%	91.6%
35	Industrial Machinery and Equipment	1764	325	18.4%	81.6%
36	Electronic & Other Electric Equipment	2457	655	26.7%	73.3%
37	Transportation Equipment	832	79	9.5%	90.5%
38	Instruments and Related Products	1705	411	24.1%	75.9%
39	Miscellaneous Manufacturing Industries	225	41	18.2%	81.8%
40	Railroad Transportation	16	0	0%	100%
41	Local & Suburban Highway Transportation	13	5	38.5%	61.5%
42	Trucking and Warehousing	73	3	4.1%	95.9%
44	Water Transportation	177	25	14.1%	85.9%
45	Transportation by Air	197	24	12.2%	87.8%

Panel A: Number and Percent of Firm-year Observations by Primary Two-digit SIC Code (Continued)					
SIC code	Industry description	All firms	Founder firms	Founder firms (%)	Non-founder firms (%)
46	Pipelines, except Natural Gas	6	0	0%	100%
47	Transportation Services	137	20	14.6%	85.4%
48	Communication	836	262	31.3%	68.7%
49	Electric, Gas & Sanitary Services	221	40	18.1%	81.9%
50	Wholesale Trade - Durable Goods	614	85	13.8%	86.2%
51	Wholesale Trade - Nondurable Goods	326	31	9.5%	90.5%
52	Building Materials & Garden Supplies	71	26	36.6%	63.4%
53	General Merchandise Stores	261	32	12.3%	87.7%
54	Food Stores	155	21	13.5%	86.5%
55	Automotive Dealers & Service Stations	241	63	26.1%	73.9%
56	Apparel and Accessory Stores	473	105	22.2%	77.8%
57	Furniture and Home Furnishings Stores	154	40	26.0%	74.0%
58	Eating and Drinking Places	461	114	24.7%	75.3%
59	Miscellaneous Retail	554	171	30.9%	69.1%
60	Depository Institutions	2601	124	4.8%	95.2%
61	Nondepositing Financial Services	62	36	58.1%	41.9%
62	Investment Advices	145	53	36.6%	63.4%
63	Fire, Marine, or Casualty Insurance	297	35	11.8%	88.2%
64	Insurance, Agents & Broker Services	66	10	15.2%	84.8%
65	Real Estate - Nonresidential Buildings	79	2	2.5%	97.5%
67	Real Estate Investment Trusts	1523	396	26.0%	74.0%
70	Hotels and Other Lodging Places	87	10	11.5%	88.5%
72	Personal Services	106	20	18.9%	81.1%
73	Business Services	3121	1165	37.3%	62.7%
75	Auto Repairs, Services, and Parking	66	0	0%	100%
76	Miscellaneous Services	7	0	0%	100%
78	Motion Pictures	114	52	45.6%	54.4%
79	Amusement and Recreation Services	240	50	20.8%	79.2%
80	Health Services	499	114	22.8%	77.2%

Table 1 (*continued*)

Panel A: Number and Percent of Firm-year Observations by Primary Two-digit SIC Code (Continued)

SIC code	Industry description	All firms	Founder firms	Founder firms (%)	Non-founder firms (%)
81	Legal Services	10	0	0%	100%
82	Educational Services	153	44	28.8%	71.2%
83	Social Services	38	23	60.5%	39.5%
87	Engineering & Management Services	509	141	27.7%	72.3%
99	Non-classifiable Establishments	53	2	3.8%	96.2%
	Total Observations	30,339	6328	20.9%	79.1%

Panel B: Number and Percent of Founder Firm-Year Observations

Year	Total observations	Founder CEO Duality	Founder CEO or Chairman	Founder director	Founder firms	Founder firms (%)
2001	1141	36	57	18	111	9.73%
2002	1246	85	65	39	189	15.17%
2003	1381	104	80	44	228	16.51%
2004	1533	114	103	55	272	17.74%
2005	1569	115	114	61	290	18.48%
2006	2306	181	208	90	479	20.77%
2007	2374	191	213	95	499	21.02%
2008	2369	192	199	104	495	20.89%
2009	2462	208	202	96	506	20.55%
2010	2324	214	244	95	553	23.80%
2011	2263	220	242	99	561	24.79%
2012	2244	206	249	87	542	24.15%
2013	2332	201	255	79	535	22.94%
2014	2486	200	253	87	540	21.72%
2015	2309	173	267	88	528	22.87%
Total	30,339	2440	2751	1137	6328	20.86%

Founder firms are firms where a founder serves as either CEO, Chairman of the board, or director. The sample consists of 30,339 firm-year observations from 2001 to 2015.

Therefore, we expect the incremental value as well as the improved operating performance and transparency to be lower for shorter horizons and longer tenures and vice versa.

Following Srinidhi et al. (2014) and other papers, we also investigate the effect of founder presence and influence when a founder is entrenched because of ownership. We consider founders to be entrenched if they or their family, in aggregate, have >20% voting rights. We split the sample into entrenched-founder and non-entrenched-founder sub-samples to test the differential effects.

4. Empirical results

4.1. Main tests

Table 1 shows the distributions of founder firms across industries in Panel A, and over the sample years, 2001 to 2015 in Panel B. Founder firms constitute 20.86% of our firm years and are widely spread across industries. Table 2 shows the descriptive statistics for our sample firms in Panel A and the correlations in Panel B. We find that, on average, Tobin's Q for founder (non-founder) firms is 2.08 (1.48). Consistent with our expectations, founder firms are smaller, younger, more volatile, less profitable, and exhibit higher growth than non-founder firms. Consistent with prior studies, they also have less leverage, are more likely to have dual shares, are more likely to operate in industries with higher litigation, and have lower market share than non-founder firms. The correlation table in Panel B shows that at the univariate level, the founder's presence is positively associated with Tobin's Q. Multicollinearity is not a concern in our analyses.[22]

Our subsequent analysis proceeds in several stages. We next provide

a preview of the stages connecting our analysis below before we describe the analysis itself. First, we show that both operating performance and transparency are associated with value creation (Table 3) and that both founder presence and founder influence are associated with incremental value creation (Table 4). Second, we show that founder presence and founder influence are significantly positively associated with both operating performance and transparency and use mediation analysis to show that founders are more effective than non-founder managers in improving them and using them as mechanisms for value creation (Table 5, Figs. 1 and 2). Third, we show that founders achieve superior operating performance using tailored value drivers in Cost Leadership and Differentiated firms (Tables 6 and 7). Fourth, we address the endogeneity issue by confirming that underperforming firms are not systematically sold off by the founders – which could also result in the retained firms having higher value (Table 8) and show that after controlling for self-selection of firms that are retained vis-à-vis those that are sold, and for controlling for systematic differences between the founder and non-founder firms, the results still hold (Table 9). We address the founder entrenchment effect in two ways. First, we show that the founder's tenure has a negative effect and horizon has a positive effect on value creation as well as the two value determinants – operating performance and transparency (Table 10). Second, we show that when the founder's family has >20% ownership (thereby increasing the entrenchment due to high ownership), the effects on value, transparency, and operating performance are either very weak or non-existent, whereas when the family is not entrenched (ownership <20%), these effects are highly significant (Table 11). The detailed results of the analyses follow.

Table 3 examines the effect of transparency and operational performance on Tobin's Q. We find both *Transparency and Operational Performance* to be positively and significantly associated with Tobin's Q (with t-statistics of 32.25 and 8.71, respectively), using a sample of both founder and non-founder firms. This result establishes the two variables as value-creation mechanisms.

Table 4 gives the results of the OLS regressions of firm value (*Tobin's*

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[22] We utilize variance inflation factors (VIF) to check for multicollinearity for our analyses for Tobin's Q (Mean = 1.5; Max = 2.2), transparency (Mean = 1.32; Max = 1.61), and operating performance (Mean = 1.2; Max = 1.6). The low VIFs for our independent variables indicate that multicollinearity is not a concern in this study.

Table 2

Descriptive statistics and correlation.

Panel A: Descriptive Statistics	Full Sample			Founder Firms			Non-Founder Firms			Difference in means
	N	Mean	Median	N	Mean	Median	N	Mean	Median	t-value
Value Measure										
Tobin's Q	30,339	1.61	1.23	6328	2.08	1.54	24,011	1.48	1.17	33.23
Transparency										
Transparency (−1*Opacity Index)	30,339	−0.46	−0.45	6328	−0.46	−0.45	24,011	−0.46	−0.45	1.20
Trading Volume	30,339	16.17	16.17	6328	16.10	16.05	24,011	16.18	16.20	−3.46
Analyst Following	30,339	11.27	9	6328	11.75	9	24,011	11.15	9	5.04
Forecast Error (%)	30,339	1.77	0.03	6328	1.63	0.03	24,011	1.80	0.03	−1.35
Bid-Ask Spread (%)	30,339	0.25	0.12	6328	0.22	0.12	24,011	0.26	0.13	−7.11
Accounting Transparency										
Accounting Transparency (−1*PADCA)	22,622	−0.02	−0.01	4924	−0.01	0.00	17,698	−0.03	−0.02	6.33
Performance										
Operating Performance	22,814	0.34	0.29	4949	0.33	0.29	17,865	0.34	0.29	−0.87

Panel A: Descriptive Statistics	Full Sample			Founder Firms			Non-Founder Firms			Difference in Means
Control Variables	N	Mean	Median	N	Mean	Median	N	Mean	Median	t-value
Size	30,339	7.35	7.29	6328	6.79	6.59	24,011	7.50	7.44	−30.74
Ln (Firm Age)	30,339	2.71	2.77	6328	2.41	2.48	24,011	2.79	2.83	−32.59
Return Volatility	30,339	0.12	0.11	6328	0.14	0.13	24,011	0.12	0.11	20.47
ROA	30,339	0.07	0.07	6328	0.04	0.07	24,011	0.07	0.07	−12.55
Growth Opportunities	30,339	0.04	0.00	6328	0.07	0.01	24,011	0.03	0.00	31.68
Leverage	30,339	0.20	0.15	6328	0.17	0.07	24,011	0.20	0.16	−11.46
Dual Class	30,339	0.08	0	6328	0.11	0	24,011	0.07	0	10.72
S&P 500	30,339	0.20	0	6328	0.13	0	24,011	0.22	0	−14.35
Beta	30,339	1.30	1.19	6328	1.43	1.31	24,011	1.27	1.15	13.09
L1Accrual	22,622	−0.03	−0.02	4924	−0.04	−0.03	17,698	−0.02	−0.01	−10.4
MA	22,622	0.46	0	4924	0.44	0	17,698	0.46	0	−2.58
Financing	22,622	0.25	0	4924	0.24	0	17,698	0.25	0	−1.62
Litigation	22,622	0.29	0	4924	0.40	0	17,698	0.26	0	19.41
MB	22,622	3.10	2.25	4924	3.43	2.48	17,698	3.01	2.20	5.9
Loss	22,622	0.25	0	4924	0.29	0	17,698	0.23	0	8.27
CFO	22,622	0.10	0.10	4924	0.10	0.11	17,698	0.10	0.10	−1.93
VAR	22,622	0.03	0.02	4924	0.04	0.02	17,698	0.03	0.01	12.55
ROA	22,622	0.02	0.05	4924	0.00	0.04	17,698	0.02	0.05	−8.22
PROA	22,622	0.02	0.04	4924	0.00	0.04	17,698	0.02	0.04	−11.87
Market Share	22,814	0.03	0.00	4949	0.01	0.00	17,865	0.03	0.01	−18.22
Free Cash Flow Indicator	22,814	0.45	0	4949	0.48	0	17,865	0.44	0	6.09
Business Segment Concentration	22,814	0.96	1	4949	0.97	1	17,865	0.96	1	4.42
Foreign Currency Indicator	22,814	0.36	0	4949	0.35	0	17,865	0.36	0	−1.34

Panel B: Correlation	Founder Presence	Tobin's Q	Trans-parency	OP	Size	Ln (Firm Age)	Return Volatility	ROA	GO	Leverage	Dual Class	S&P 500	Beta	Market Share	FCF	BS	FC
Founder Presence		0.177	0.004	−0.006	−0.166	−0.179	0.097	−0.069	0.178	−0.123	0.043	−0.088	0.064	−0.120	0.040	0.029	−0.009
		<0.0001	*0.542*	*0.383*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*0.181*
Tobin's Q	0.152		0.261	0.119	−0.208	−0.135	−0.014	0.113	0.346	−0.160	−0.052	0.043	−0.080	−0.079	0.179	0.052	−0.028
	<0.0001		*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*0.029*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*
Transparency	0.001	0.346		0.375	0.624	0.158	−0.381	0.363	−0.113	0.012	−0.067	0.488	−0.122	0.238	0.280	−0.059	0.047
	0.898	*<0.0001*		*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*
Operating Performance (OP)	−0.008	0.152	0.417		0.480	0.124	−0.173	0.323	−0.029	−0.007	−0.011	0.407	−0.118	0.291	0.253	−0.048	0.030
	0.226	*<0.0001*	*<0.0001*		*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*0.295*	*0.095*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*
Size	−0.173	−0.171	0.641	0.443		0.343	−0.366	0.267	−0.338	0.279	0.039	0.643	−0.119	0.516	0.223	−0.140	0.090
	<0.0001	*<0.0001*	*<0.0001*	*<0.0001*		*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*
Ln (Firm Age)	−0.186	−0.100	0.160	0.109	0.327		−0.273	0.138	−0.145	−0.011	−0.001	0.344	−0.120	0.227	−0.032	−0.077	0.055
	<0.0001	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*		*<0.0001*	*<0.0001*	*<0.0001*	*0.098*	*0.840*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*
Return Volatility	0.120	−0.136	−0.416	−0.201	−0.414	−0.315		−0.347	0.249	0.031	−0.035	−0.263	0.552	−0.181	−0.140	0.068	−0.029
	<0.0001	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*		*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*
Return on Assets	−0.047	0.427	0.415	0.367	0.214	0.122	−0.375		−0.503	−0.037	0.010	0.172	−0.195	0.103	0.318	−0.047	0.004
	<0.0001	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*		*<0.0001*	*0.128*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*0.581*
Growth Opportunities (GO)	0.123	0.302	−0.007	0.027	−0.237	−0.048	0.143	−0.204		−0.184	−0.080	−0.077	0.126	−0.138	−0.063	0.067	0.060
	<0.0001	*<0.0001*	*0.277*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*		*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*
Leverage	−0.166	−0.229	0.069	0.013	0.410	0.061	−0.067	−0.040	−0.296		0.05601	0.031	0.050	0.098	0.059	−0.069	−0.058
	<0.0001	*<0.0001*	*<0.0001*	*0.047*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*		*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*
DualClass	0.043	−0.067	−0.065	−0.005	0.048	0.005	−0.045	−0.014	−0.116	0.047		−0.033	−0.024	0.023	0.031	−0.008	−0.030
	<0.0001	*<0.0001*	*<0.0001*	*0.477*	*<0.0001*	*0.449*	*<0.0001*	*0.038*	*<0.0001*	*<0.0001*		*<0.0001*	*0.000*	*0.001*	*<0.0001*	*0.235*	*<0.0001*
SP500	−0.088	0.084	0.508	0.405	0.617	0.344	−0.312	0.197	0.019	0.097	−0.033		−0.129	0.387	0.205	−0.100	0.042
	<0.0001	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*0.005*	*<0.0001*	*<0.0001*		*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*
Beta	0.065	−0.139	−0.128	−0.125	−0.109	−0.121	0.515	−0.246	0.102	0.004	−0.025	−0.140		−0.118	−0.111	0.009	0.057
	<0.0001	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*0.533*	*0.000*	*<0.0001*		*<0.0001*	*<0.0001*	*0.169*	*<0.0001*
Market Share	−0.221	−0.159	0.421	0.305	0.748	0.349	−0.382	0.276	−0.254	0.321	0.058	0.494	−0.165		0.129	−0.074	0.045
	<0.0001	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*		*<0.0001*	*<0.0001*	*<0.0001*
Free Cash Flow (FCF)	0.040	0.223	0.285	0.275	0.210	−0.042	−0.169	0.320	−0.037	0.028	0.031	0.205	−0.125	0.150		−0.037	−0.049
	<0.0001	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*		*<0.0001*	*<0.0001*
Business Segment (BS)	0.011	0.015	−0.052	−0.064	−0.112	−0.061	0.064	−0.056	0.045	−0.063	−0.029	−0.078	0.013	−0.082	−0.043		−0.022
	0.105	*0.022*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*0.044*	*<0.0001*	*<0.0001*		*0.001*
Foreign Currency (FC)	−0.009	−0.024	0.048	0.030	0.088	0.056	−0.026	−0.024	0.202	−0.033	−0.030	0.042	0.065	0.061	−0.049	0.005	
	0.181	*0.000*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*0.000*	*0.000*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*0.458*	

Notes: Pearson correlations appear above the diagonal, and Spearman correlations appear below. Italicized *p*-values appear below the correlations.

Panel A presents descriptive statistics on firm-specific value, transparency, accounting transparency, operating performance, and control variables. The sample consists of the firms listed in the MSCI GMI Ratings database from 2001 to 2015 with non-missing values for the measures of value, transparency, accounting transparency, operating performance, and control variables. The sample sizes vary among analyses depending on the data available to calculate the variables. The initial sample for value and transparency analyses has 30,339 observations. Additional data required for analyses on accounting transparency and operating performance reduced the sample to 22,622 and 22,814 observations, respectively. Variables are defined in the appendix.

Table 3
Mechanisms that contribute to greater value.

	Dependent Variable	
Variables	Tobin's Q	
Operating Performance$_t$	0.904	***
	(8.71)	
Transparency$_t$	3.361	***
	(32.25)	
Size$_t$	−0.505	***
	(−27.36)	
Ln(Firm Age)$_t$	−0.071	***
	(−4.49)	
Return Volatility$_t$	1.199	***
	(4.17)	
Return on Assets$_t$	1.795	***
	(9.62)	
Growth Opportunities$_t$	4.436	***
	(14.60)	
Leverage$_t$	0.278	***
	(3.36)	
Dual Class$_t$	0.115	***
	(3.01)	
S&P 500$_t$	0.471	***
	(12.28)	
Beta$_t$	−0.102	***
	(−5.88)	
Intercept	6.833	***
	(28.46)	
Year and Industry fixed effect	Yes	
N	22,814	
Adjusted R^2	0.470	

This table presents results on the impact of operating performance and transparency on the firm-level measure of value. *Operating Performance and Transparency* are the key variables of interest in the regressions. The year and industry-fixed effects are included in all regressions. The t-statistics reported in parentheses are based on two-tailed tests and standard errors adjusted for the firm clustering effect. *, **, *** denote statistical significance at the 10%, 5%, and 1% levels, respectively. See the Appendix for variable definitions.

Table 4
Effect of founder presence/influence on firm value.

	Dependent Variable			
Variables	Tobin's Q			
Founder Presence$_t$	0.215			
	(6.10)	***		
Founder Influence$_t$			0.078	
			(5.29)	***
Size$_t$	−0.201	***	−0.201	***
	(−15.18)		(−15.14)	
Ln (Firm Age)$_t$	−0.112	***	−0.114	***
	(−7.01)		(−7.13)	
Return Volatility$_t$	0.769	***	0.766	***
	(2.65)		(2.63)	
Return on Assets$_t$	2.868	***	2.870	***
	(15.58)		(15.57)	
Growth Opportunities$_t$	6.560	***	6.614	***
	(19.64)		(19.82)	
Leverage$_t$	0.053		0.048	
	(0.61)		(0.55)	
Dual Class$_t$	−0.068	*	−0.066	
	(−1.69)		(−1.62)	
S&P 500$_t$	0.642	***	0.643	***
	(15.73)		(15.70)	
Beta$_t$	−0.113	***	−0.112	***
	(−6.28)		(−6.22)	
Intercept	2.673	***	2.674	***
	(12.61)		(12.66)	
Year and Industry fixed effect	Yes		Yes	
N	30,339		30,339	
Adjusted R^2	0.415		0.414	

This table presents results on the impact of founder presence and influence on the firm-level measure of value. Founder Presence or Founder Influence is the key variable of interest in each regression. Year and industry-fixed effects are included in all regressions. The t-statistics reported in parentheses are based on two-tailed tests and standard errors adjusted for the firm clustering effect. *, **, *** denote statistical significance at the 10%, 5%, and 1% levels, respectively. See the Appendix for variable definitions.

Q) on founder presence and influence. The positive coefficient on *Founder Presence* (with a t-statistic of 6.10) confirms that the prior results in the literature, which show founders add incremental value, also hold in our sample. The value of the coefficient on founder presence, 0.215, indicates that after controlling for the relevant variables discussed earlier, the presence of the founder results in an economically material increase of 13% of the value of the firm.[23] Further, it represents 20% of the interquartile range of Tobin's Q (value = 1.08; the interquartile range is 1.92 (for 75th percentile) - 0.84 (for 25th percentile)).

The positive coefficient on *Founder Influence* (with t-statistics of 5.29) supports Hypothesis 1 that the influence of the founder is positively associated with firm value. The incremental value resulting from higher founder influence is also economically material. The presence of a founder adds 21.5% to the market value of the firm on average. It also constitutes about 20% of the interquartile range of Tobin's Q (1.92–0.84 = 1.08). Similarly, the difference in Tobin's Q between a founder with the highest influence compared to a firm with no founder influence is 0.078*3 = 0.234, implying an incremental value of 23.4% of the market value of the firm.

Table 5 Panel A gives the results on the relationship between founder presence/influence and operating performance. The positive coefficients on *Founder Presence* and *Founder Influence* (with t-statistics of 7.00 and 6.59) suggest that firms with founder presence have better operating performance than non-founder firms and that the incremental operating performance is higher in firms where the founder has more decision rights. The coefficient for founder presence, 0.017, amounts to a 5% improvement compared to the mean value of 0.34. These results provide support for

hypothesis 2a. Panel B shows the results for *Transparency*. The positive coefficients on *Founder Presence* and *Founder Influence* (with t-statistics of 5.70 and 4.97) indicate that founder firms are more transparent than non-founder firms and that incremental transparency is higher for firms where the founder has higher decision rights. The coefficient for founder presence, 0.022, amounts to a 4.78% improvement in transparency over the mean value of −0.46. These results support hypothesis 2c.

The mediation analysis wherein we show that Operating Performance and Transparency act as mediating variables between founder presence/influence and Tobin's Q both individually and jointly are shown in Panels C and D of Table 5 and Figs. 1 and 2. These results support hypotheses 2b, 2d, and 2e. Together, these results support the hypotheses that both operating performance and transparency, the two mechanisms that create firm value, increase with founder presence and influence.

Table 6 Panel A, reports results of the confirmatory factor analysis that measure the construct validity and reliability of the variables used to capture the two strategic dimensions. The goodness of fit index, 0.9840, and the adjusted goodness of fit index, 0.9581, exceed the recommended thresholds of 0.90 and 0.80, respectively. Additionally, our comparative fit and non-normed index measures are also above the recommended thresholds of 0.93 and 0.90 which have been commonly used in previous studies (Balsam et al., 2011; Byrne, 2001). Finally, the significant t-statistics for factor loadings on the variables indicate that these two sets of variables are reasonable measures of the firm's two strategic approaches. Panel B presents a principal component analysis to attest to the validity of each individual variable used to represent the two firm strategies. In accordance with the findings in previous studies (Balsam et al., 2011; Banker et al., 2014), we find that the factor loadings of all variables are consistent with the respective strategies they stand for. For instance, the SG&A/SALES variable primarily loads onto the Differentiation factor (factor loading = 0.87) and barely loads onto

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[23] The mean value of Tobin's Q is 1.61 (from Table 2). The increase in Tobin's Q relative to the mean value = 0.215/1.61 = 0.13.

Table 5

Effect of founder presence/influence on mechanisms that lead to greater value.

Panel A: Operating Performance

	Dependent Variable			
Variables	Operating Performance			
Founder Presence$_t$	0.017 (7.00)	***		
Founder Influence$_t$			0.007 (6.59)	***
Size$_t$	0.046 (52.12)	***	0.046 (52.09)	***
Market Share$_t$	0.431 (14.75)	***	0.431 (14.75)	***
Free Cash Flow Indicator$_t$	0.061 (28.86)	***	0.061 (28.93)	***
Ln (Firm Age)$_t$	−0.009 (−6.39)	***	−0.009 (−6.43)	***
Business Segment Concentration$_t$	0.017 (2.56)	***	0.016 (2.53)	**
Foreign Currency Indicator$_t$	0.004 (1.85)	*	0.004 (1.87)	*
Intercept	−0.111 (−6.42)	***	−0.110 (−6.38)	***
Year and Industry fixed effect	Yes		Yes	
N	22,814		22,814	
Adjusted R^2	0.397		0.397	

Panel B: Transparency

	Dependent Variable			
Variables	Transparency			
Founder Presence$_t$	0.022 (5.70)	***		
Founder Influence$_t$			0.008 (4.97)	***
Size$_t$	0.083 (60.77)	***	0.083 (60.77)	***
Ln (Firm Age) $_t$	−0.014 (−7.29)	***	−0.015 (−7.36)	***
Return Volatility$_t$	−0.286 (−9.93)	***	−0.286 (−9.90)	***
Return on Assets$_{t-1}$	0.246 (19.59)	***	0.246 (19.54)	***
Growth Opportunities$_t$	0.470 (17.56)	***	0.475 (17.77)	***
Leverage$_t$	−0.083 (−8.62)	***	−0.083 (−8.65)	***
Intercept	−1.216 (−41.47)	***	−1.216 (−41.46)	***
Year and Industry fixed effect	Yes		Yes	
N	30,339		30,339	
Adjusted R^2	0.555		0.554	

Panel C: Mediation analyses for founder presence

Mediation Analysis for Operating Performance[a]

Operating Performance $= i_1 + a$ (Founder Presence) + Control Variables + ε.   (1a)
Tobin's Q $= i_2 + c$ (Founder Presence) + Control Variables + ε.   (1b)
Tobin's Q $= i_3 + c'$ (Founder Presence) + b (Operating Performance) + Control Variables + ε.   (1c)

Model/Test	Variable	Coeff. Estimate	Z-stat	p-value	95% Confidence Intervals	
Model 1a	a	0.024	9.38	***		
Model 1c	b	0.636	9.73	***		
Model 1b	c	0.278	13.57	***		
Model 1c	c'	0.263	12.88	***		
Bootstrapping result	ab	0.015	6.89	***	0.011	0.019

Mediation Analysis for Transparency

Transparency = i_1 + a (Founder Presence) + Control Variables + ε. (2a)
Tobin's Q = i_2 + c (Founder Presence) + Control Variables + ε. (2b)
Tobin's Q = i_3 + c' (Founder Presence) + b (Transparency) + Control Variables + ε. (2c)

Model/Test	Variable	Coeff. Estimate	Z-stat	p-value	95% Confidence Intervals	
Model 2a	a	0.036	15.68	***		
Model 2c	b	3.314	51.30	***		
Model 2b	c	0.274	12.70	***		
Model 2c	c'	0.156	8.33	***		
Bootstrapping result	ab	0.118	14.59	***	0.102	0.134

Mediation Analysis for both Operating Performance and Transparency[b]

Operating Performance = i_1 + a (Founder Presence) + Control Variables + ε. (3a)
Transparency = i_2 + b (Founder Presence) + Control Variables + ε. (3b)
Tobin's Q = i_3 + c (Founder Presence) + d (Operating Performance) + e (Transparency) + Control Variables + ε. (3c)

Model/Test	Variable	Coeff. Estimate	Z-stat	p-value	95% Confidence Intervals	
Model 3a	a	0.024	9.66	***		
Model 3b	b	0.036	15.93	***		
Model 3c	c	0.142	8.80	***		
Model 3c	d	0.832	17.76	***		
Model 3c	e	3.367	68.78	***		
Bootstrapping result	ad	0.020	8.48	***	0.015	0.024
Bootstrapping result	be	0.120	15.52	***	0.105	0.135

Panel D: Mediation Analyses for Founder Influence[c]

Mediation Analysis for Operating Performance

Operating Performance = i_1 + a (Founder Influence) + Control Variables + ε. (1a)
Tobin's Q = i_2 + c (Founder Influence) + Control Variables + ε. (1b)
Tobin's Q = i_3 + c' (Founder Influence) + b (Operating Performance) + Control Variables + ε. (1c)

Model/Test	Variable	Coeff. Estimate	Z-stat	p-value	95% Confidence Intervals	
Model 1a	a	0.008	8.09	***		
Model 1c	b	0.644	10.23	***		
Model 1b	c	0.099	11.72	***		
Model 1c	c'	0.094	11.10	***		
Bootstrapping result	ab	0.005	6.22	***	0.004	0.007

Mediation Analysis for Transparency

Transparency = i_1 + a (Founder Influence) + Control Variables + ε. (2a)
Tobin's Q = i_2 + c (Founder Influence) + Control Variables + ε. (2b)
Tobin's Q = i_3 + c' (Founder Influence) + b (Transparency) + Control Variables + ε. (2c)

Model/Test	Variable	Coeff. Estimate	Z-stat	p-value	95% Confidence Intervals	
Model 2a	a	0.014	13.98	***		
Model 2c	b	3.328	51.59	***		
Model 2b	c	0.096	10.58	***		
Model 2c	c'	0.051	6.44	***		
Bootstrapping result	ab	0.045	13.54	***	0.038	0.051

Mediation Analysis for both Operating Performance and Transparency[d]

Operating Performance = i_1 + a (Founder Influence) + Control Variables + ε. (3a)
Transparency = i_2 + b (Founder Influence) + Control Variables + ε. (3b)
Tobin's Q = i_3 + c (Founder Influence) + d (Operating Performance) + e (Transparency) + Control Variables + ε. (3c)

Model/Test	Variable	Coeff. Estimate	Z-stat	p-value	95% Confidence Intervals	
Model 3a	a	0.008	8.05	***		
Model 3b	b	0.014	14.29	***		
Model 3c	c	0.046	6.80	***		
Model 3c	d	0.838	17.88	***		
Model 3c	e	3.381	69.07	***		
Bootstrapping result	ad	0.007	7.34	***	0.005	0.009
Bootstrapping result	be	0.046	14.00	***	0.039	0.052

This panel presents results on the impact of the founder on firm-level measures of transparency. *Founder Presence* or *Founder Influence* is the key variable of interest in the regressions. Year and industry fixed effects are included. The t-statistics reported in parentheses are based on two-tailed tests and standard errors adjusted for the firm clustering effect. *, **, *** denote statistical significance at the 10%, 5%, and 1% levels, respectively. See the Appendix for variable definitions.

This panel presents results on the impact of founder presence and influence on the firm-level measure of operating performance. *Founder Presence* or *Founder Influence is*

the key variable of interest. Operating performance is estimated by year. Year and industry-fixed effects are included. The t-statistics reported in parentheses are based on standard errors clustered by firm and year. *, **, *** denote statistical significance at the 10%, 5%, and 1% levels, respectively. See the Appendix for variable definitions.

[a] See Fig. 1a.
[b] See Fig. 2a.
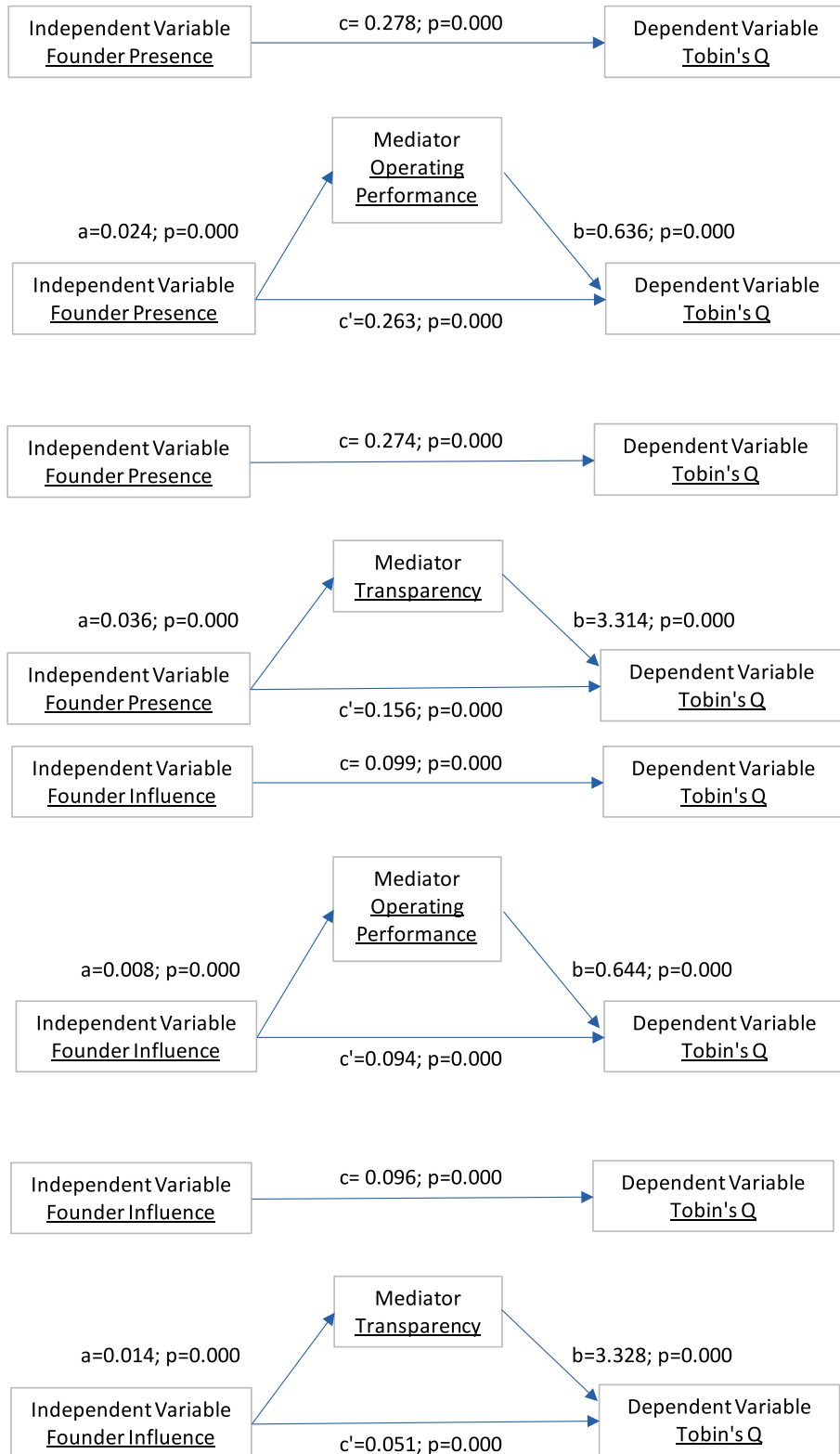[c] See Fig. 1b.
[d] See Fig. 2b.

Fig. 1. a: Individual mediation analysis for operating performance and transparency between founder presence and Tobin's Q.
b: Individual mediation analysis for operating performance and transparency between founder influence and Tobin's Q.
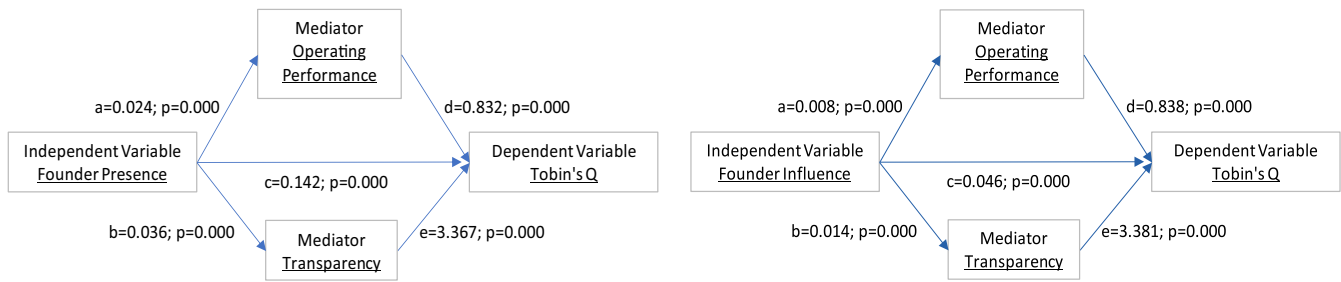
Fig. 2. a: Mediation analysis for both operating performance and transparency between founder presence and Tobin's Q.
b: Mediation analysis for both operating performance and transparency between founder influence and Tobin's Q.

Table 6
Panel A: Confirmatory factor analysis to confirm strategy constructs.

Variables	Cost leadership strategy factor loading (t-value)		Differentiation strategy factor loading (t-value)	
SG&A/SALES			0.87	(154.23)
R&D/SALES			0.80	(150.74)
SALES/COGS			0.28	(67.94)
SALES/CAPEX	0.54	(148.00)		
SALES/P&E	1.29	(171.08)		
EMPL/ASSETS	0.06	(18.88)		
Goodness of Fit Measures				
Goodness of fit index			0.9840	
Goodness of fit index adjusted for degrees of freedom			0.9581	
Bentler's comparative fit index			0.9664	
Bentler & Bonett's nonnormed index			0.9370	

Panel B: Principal Component Analysis: Factor Loading			
	Cost leadership factor loading	Differentiation factor loading	Final communality
SG&A/SALES	0.08	0.87	0.762
R&D/SALES	0.06	0.87	0.758
SALES/COGS	−0.08	0.53	0.286
SALES/CAPEX	0.91	−0.06	0.833
SALES/P&E	0.92	−0.02	0.840
EMPL/ASSETS	0.15	−0.29	0.106
Cronbach's α	0.78	0.84	

SG&A/SALES = Average of SG&A/net sales from year t-1 to t-5.
R&D/SALES = Average of R&D expenses/net sales from year t-1 to t-5.
SALES/COGS = Average of net sales/cost of goods sold from year t-1 to t-5.
SALES/CAPEX = Average of net sales/capital expenditure from year t-1 to t-5.
SALES/P&E = Average of net sales/net book value of property, plant, and equipment from year t-1 to t-5.
EMPL/ASSETS = Number of employees/average total assets from year t-1 to t-5.

the Cost Leadership factor (factor loading = 0.08). In contrast, SALES/CAPEX mainly loads on the Cost Leadership factor (factor loading = 0.91) with a minor loading on the Differentiation factor (factor loading = −0.06). And the Cronbach's Coefficient Alphas, a measure of how closely related a set of elements are as a group (i.e., internal consistency), for both sets of three variables that correspond to the two strategies are greater than the recommended cutoff of 0.70 (Nunnally, 1978).

In Table 7, we investigate how founders in cost-leadership and differentiation firms improve their firm's operating performance in different ways. Panel A of Table 7 gives the descriptive statistics of the operating performance measures and control variables separated into cost-leadership and differentiation sub-samples. As expected, cost-leadership firms have higher asset turnover, whereas differentiated firms have a greater gross margin. This indicates that these are valid performance measures for these two strategies.

In Panel B of Table 7, consistent with our arguments, we find a

positive association between founders' presence/influence and asset turnover in cost-leadership firms (with t-statistics of 4.34 and 3.97), suggesting that founders use their knowledge, ability, and discretion to boost asset utilization in cost-leadership firms thereby improving operational efficiency and lowering the cost more effectively than firms without founders. In contrast, we find founder presence/influence to be negatively associated with asset turnover in differentiation firms. In Panel C of Table 7, we find that founder presence/influence has a positive effect on gross margin (with t-statistics of 5.19 and 4.51) in differentiation firms but a negative effect in cost leadership firms. These results are consistent with Hypotheses 3a and 3b. These results show that founder firms are better than non-founder firms in identifying and implementing the appropriate strategies for their firms depending on the

Table 7

Panel A: Descriptive statistics for cost-leadership and differentiation firms.

Sample	All firms		Cost-leadership firms		Differentiation firms	
	N = 2269		N = 1134		N = 1135	
Variables	Mean	Median	Mean	Median	Mean	Median
Asset Turnover	1.45	1.14	2.09	1.80	0.81	0.78
Gross Margin	0.34	0.32	0.22	0.21	0.46	0.44
Size	7.11	6.95	6.92	6.76	7.30	7.17
Ln (Firm Age)	3.00	3.00	2.98	2.94	3.02	3.00
Leverage	1.15	0.86	1.36	1.07	0.95	0.61
SGrowth	0.10	0.08	0.10	0.08	0.10	0.08
Num_SEG	2.72	3	2.83	3	2.61	2
RankCC	0.49	0.50	0.48	0.50	0.49	0.50
Order_Backlog	0.52	0.19	0.76	0.22	0.28	0.18
IndustryMedianAT	1.14	1.00	1.35	1.15	0.93	0.90
IndustryMedianGM	0.34	0.35	0.30	0.29	0.38	0.37

Panel B: Effect of Founder on Asset Turnover in Cost-Leadership and Differentiation Firms

Sample	Cost-leadership firms				Differentiation firms			
	Dependent Variable: Asset Turnover							
Variables	(1)		(2)		(3)		(4)	
Founder Presence$_t$	0.314 (4.34)	***			−0.053 (−2.37)	**		
Founder Influence$_t$			0.118 (3.97)	***			−0.017 (−1.80)	*
Size$_{t-1}$	−0.090 (−4.55)	***	−0.091 (−4.58)	***	−0.024 (−3.57)	***	−0.025 (−3.64)	***
Ln (Firm Age)$_t$	−0.001 (−0.03)		0.001 (0.02)		0.010 (0.58)		0.011 (0.64)	
Leverage$_{t-1}$	0.009 (1.01)		0.009 (0.95)		−0.003 (−0.62)		−0.003 (−0.64)	
SGrowth$_{t-1}$	0.217 (2.09)	**	0.217 (2.09)	**	0.043 (1.09)		0.044 (1.12)	
Num_SEG$_t$	−0.046 (−3.06)	***	−0.046 (−3.07)	***	0.009 (1.31)		0.009 (1.35)	
RankCC$_t$	−0.378 (−3.27)	***	−0.384 (−3.32)	***	−0.194 (−4.84)	***	−0.195 (−4.85)	***
Order_Backlog$_{t-1}$	0.192 (5.41)	***	0.188 (5.20)	***	0.179 (5.39)	***	0.180 (5.38)	***
IndustryMedianAT$_t$	0.842 (3.27)	***	0.842 (3.27)	***	0.069 (0.38)		0.075 (0.42)	
Intercept	0.763 (1.92)	*	0.784 (2.04)	**	0.626 (3.78)	***	0.624 (3.77)	***
Year and Industry fixed effect	Yes		Yes		Yes		Yes	
N	1134		1134		1135		1135	
Adjusted R^2	0.528		0.526		0.281		0.280	

Panel C: Effect of Founder on Gross Margin in Cost-Leadership and Differentiation Firms

Sample	Cost-leadership firms				Differentiation firms			
	Dependent Variable: Gross Margin							
Variables	(1)		(2)		(3)		(4)	
Founder Presence$_t$	−0.037 (−4.46)	***			0.052 (5.19)	***		
Founder Influence$_t$			−0.017 (−4.89)	***			0.019 (4.51)	***
Size$_{t-1}$	0.001 (0.61)		0.001 (0.54)		0.034 (10.92)	***	0.035 (10.97)	***
Ln (Firm Age)$_t$	0.002 (0.32)		0.001 (0.16)		−0.002 (−0.29)		−0.002 (−0.30)	
Leverage$_{t-1}$	−0.002 (−2.00)	**	−0.002 (−1.89)	*	−0.002 (−1.06)		−0.002 (−1.00)	
SGrowth$_{t-1}$	0.009 (0.66)		0.009 (0.66)		−0.018 (−0.94)		−0.020 (−0.99)	
Num_SEG$_t$	0.000 (0.09)		0.000 (0.15)		−0.022 (−8.78)	***	−0.022 (−8.83)	***
RankCC$_t$	−0.012 (−0.99)		−0.011 (−0.93)		−0.070 (−3.71)	***	−0.069 (−3.63)	***
Order_Backlog$_{t-1}$	−0.016 (−3.61)	***	−0.014 (−3.35)	***	−0.074 (−4.95)	***	−0.076 (−4.95)	***

Table 7 (*continued*)

Panel C: Effect of Founder on Gross Margin in Cost-Leadership and Differentiation Firms

Sample	Cost-leadership firms				Differentiation firms			
	Dependent Variable: Gross Margin							
Variables	(1)		(2)		(3)		(4)	
	−0.164		−0.165		0.741		0.736	
IndustryMedianGM$_t$	(−0.96)		(−0.97)		(2.28)	**	(2.27)	**
	0.311		0.312		0.146		0.144	
Intercept	(3.40)	***	(3.41)	***	(0.73)		(0.72)	
Year and Industry fixed effect	Yes		Yes		Yes		Yes	
N	1134		1134		1135		1135	
Adjusted R^2	0.292		0.296		0.383		0.380	

This panel presents results on the differences in impact of founder presence and influence on gross margin between firms that adopt a cost-leadership strategy and firms that adopt a differentiation strategy. The t-statistics are reported in parentheses. *, **, *** denote statistical significance at the 10%, 5%, and 1% levels, respectively. See the Appendix for variable definitions.

This panel presents results on the differences in impact of founder presence and influence on asset turnover between firms that adopt a cost-leadership strategy and firms that adopt a differentiation strategy. The t-statistics are reported in parentheses. *, **, *** denote statistical significance at the 10%, 5%, and 1% levels, respectively. See the Appendix for variable definitions.

competitive environment.[24]

4.2. Endogeneity tests

Whether a firm is a founder firm or not could be endogenously determined by the founders selectively retaining firms and exiting the others. This results in an endogenous choice of founder firms and could result in a sample selection bias. We address this issue in the following tests.

Because the founders are better informed about the prospects of the firm than the rest of the market participants, they could selectively retain firms that are undervalued and/or have better operating performance while exiting (selling off) the firms that are overvalued and/or have poorer operating performance. Furthermore, they could selectively exit the firms whose bankruptcy risk is higher. This results in an endogenous choice of founder firms and could result in a sample selection bias. To address this issue, we compare Tobin's Q, operating performance, and bankruptcy risk (Altman Z-score) between the firms where founders exit and matched firms where the founders continue during the two years before founder firms become non-founder firms. The results of this test are reported in Table 8. We find no significant difference in firm value, operating performance, and bankruptcy risk between firms retained by the founders and the firms from which founders exit.[25] Our analysis covers the two-year period before the exit, showing that founders do not systematically sell or remove themselves from firms that have a lower value or operating performance or have higher bankruptcy risk.

There could be other systematic reasons for the founders to selectively exit their firms. We address this issue more generally by a two-stage instrumental variable (IV) model. IVs should satisfy two criteria:

(i) they should be theoretically and empirically associated with the independent variable (Relevance criterion); and (ii) they should not be associated with the error term of the second-stage regression (Exogeneity criterion). In the first stage, we conduct a Probit analysis to predict which firms the founders retain (value = 1) and those where they choose to exit (value = 0). Following Fahlenbrach (2009), the founder's presence is instrumented with "early incorporation," which indicates if the firm is incorporated earlier than 1960. Even if the founders started the firm in their 20s, they would be around 80 years old at our sample time. Therefore, the founders of firms incorporated that early are likely to be dead or inactive. This variable can therefore be a predictor of founder presence. Dead or inactive founders are not likely to be associated with the firm's value, operating performance, or transparency. Therefore, this variable is likely to satisfy the two criteria at the outset. Also, we use Delaware (an indicator variable for firms incorporated in Delaware) as a control variable because Daines (2001) finds a difference in Tobin's Q between Delaware and non-Delaware firms. Panel A of Table 9 shows the results of the first-stage prediction model. Consistent with our argument, Early Incorporation is significant and negatively related to founder presence. We use size, profitability (ROA), market-to-book ratio, leverage, sales growth rate, firm age, early incorporation, whether the firm was incorporated in Delaware, and SP 500 with year and industry fixed effects for the first stage prediction model. Panel B of Table 9 shows that the instrumented founder presence variable is significant and positive in all three regressions.

Next, we address the issue of whether our results could be driven by systematic differences between the founder and non-founder firms rather than by the presence of the founder. We use the entropy balancing approach to address this issue.[26] In Panel C, we show the covariate moment conditions before and after entropy balancing. The means are completely balanced, and the variance and skewness measures are both more balanced after entropy balancing (See Hainmueller, 2012). Panel D shows the analysis after entropy balancing. The results show that founder presence is significantly positively related to Tobin's Q, transparency, and operating performance.

4.3. Founder entrenchment

The results in Table 10 show that incremental value and transparency decline with tenure. Contrary to expectations, there is a small

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[24] Two variables, *RankCC* and *OrderBacklog*, cause most of the sample attrition, thus reducing the sample size for the analysis in Table 7. It is possible that these variables are missing in some cases because the firms may not have major customers (*CC = 0*) or do not have significant order backlogs. It is not possible to distinguish between the cases where the variables are non-zero but the disclosure is missing, and the cases where the variables are zero. Therefore, we also conduct the analysis by dropping these two control variables and we find consistent results (untabulated).

[25] To measure a firm's financial health, we use the Altman Z-score (Altman, 1968), which is a linear combination of five business ratios: Z = 1.2 * working capital / total assets +1.4 * retained earnings / total assets +3.3 * earnings before interest and taxes / total assets +0.6 * market value of equity / total liabilities + sales / total assets. A lower Z-score indicates a greater likelihood of bankruptcy and a score lower than 1.81 is a signal that a firm is in financial distress.

[26] The advantage of using the entropy balancing approach over propensity matching is that we can use the full sample for the analysis. Propensity matching between the founder and non-founder firms reduces the sample to unacceptably low levels.

Table 8

Univariate test: difference between founder-exiting firms and founder-staying firms.

Sample	Tobin's Q		Operating Performance		Altman Z-Score	
Time	t-2	t-1	t-2	t-1	t-2	t-1
Founder Exiting	2.63	2.07	0.36	0.32	9.30	7.14
Founder Staying	2.25	2.16	0.34	0.34	6.61	6.03
N (Matched Pairs)	49		35		43	
t-test for Each Year						
t-2	0.38 (0.96)		0.02 (0.36)		2.69 (1.03)	
t-1	−0.09 (−0.27)		−0.02 (−0.56)		1.11 (0.63)	

This table presents the firm value, operating performance, and bankruptcy risk as well as the difference in these metrics between the firms that became non-founder firms (founder exiting) and firms that remained founder firms (founder staying) during the two years before founder-exiting firms were sold. For example, if firm A was a founder firm till 2012 and became a non-founder firm in 2013 and a matched firm B continued to be a founder firm in 2013, we would match and compare *Tobin's Q, Operating Performance, and Z-Score* of firm A and firm B in 2012 and 2011 before firm A was sold as value, operating performance and bankruptcy risk in those previous years may affect founders' decisions to sell the firm. We match the two groups of firms on size, age, and industry.

Table 9

Instrumental variable estimation.

Panel A: Stage 1

	Dependent variable	
Variables	Founder Presence	
Size	−0.016	
	(−0.49)	
Return on Assets	−0.245	
	(−1.36)	
MB	0.007	
	(1.50)	
Leverage	−0.530	***
	(−3.19)	
SalesGrowth 3YRAVG	0.342	***
	(4.11)	
FirmAge	−0.022	***
	(−8.00)	
Early Incorporation	−0.745	***
	(−2.97)	
Delaware	−0.133	*
	(−1.77)	
SP500	0.162	
	(1.46)	
Intercept	−1.336	***
	(−3.02)	
Year and Industry Fixed Effect	Yes	
Pseudo R^2	0.15	

Panel B: Stage 2

	Dependent variable					
Variables	Transparency		Tobin's Q		Operating performance	
Instrumented Founder Presence	0.046	***	0.217	***	0.023	***
	(6.85)		(3.89)		(7.33)	
Delaware	0.014	***	0.046		0.007	***
	(2.68)		(1.18)		(2.71)	
Control Variables Included	Yes		Yes		Yes	
Year and Industry Fixed Effect	Yes		Yes		Yes	
Adjusted R^2	0.59		0.36		0.40	

Panel A presents the results of the first stage in the two-stage least squares (2SLS) instrumental variable analysis. We perform a probit regression on founder presence. See the Appendix for variable definitions.

The second stage in Panel B includes the instrumented founder presence variable which is computed from the probit model in the first stage.

Panel C: Variable moment conditions prior to and after the entropy balance procedure.

	Founder Firms			Non-Founder Firms (Pre- Entropy Balance procedure)			Non-Founder Firms (Post- Entropy Balance procedure)		
	Mean	Variance	Skewness	Mean	Variance	Skewness	Mean	Variance	Skewness
Size	6.79	2.48	0.49	7.50	2.73	0.24	6.79	2.59	0.35
Ln (Firm Age)	2.41	0.53	−0.48	2.79	0.74	−0.37	2.41	0.78	−0.16
Return Volatility	0.14	0.00	1.13	0.12	0.00	1.39	0.14	0.00	1.12
Return on Assets	0.04	0.03	−1.66	0.07	0.02	−1.84	0.04	0.04	−1.57
Growth Opportunities	0.07	0.01	2.15	0.03	0.01	3.77	0.07	0.01	2.25
Leverage	0.17	0.05	1.28	0.20	0.04	1.06	0.17	0.04	1.30
Dual Class	0.11	0.10	2.44	0.07	0.07	3.30	0.11	0.10	2.44
S&P 500	0.13	0.12	2.14	0.22	0.17	1.39	0.13	0.12	2.14
Beta	1.43	0.73	0.73	1.27	0.66	0.84	1.43	0.83	0.70
Market Share	0.01	0.00	6.27	0.03	0.00	3.58	0.01	0.00	6.16
Free Cash Flow Indicator	0.48	0.25	0.07	0.44	0.25	0.26	0.48	0.25	0.07
Business Segment Concentration	0.97	0.01	−3.77	0.96	0.02	−3.27	0.97	0.01	−3.73
Foreign Currency Indicator	0.35	0.23	0.63	0.36	0.23	0.58	0.35	0.23	0.63

This panel presents the values of mean, variance, and skewness of the founder firm subsample along with those for the non-founder firm subsamples before and after the entropy balancing procedure.

Panel D: Regressions results after applying the entropy balance procedure.

	Dependent variable					
Variables	Tobin's Q		Transparency		Operating Performance	
Founder Presence	0.232	***	0.026	***	0.016	***
	(10.82)		(12.47)		(7.03)	
Control Variables Included	Yes		Yes		Yes	
Year and Industry Fixed Effect	Yes		Yes		Yes	
N	30,339		30,339		22,814	
R^2	0.36		0.53		0.35	

This panel presents the results after applying the entropy balance procedure to the non-founder firm sample.

Table 10
Effect of Founder Tenure & Horizon.

	Dependent variable					
	Tobin's Q		Transparency		Operating performance	
Variable	(1)		(2)		(3)	
	−0.012		−0.001		0.001	
Founder Tenure$_t$	(−1.80)	*	(−2.01)	**	(1.60)	
	0.015		0.003		0.001	
Founder Horizon$_t$	(3.09)	***	(4.93)	***	(4.14)	***
N	3444		3444		2681	
Adjusted R^2	0.353		0.527		0.334	
Control variables included	Yes		Yes		Yes	
Year and Industry fixed effect included	Yes		Yes		Yes	

This Table presents results on the impact of founder CEO tenure and horizon on value, transparency, and operating performance. *, **, *** denote statistical significance at the 10%, 5%, and 1% levels, respectively. See the Appendix for variable definitions.

Table 11

Effect of family ownership.

Panel A: Founding Family $\geq$ 20% Voting Rights Subsample

Variable	Dependent variable					
	Tobin's Q		Transparency		Operating performance	
Founder Presence$_t$	0.066 (0.72)		0.018 (1.60)		0.003 (0.42)	
Founder Influence$_t$		0.028 (0.77)		0.008 (1.76) *		−0.001 (−0.25)
N (total observations)	2370		2370		1928	
n (founder firm-year observations)	571		571		481	
Adjusted R^2	0.510	0.510	0.592	0.592	0.450	0.450
Control variables included	Yes	Yes	Yes	Yes	Yes	Yes
Year and Industry fixed effect	Yes	Yes	Yes	Yes	Yes	Yes

Panel B: Founding Family < 20% Voting Rights Subsample

Variable	Dependent Variable					
	Tobin's Q		Transparency		Operating Performance	
Founder Presence$_t$	0.226 (6.13) ***		0.023 (5.83) ***		0.018 (7.03) ***	
Founder Influence$_t$		0.082 (5.31) ***		0.009 (5.01) ***		0.007 (6.72) ***
N (total observations)	27,969		27,969		20,886	
n (founder firm-year observations)	5757		5757		4468	
Adjusted R^2	0.413	0.412	0.557	0.556	0.398	0.398
Control variables included	Yes	Yes	Yes	Yes	Yes	Yes
Year and Industry fixed effect	Yes	Yes	Yes	Yes	Yes	Yes

This Table presents results on the impact of founder presence and founder influence on value, transparency, and operating performance for the subsample of founding family firms with at least 20%, and <20% voting rights separately. *, **, *** denote statistical significance at the 10%, 5%, and 1% levels, respectively. See the Appendix for variable definitions.

positive association between founder tenure and operating performance. We note that the firm's age and the founder's tenure are positively related, and with experience, the firm learns to operate better and more efficiently. These two forces – the declining incentive of the founder and the incremental learning by the firm interact in the case of operating performance. However, the effect of the founder's tenure is better captured by the declining transparency resulting from a greater incentive of the founder to expropriate part of the value of the firm. Table 10 also shows that the incremental value, transparency, and operating performance are all higher when the horizon is longer. We note that the horizon at the time of initial public offering is not affected by the learning effect. Therefore, the horizon test is a cleaner test of the entrenchment effect. The result shows the presence of the entrenchment effect arising from the founder's incentives.

We next consider the effect of ownership that also results in the founder's entrenchment. We examine firms where the founding family (including the founders and two generations of heirs) hold >20% of the voting rights as those with greater founder entrenchment compared to those where the voting rights are <20%.[27] Table 11 Panel A presents the results for the entrenchment subsample, and Panel B presents the results for the non-entrenchment subsample. We find that in the firms where the founders are entrenched, the value, transparency, and operating performance are not significantly different from those of non-founder firms, except for a marginally significant association between founder influence and transparency. In contrast, the founder has a significant positive impact on all three compared to non-founder firms when founding family voting rights are lower than 20%. In effect, this result shows that the positive impact of founders is more prominent when the founding families are not entrenched due to lower market skepticism and a more positive perception of founders.

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[27] We consider total family ownership here because even if the founder owns <20% of the voting rights, strong control by family members (and their influence) would be expected to have a significant effect on the founder's decisions.

4.3.1.1. Additional tests (results not tabulated). Accounting Transparency: We have replicated all the analyses for transparency with the accounting transparency measure. The results are consistent with those for our transparency measure.

An alternative measure of valuation: We used industry-adjusted Return on Assets (IROA) as an alternative proxy for the firm's performance. We find that both the founder's presence and influence are positively associated with IROA, which is consistent with our main results using Tobin's Q.

Excluding utilities and financial institutions: Utilities and financial institutions are governed by additional regulations that could affect the founder's ability to improve transparency and operational performance. We re-do all the analyses in a sample of firms where the utilities and financial institutions are excluded and get similar results.

Constant sample: We re-did all the tests using a constant sample throughout and found similar results.

5. Conclusion

Founder firms constitute a sizeable segment of the U.S. corporate landscape. Prior studies have shown that founder firms command a greater market value than similar non-founder firms. Although it is well established that founders create value, most of the literature focuses on the incentives – *why* founders create value. In contrast, *how* founders create value has not received as much attention. Zook (2016) argues that firms should try to create a 'founder's mentality' in their approach to be able to increase value, including an 'owner's mindset. In this study, we focus on the mechanisms through which founders add value.

We first establish that operating performance and transparency are two important determinants of value creation. We show that the founders use these two mechanisms to increase firm value. Specifically, founder firms exhibit better operating performance and transparency than similar non-founder firms. Further, we employ mediation analysis to show that the founder's improvement of operating efficiency and

transparency drives the incremental value creation in founder firms. Our results are robust to tests for endogeneity and the founder's opportunistic exit.

An important contribution of the study is that founders exploit their unique strength, namely, a deep understanding of market conditions and opportunities. As the originators of the competitive strategy for their firms, they channel their superior knowledge and their decision authority toward the most appropriate strategies. Having identified the best strategies for their firms, they are also able to implement these strategies better than the managers of non-founder firms through their unique focus and commitment. Specifically, their presence and influence are associated with higher asset turnover in cost-leadership firms and higher gross margins in differentiated firms compared to non-founder firms. This finding is novel and contributes to the literature on founder firms.

Our results are sensitive to the founder's horizon. We show that as the founder's horizon shortens, both incremental value creation and transparency decline. We also show that founder entrenchment matters in value creation. The results are sensitive to the shareholdings and voting power of the founding family. When the founding family owns >20% of the decision rights, the benefits of founder control that we document disappear, these results are new to the literature. Our study is subject to several limitations. In particular, our classification of firms into cost leadership and differentiation firms is noisy. So, to the extent that they are imperfect measures, our results should be treated as preliminary. We have also conducted several tests controlling for endogeneity. However, as is true for all papers in this area, endogeneity tests, no matter how comprehensive, cannot eliminate all such concerns.

Appendix. Variable definitions

Variable	Definition
Value Measure	
Tobin's Q	Sum of the market value of equity, the book value of the preferred stock, and the book value of debt, all divided by the book value of total assets.
Transparency Measures	
Trading Volume	Natural logarithm of average daily dollar trading volume of the fiscal year.
Analyst Following	The number of analysts providing earnings forecasts within 9 months of the actual annual earnings announcement date.
Forecast Error	Square of the difference between the mean analysts' earnings forecast and the actual firm's earnings scaled by the stock price.
Bid-Ask Spread	Average of bid-ask spreads of a firm from the third Wednesday of each month of the fiscal year. Bid-ask spread is computed by subtracting the bid price from the ask price and then dividing it by the average of the two prices.
Market Opacity (Opacity Index)	A composite measure of opacity, calculated by ranking the four individual proxies (Trading Volume; Analyst Following; Forecast Error; Bid-Ask Spread) for opacity into deciles. The opaquest firms take a value of 10 while the most transparent firms take a value of 1. The ranking values from the sum of four proxies are then divided by 40 and thus the possible range for the opacity index is from 0.1 to 1 with a higher value corresponding to higher opacity.
Transparency	*Market Opacity* multiplied by −1, with a higher value corresponding to greater transparency.
Accounting Transparency	Performance adjusted discretionary accrual (PADCA) multiplied by −1. PADCA are the discretionary accruals estimated from the Kothari et al. (2005) accruals expectation model in which the performance is controlled for by including ROA along with the control for the scale of operations measured by sales and investment in property, plant, and equipment. We keep observations with at least 10 firm-year observations in the same two-digit SIC code.
Performance Measures	
Operating Performance	Following Demerjian et al. (2012), which uses DEA (Data Envelopment Analysis) methodology to measure the firm's efficiency in converting the following input variables into revenue: (i) net property, plant, and equipment, (ii) net operating leases, (iii) research and development costs, (iv) purchased goodwill, (v) other intangible assets, (vi) cost of goods sold, and (vii) selling, general, and administrative costs. The operational efficiency score is the ratio of outputs over inputs. The variable is scaled by the highest score within the group so that the most (least) efficient firms are assigned a value of 1 (0).
Gross Margin	The difference between net sales and cost of goods sold divided by net sales of the year
Asset Turnover	Net sales of the year divided by total assets at the beginning of the year.
Founder-related variables	
Founder Presence	An indicator variable; set to one if the company has a founder taking either the position of CEO, Chair, or Director and zero otherwise.
Founder Influence	An indicator variable that represents the founder's influence over the firm and takes values from 0 to 3. A higher value equates to the founder having more influence. Founder Influence = 3 if a founder is both CEO and Chairman of the board of the firm; Founder Influence = 2 if a founder is either the CEO or Chairman; Founder Influence = 1 if a founder is a board director.
Founder Tenure	The number of years since the company has gone public.
Founder Horizon	85 - Founder CEO's age in a given year.

Variable	Definition
Control Variables	
Size	There are two definitions for *Size*. Natural logarithm of the book value of total assets for analyses of market transparency, Tobin's Q, and firm efficiency; Natural logarithm of market capitalization for accounting transparency and gross margin analyses.
Ln (Firm Age)	Natural logarithm of one plus the number of years since a firm first appeared on Compustat for firm efficiency analyses; Natural logarithm of one plus the number of years since a firm first appeared on CRSP for other analyses.
Return Volatility	The standard deviation of monthly stock returns over the 3 years with a maximum of 36 months and a minimum of 12 months of data before the end of the fiscal year.
Return on Assets	Operating income after depreciation expense divided by total assets at the beginning of the fiscal year.
Growth Opportunities	Research and development expenses, divided by total assets at the end of the fiscal year.
Leverage	There are two definitions for *Leverage*. The book value of total assets minus the book value of stockholders' equity divided by the book value of stockholders' equity for gross margin regressions; Total long-term debt divided by total assets for other regressions.
Dual Class	An indicator variable; set to one if the company has multiple classes of stock and zero otherwise.
S&P 500	An indicator variable; set to one if the company is included in the S&P 500 index and zero otherwise.
Beta	Slope coefficient of regression of a firm's monthly returns on the S&P 500 monthly returns over the past 36 months.
Market Share	Percentage of revenues generated by the firm within its Fama and French Industry (1997) in the fiscal year.
Free Cash Flow Indicator	An indicator variable; set to one if the company has nonnegative free cash flow and zero otherwise.
Business Segment Concentration	Sum of the ratios of the individual business segment's sales to total sales for the fiscal year. It is set to one if the firm is not in the segment file of Compustat.
Foreign Currency Indicator	An indicator variable; set to one if the company reports a nonzero value for foreign currency adjustment in the fiscal year and zero otherwise.
SGrowth	Sales of this year minus the sales of the last year divided by the sales of the last year.

(*continued*)

Variable	Definition
Num_SEG	The number of business segments of firm i.
RankCC	The decile-rank of customer-based concentration $CCit$ scaled to be between 0.1 and 1; $CC_{it} = \sum_{j=1,J}(CSALE_{ijt}/SALE_{it})^2$ where $CSALE_{ijt}$ is the sale of firm i to its customer j in year t and $SALE_{it}$ is firm i's net sales in year t.
Order_Backlog	Order backlog of the year divided by total assets of the year.
IndustryMedianGM	The median of the gross margin of the two-digit SIC industry group.
IndustryMedianAT	The median of the asset turnover of the two-digit SIC industry group.

Variable	Definition
L1Accrual	Last year's net income before extraordinary items plus depreciation and amortization minus operating cash flows divided by total assets at the beginning of the fiscal year.
MA	An indicator variable; set to one if the company is an acquirer in a merger and acquisition and zero otherwise.
Financing	An indicator variable; set to one if MA is 0 and the number of shares outstanding increases by 10% or more, or long-term debts increase by 20% or more, or the firm first appears in the CRSP database during the fiscal year, and zero otherwise.
Litigation	An indicator variable; set to one if the company operates in a litigation-prone industry (SIC codes of 2833–2836, 3570–3577, 3600–3674, 5200–5961, and 7370) and zero otherwise.
MB	The market-to-book ratio at the end of the fiscal year.
Loss	An indicator variable; set to one if the company reports a net loss and zero otherwise.
CFO	Operating cash flows divided by total assets at the beginning of the fiscal year.
VAR	The standard deviation of quarterly earnings over the past five years with a maximum of 20 quarters and a minimum of 12 quarters of data to calculate the variable.
ROA	Earnings before extraordinary items divided by total assets.
PROA	Average of prior five years' earnings before extraordinary items divided by total assets with at least 3 years of data available.
Delaware	An indicator variable; set to one if the company is incorporated in the state of Delaware and zero otherwise.
Early Incorporation	An indicator variable; set to one if the company is incorporated prior to 1960 and zero otherwise.

Data availability

Data will be made available on request.

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