

Wage Inequality: Its Impact on Customer Satisfaction and Firm Performance

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Abstract

This article adopts a marketing perspective to examine how wage inequality between top managers and their employees may have customer-related consequences (i.e., customer-directed effort, customer-directed opportunism, and customer-oriented culture) that affect customer satisfaction and firm performance. Surprisingly, marketing scholars and practitioners have largely neglected this pressing societal issue. The authors collect a cross-industry, multisource data set, including responses by top-level managers and objective data on wage inequality and firm performance from 106 business-to-business-focused firms (Study 1). In addition, they analyze multisource longitudinal panel data covering 521 firm-year observations for business-to-consumer-focused firms (Study 2). The results consistently reveal that wage inequality harms customer satisfaction. This relationship is mediated by customer-directed opportunism and customer-oriented culture but not customer-directed effort. Moreover, while wage inequality has a positive direct effect on short-term firm profitability, this effect is dampened by the negative indirect effect through customer-related consequences and customer satisfaction. Importantly, the positive direct effect of wage inequality on short-term profitability vanishes in the long run, whereas the adverse effect through customer satisfaction persists, leading to a nonsignificant total effect on long-term profitability. These findings may guide researchers, managers, shareholders, and policy makers in addressing the challenge of rising wage inequality.

Keywords

compensation, customer satisfaction, firm performance, long-term effects, wage inequality

Leading marketing researchers have repeatedly urged scholars to engage with “the world’s many economic, social, and political problems that can benefit from . . . marketing thought” (Moorman et al. 2019, p. 1; see also Reibstein, Day, and Wind 2009). Wage inequality between top managers and average employees has emerged as one of the most pressing societal challenges because of its tremendous rise in the past decades (e.g., Amis, Mair, and Munir 2020). For example, whereas inflation-adjusted wages of top managers in the United States have soared 940% since 1978, the wages of typical employees without supervisory responsibilities have risen by only 12% (Mishel and Wolfe 2019). In the past decade alone, wage inequality between top managers and their employees also rose by 22% in Germany, 17% in the United Kingdom, and 18% in the United States, thus making wage inequality a global trend (CIPD 2019; Marsland 2015; Mishel and Wolfe 2019; Weckes 2018). This global trend is of major societal concern because wage inequality is harmful to long-term economic growth and undermines societal cohesion (Organisation for Economic Co-operation and Development [OECD] 2015; UN General Assembly 2015).

Despite its relevance, marketing research on wage inequality remains scarce. To the best of our knowledge, only one marketing study has analyzed the effect of wage inequality on customer-related outcomes. More precisely, in a scenario-based experiment Mohan et al. (2018) find that consumers avoid purchasing from firms that display high wage inequality. This initial research examines whether wage inequality influences consumer behavior. However, it remains unclear whether wage inequality drives employee behaviors that may affect customer relationships. Although research has called for investigation into this issue (Connelly et al. 2016), surprisingly, no empirical study has examined the impact of wage inequality on

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customer satisfaction—a key antecedent of successful customer relationships (e.g., Szymanski and Henard 2001).

Therefore, the first of two major research gaps we address is the impact of wage inequality on customer satisfaction. Extant research and tournament theory suggest that wage inequality motivates employees at all hierarchical levels to engage in internal competition for promotions and thus reduces collaboration among coworkers (e.g., Bognanno 2001; Lazear 1989). On the one hand, to enhance their success in this internal competition, employees increase effort and opportunism (Shi, Connelly, and Sanders 2016). They work harder, for example, through customer-directed effort such as interacting with customers more frequently. Alternatively, they try to cut corners, for instance, through customer-directed opportunism such as dishonestly overstating product quality. On the other hand, as collaboration among coworkers suffers, knowledge exchange and the shared understanding of customer needs deteriorate, thereby eroding the foundations of customer-oriented culture (Gebhardt, Carpenter, and Sherry 2006). We investigate whether wage inequality influences customer satisfaction through these customer-related consequences.

Regarding customer-directed effort and customer-directed opportunism, prior research suggests that wage inequality not only motivates employees' effort (e.g., DeVaro 2006) but also leads to overly competitive and reckless behavior, including opportunism (e.g., Becker and Huselid 1992; Lazear 1989). Although marketing research has examined the motivating effect of employee-to-employee wage inequality on employee effort—for example, in the sales context (e.g., Garrett and Gopalakrishna 2010)—it has largely neglected the dark side of top-management-to-employee wage inequality. As such, empirical research on the consequences of wage inequality for employee misbehavior, such as customer-directed opportunism, is lacking. Notably, Moorman and Day (2016) deem the analysis of potential drivers of employee misbehavior an important issue for future research.

Regarding customer-oriented culture, previous studies indicate that wage inequality deteriorates collaboration among coworkers and reduces trust, honesty, and helpfulness (e.g., Lazear 1989; Levine 1991; Pfeffer and Langton 1993). Collaboration, however, is necessary to foster knowledge exchange to ensure a shared understanding of customer needs among all employees and thus maintain a customer-oriented culture (Gebhardt, Carpenter, and Sherry 2006). This is because without collaboration, a firm will struggle to disseminate market intelligence throughout the firm (Kohli and Jaworski 1990) and coordinate different functions (Narver and Slater 1990) to meet customer needs. As wage inequality undermines collaboration, it may also erode customer-oriented culture. This possibility calls for research analyzing whether wage inequality shapes customer-oriented culture. Moorman and Day (2016) recommend that researchers examine factors influencing the emergence of such firm culture.

The second major research gap we address is the ambiguity of prior research examining the impact of wage inequality on firm performance. In particular, previous empirical research

suggests that wage inequality has a positive effect (Connelly et al. 2016; Uygur 2019), a negative effect (Messersmith, Kim, and Patel 2018), or no statistically significant effect (Leonard 1990) on firm performance. Whereas studies on contingency factors are extensive (e.g., Pfeffer and Langton 1993; Shaw, Gupta, and Delery 2002; Trevor and Wazeter 2006), research has not simultaneously tested the direct and indirect effects of wage inequality on firm performance (Shaw 2014). This neglect may be a reason for the persistent ambiguity about the relationship between wage inequality and firm performance.

The failure to test potential indirect effects is likely due to previous research's overreliance on secondary data-based studies (e.g., Connelly et al. 2016; Leonard 1990; Uygur 2019). Although secondary data on wage inequality and firm performance are readily available, they hamper direct measurement of firm internal phenomena, such as customer-directed effort, customer-directed opportunism, and customer-oriented culture (e.g., Feng, Morgan, and Rego 2015). In response, the key informant method offers an essential approach to gain insights into these customer-related consequences from experienced managers (Rindfleisch et al. 2008).

Against this background, our study contributes to the literature in two major ways. First, we contribute by investigating whether and how wage inequality affects customer satisfaction through three customer-related consequences. Second, we examine both the direct and indirect outcomes of wage inequality to address the ambiguity about the effect of wage inequality on firm performance. More specifically, we develop and test whether wage inequality affects firm performance through customer-directed effort, customer-directed opportunism, and customer-oriented culture and resulting customer satisfaction.

To this end, we conduct a cross-industry key informant study (Study 1) that includes 106 firms focusing mainly on business-to-business customers (hereinafter referred to as "B2B firms"). We survey top-level marketing and sales managers who are most knowledgeable about their firms' customer relationships and customer satisfaction. The results reveal that wage inequality harms customer satisfaction. In particular, although wage inequality increases customer-directed effort, this effect does not extend to customer satisfaction. The findings show that wage inequality motivates customer-directed opportunism, undermines a customer-oriented culture, and thus damages customer satisfaction and reduces short-term profitability. At the same time, wage inequality has a positive direct effect on short-term profitability. Taken together, the positive direct and negative indirect effects result in a marginally significant, positive total effect. We further extend the analyses by examining long-term profitability with a secondary data-based study (Study 2) using multisource longitudinal panel data covering 521 firm-year observations. Study 2 focuses mainly on business-to-consumer firms (hereinafter referred to as "B2C firms") to increase the generalizability of the results. The results replicate the harmful effect of wage inequality on customer satisfaction. Notably, the findings also reveal that in the long run, the previously positive direct effect of wage inequality on short-term firm profitability vanishes. By contrast, its

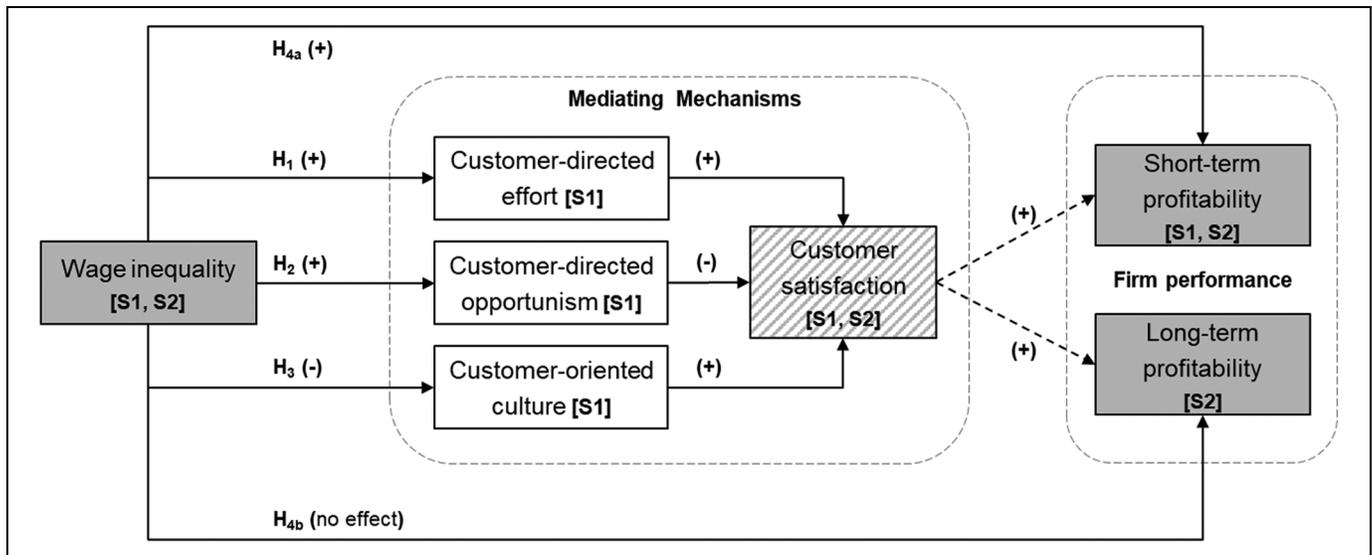


Figure 1. Conceptual framework.

Notes: [S1] = tested in Study 1, [S2] = tested in Study 2. Gray background indicates secondary data, and white background indicates key informant data measures. Customer satisfaction was measured with key informant data in S1 and secondary data in S2. H_1 , H_2 , and H_3 represent mediation hypotheses. Dashed arrows indicate paths that are tested but not hypothesized.

negative indirect effect on short- and long-term profitability through customer satisfaction persists, leading to a nonsignificant total effect of wage inequality on long-term profitability. Finally, the two empirical studies provide consistent insights generalizable across industries and firm types.

Theory, Conceptual Framework, and Constructs

The central construct in the study is wage inequality or the ratio of the average wage of top management team (TMT) members to the average wage of employees in a firm (Connelly et al. 2016). To explain how wage inequality leads to internal competition for promotions and reduces collaboration among coworkers, we anchor the study in tournament theory.

Tournament Theory

Tournament theory posits that employees compete against one another in a sequence of tournaments for promotion in which only a few positions with disproportionately high wages are available (Connelly et al. 2014; Lazear and Rosen 1981). The value employees attach to this ultimate prize increases with wage inequality and motivates employees to maximize their chances of promotion (Connelly et al. 2014). In most firms, competing for promotion is a primary driver for employees at all levels to demonstrate performance (Baker, Jensen, and Murphy 1988; Bidwell and Keller 2014; Bognanno 2001; Shi, Connelly, and Sanders 2016). With higher wage inequality, tournament winners will gain substantially more than the majority of other employees. This situation not only increases competition but also reduces collaboration among coworkers (e.g., Lazear 1989).

Wage inequality–induced competitive behaviors and reduced collaboration have consequences that affect firm performance (DeVaro 2006; Kale, Reis, and Venkateswaran 2009; Ridge, Aime, and White 2015; Siegel and Hambrick 2005). This study builds on these insights and adopts a marketing perspective to extend prior theorizing by developing hypotheses on how wage inequality may have customer-related consequences that affect customer satisfaction and firm performance.

Conceptual Framework and Constructs

Figure 1 depicts the conceptual framework of our study. Here, we propose that wage inequality directly influences firm performance, which reflects the firm’s short-term and long-term profitability. Importantly, we assess the indirect effect of wage inequality through customer-related consequences on customer satisfaction and firm performance. “Customer satisfaction” refers to the customers’ overall evaluation of the purchase and exchange relationship with the firm (Homburg, Müller, and Klarmann 2011). Study 1 uses secondary and key informant data to test the effect of wage inequality through customer-related consequences on customer satisfaction and short-term profitability. Study 2 employs a secondary data–based panel to test the longitudinal effects of wage inequality on firm performance through customer satisfaction.

We suggest that wage inequality influences customer satisfaction and subsequent firm performance through three constructs capturing the customer-related consequences of increased internal competition for promotions and reduced collaboration among coworkers. First, “customer-directed effort” refers to the frequency of employees’ interactions with customers (e.g., Palmatier et al. 2006). Employees may increase their

own chances in the promotion competition by interacting more frequently with customers to better understand and respond to their needs. Second, “customer-directed opportunism” refers to employees’ self-interest seeking with guile to benefit their firm at the customers’ expense (Palmatier, Dant, and Grewal 2007). Employees can improve their prospects in the promotion competition by misleading, distorting facts, or cheating customers to meet their firm’s and their own goals. Third, “customer-oriented culture” refers to the set of beliefs that centers on a shared customer understanding and customer-related activities for meeting customer needs and achieving the firm’s long-term success (Deshpandé, Farley, and Webster 1993). Employees who are more focused on their own promotion prospects are likely to collaborate less with coworkers and thus may neglect knowledge exchange and information dissemination, both foundational to creating a shared understanding of customer needs.

Hypothesis Development

Indirect Effects of Wage Inequality on Customer Satisfaction

Drawing on tournament theory, we propose that wage inequality affects customer satisfaction through three alternative customer-related consequences. We develop mediation hypotheses for the indirect effects of wage inequality on customer satisfaction through (1) customer-directed effort, (2) customer-directed opportunism, and (3) customer-oriented culture.

Indirect effect through customer-directed effort. We predict that wage inequality positively influences customer-directed effort and customer-directed effort positively affects customer satisfaction. Tournament theory suggests that wage inequality motivates employees to increase their performance by investing more effort (DeVaro 2006; Lazear 1989; Ridge, Aime, and White 2015). For sales and marketing employees, achieving revenue targets by selling to existing or new customers may be a reason for promotion. To hit their target, they could increase their effort by interacting more frequently with customers to acquire and retain them through superior customer understanding (Levin and Cross 2004; Palmatier, Gopalakrishna, and Houston 2006). Beyond customer-facing roles, for research-and-development (R&D) employees, developing new products or product features that increase revenues may lead to promotion. These employees may invest effort to interact with customers to discover their needs (e.g., lead-user method) and develop innovations with enhanced customer value. Even accounting employees may increase their promotion potential by interacting with customers more frequently. For accountants, consistently maintaining the firm’s financial health may result in a promotion. They may better understand the financial risks and values associated with the customers they interact with more frequently and use these insights to balance their own firm’s financial health.

Notably, according to prior research, such customer-directed effort leads to higher customer satisfaction (e.g., Leuthesser and Kohli 1995; Palmatier et al. 2006). More specifically, effort spent on more frequent customer interactions translates into more information exchange, which reduces uncertainty for both parties and improves customers’ confidence that the supplier firm’s employees understand and respond to their needs, leading to greater customer satisfaction (Leuthesser and Kohli 1995). Taken together, we propose that wage inequality motivates employees to increase customer-directed effort, which then results in higher customer satisfaction. Thus:

H₁: Wage inequality positively affects customer satisfaction through customer-directed effort.

Indirect effect through customer-directed opportunism. We also predict that wage inequality positively influences customer-directed opportunism and customer-directed opportunism negatively affects customer satisfaction. According to tournament theory, wage inequality may lead employees to try to enhance their promotion potential through negative effort to benefit their firm and themselves at the expense of external stakeholders (e.g., Shi, Connelly, and Sanders 2016). For example, we argue that employees may engage in opportunism to reap short-term successes (e.g., closing sales) to achieve better ratings in performance reviews from their managers and thus enhance their chances for promotion. Sales and marketing employees, in particular, may indulge in customer-directed opportunism. These employees may behave opportunistically toward customers by withholding or distorting information, cheating, or engaging in other subtle forms of dishonesty (Wathne and Heide 2000; Williamson 1985). Similarly, non-customer-facing employees such as R&D employees may behave opportunistically to benefit their firm and increase their own promotion potential. For example, they may develop products with planned obsolescence (i.e., “designed to fail”), thus indirectly cheating on product quality and forcing customers to replace their products sooner than necessary. Even accountants may behave opportunistically toward customers to their firm’s and their own benefit. They may misreport product failures and the firm’s financial stability to lure customers into business relationships they would have forgone had they known about the supplier’s actual financial situation. Prior empirical research supports the notion that wage inequality motivates such misbehavior to serve self-interest and self-promotion (e.g., Becker and Huselid 1992; Lazear 1989; Shi, Connelly, and Sanders 2016). However, although customer-directed opportunism may allow employees to enhance their promotion potential, it also harms customer satisfaction. More specifically, customer-directed opportunism reduces customer trust in and commitment to the supplier firm (Morgan and Hunt 1994; Wathne and Heide 2000), thus impairing social interactions between them and damaging customer satisfaction (Crosno and Dahlstrom 2008).

The fake account scandal of Wells Fargo is an example of the proposed theoretical mechanism. In 2016, Wells Fargo took

center stage in the news on discovery that its employees opportunistically opened millions of savings and checking accounts for customers to meet sales goals to increase firm performance and their chances for promotion. Customers became suspicious and aware of this fraudulent behavior when Wells Fargo withdrew money from their accounts without consent (Touryalai 2016). This customer-directed opportunism led not only to legal consequences but, more importantly, to dissatisfied customers (Wack 2018). In summary, we expect wage inequality to motivate employees to engage in customer-directed opportunism that lowers customer satisfaction. Thus:

H₂: Wage inequality negatively affects customer satisfaction through customer-directed opportunism.

Indirect effect through customer-oriented culture. Finally, we predict that wage inequality negatively influences customer-oriented culture and that customer-oriented culture positively affects customer satisfaction. According to tournament theory, wage inequality reduces collaboration because employees become more concerned with their own promotion prospects than with their coworkers' (e.g., Lazear 1989). That is, wage inequality leads employees to become less trusting of, honest with, or helpful toward one another (Levine 1991; Pfeffer and Langton 1993). As employees may be too concerned with improving their own promotion potential to help others, they may stop sharing new customer trends and demands with coworkers. The dissemination of market intelligence may be impaired (Kohli and Jaworski 1990). In addition, functional areas may isolate and thereby reduce interfunctional coordination (Narver and Slater 1990). Intelligence dissemination and interfunctional coordination, however, are foundational to create a shared understanding of customer needs among all employees—even those beyond customer-facing roles such as R&D and accounting employees (Gebhardt et al. 2006). Therefore, as wage inequality impedes collaboration, it may inhibit the shared understanding and responsiveness to changing customer trends and demands.

This situation is problematic because trusting, honest, and helpful collaboration is fundamental to creating and maintaining a customer-oriented culture (Gebhardt, Carpenter, and Sherry 2006). As a consequence, wage inequality may harm firms' customer-oriented culture and, in turn, lead to lower customer satisfaction. More specifically, a strong customer-oriented culture positions firms to anticipate and rapidly respond to customer needs and therefore improve customer satisfaction (Kirca, Jayachandran, and Bearden 2005). By contrast, weaker customer-oriented culture may decrease customer satisfaction.

Employee responses to wage inequality at Disney exemplify the proposed theoretical mechanism. In 2018, Disney's chief executive officer (CEO) earned a staggering wage of \$65.6 million, while the average employee made \$46,000 (a wage inequality of 1,424:1). Thus, a Disney employee would need to work 1,424 years to earn the CEO's wage (Cooper 2019). This wage inequality at "the happiest place on earth" creates an environment in which employees report conflicted

relationships and a lack of connectedness and trusting, honest, and helpful collaboration with coworkers and superiors (Employee Review 2017). Such eroded collaboration might endanger Disney's customer-oriented culture. Conclusively, we expect wage inequality to motivate employee actions that weaken the fundamental values of a customer-oriented culture and thereby can damage customer satisfaction. Thus:

H₃: Wage inequality negatively affects customer satisfaction through customer-oriented culture.

Direct Effects of Wage Inequality on Firm Performance

Apart from affecting customer satisfaction and indirectly firm performance (e.g., Fornell, Morgeson, and Hult 2016), we expect wage inequality to have a positive direct effect on short-term firm performance. As stated previously and in line with tournament theory, wage inequality is the primary motivation for employees to show performance to get promoted (Baker, Jensen, and Murphy 1988; Bidwell and Keller 2014; Bognanno 2001). To maximize their chances of promotion, employees at all levels are likely to prioritize behaviors leading to more immediate success (Connelly et al. 2016). Through demonstrations of short-term successes, employees may convince their managers to award them with good ratings in reviews and subsequently promote them more readily (Gibbs 1995). Notably, managers evaluate employee performance mostly on quarterly or annual measures, as managers themselves face pressures to maintain quarter-to-quarter or year-to-year profitability (Baker, Jensen, and Murphy 1988; Lavery 1996). As such, wage inequality motivates employees to maximize their chances for promotion and thus improve short-term performance outcomes (Connelly et al. 2016; DeVaro 2006).

While tournament theory predicts a positive short-term effect of wage inequality, we argue that such short-term thinking neglects long-term performance. Wage inequality may cause employees to become prone to short-term thinking when deciding between pursuing short- versus long-term goals because promotions motivate short-term performance with little regard to long-term consequences (Becker and Huselid 1992; Garrett and Gopalakrishna 2010). Notably, in their quarterly or annual performance reviews, most firms do not account for employees' contributions manifesting in the long run; thus, promotions commonly fail to motivate long-term performance (Lavery 2004). In this way, wage inequality drives employees to focus on short-term performance while precluding long-term performance outcomes (Lavery 2004; Marginson and McAulay 2008). Taken together, we expect that wage inequality motivates employees' short-term performance but fails to incentivize employees for sustained long-term performance. Thus:

H_{4a}: Wage inequality has a positive direct effect on short-term firm profitability.

H_{4b}: Wage inequality has no direct effect on long-term firm profitability.

Study I

Methodology

Data collection and sample. Study 1 aims to test the mediating effects of wage inequality on customer satisfaction (H_1 , H_2 , and H_3) and the direct effect of wage inequality on short-term firm profitability (H_{4a}). To collect data for testing our hypotheses on how wage inequality affects customer satisfaction, we employ a cross-industry survey using key informants. Survey data are especially advantageous for testing firm internal phenomena that secondary data cannot gauge (Hulland, Baumgartner, and Smith 2018). Importantly, we complement these survey data with objective data on wage inequality and firm profitability, which come from three sources: the Compustat Fundamentals Annual database, the Bureau van Dijk Orbis database, and firms' annual reports.

The sampling frame of the study included all firms listed in the German Prime Standard ($n = 320$), the U.S. Standard & Poor's (S&P) 500 ($n = 505$), and the U.K. *Financial Times* Stock Exchange 350 ($n = 351$). This initial sample of 1,176 publicly listed firms accounts for 47% of the market capitalization of the world economy and more than 90% of the market capitalization in each respective country. We chose this particular sampling frame because these firms are required to report their top managers' wages and are also more likely to report their total labor expenses than non-publicly-listed firms. Both these data points (i.e., top manager wages and total labor expenses) are necessary to compute a firm's wage inequality.

To identify top-level managers with the best strategic overview of the firm's customer relationships and customer satisfaction, we contacted the firms from the sampling frame by telephone. This process yielded qualified contact details for top-level managers with sales and marketing responsibilities in 888 firms. The contact details included email addresses and telephone numbers of the key informants. We invited these contacts to participate in our online survey through a personalized mailing. Before the full mailing, we pretested the survey instrument with academics and practitioners to ensure clarity of the measures and minimize completion costs. The pretest essentially confirmed the appropriateness of the survey instrument. We conducted follow-up mailings and telephone calls at two weeks and again at six weeks after the initial mailing.

Key informants from 106 firms returned complete surveys, for an effective response rate of 12% (106 of 888 firms), which is comparable to response rates in the range of 10% to 12% in surveys involving top-level managers (e.g., Kriauciunas, Parmigiani, and Rivera-Santos 2011; Schulze et al. 2001). The median firm in the final key informant sample generates 99% ($M = 82\%$, $SD = 30\%$) of its revenues from B2B customers.

To ensure key informant competency, we asked respondents how knowledgeable and involved they were with the topics covered in the survey and how competent they felt about answering the questions (Kumar, Stern, and Anderson 1993). They answered these items with an average score of 5.8 on a seven-point scale. Furthermore, key informants had been with

their firm for 11.8 years and in their current position for 7.1 years, on average. They hold top-level positions (e.g., chief marketing officer [CMO], vice president, director) with marketing and sales responsibilities. According to Homburg et al. (2012), key informant accuracy significantly increases with hierarchical position and tenure in the firm. Furthermore, customer satisfaction is a relevant metric for managers to gauge future performance (Morgan and Rego 2006) and routinely disseminated to upper echelons in most firms (Morgan, Anderson, and Mittal 2005) as a basis for marketing decision making (Mintz et al. 2020). Overall, these descriptive statistics and suggestions from prior literature indicate that the key informants in the study are highly knowledgeable about their firms' customer relationships and customer satisfaction. Figure 2 shows the sample composition.

Measures. This study relies on a cross-industry, multisource data set to test our hypotheses. In particular, we employ secondary data sources to measure wage inequality, firm profitability, and firm- and industry-level control variables. In addition, we survey key informants about customer-directed effort, customer-directed opportunism, customer-oriented culture, and customer satisfaction. We employ a self-report measure to gauge suppliers' opportunism, which is well established in extant research (e.g., Heide, Wathne, and Rokkan 2007; Jap et al. 2013). Measuring opportunism using self-reports is appropriate because firms know best the extent of their own opportunistic behavior, whereas customers may be a victim without noticing it at all. Relatedly, we follow prior research using self-report measures to gauge customer satisfaction (e.g., Rust, Moorman, and Dickson 2002). Surveying the sample firms' customers was not feasible in this case because of data protection laws and the unwillingness of firms to provide customer access. As the sample of Study 1 predominantly consists of B2B-focused firms from different countries, secondary data sources (e.g., American Customer Satisfaction Index [ACSI], U.K. Customer Satisfaction Index) were also not feasible because of their primary focus on B2C relationships and different operationalizations across countries. Therefore, we invested effort to ensure that the key informants were in the best position to report on their firms' customer satisfaction.

To operationalize wage inequality, we employ a ratio variable. The ratio variable is a widely accepted measure of wage inequality between top managers and employees in extant literature (e.g., Connelly et al. 2016; Faleye, Reis, and Venkateswaran 2013; Greckhamer 2016; Messersmith, Kim, and Patel 2018) and the popular press (e.g., Cooper 2019). Importantly, the ratio variable equally accounts for changes in both employee and TMT wages.

An alternative operationalization of wage inequality would be a range variable (i.e., average TMT wage – average employee wage). Studies investigating wage differences across adjacent levels such as new hires and senior employees in the same job have commonly used this variable (e.g., Henderson and Fredrickson 2001; Shaw, Gupta, and Delery 2002). However, in our study context, the range variable is less appropriate

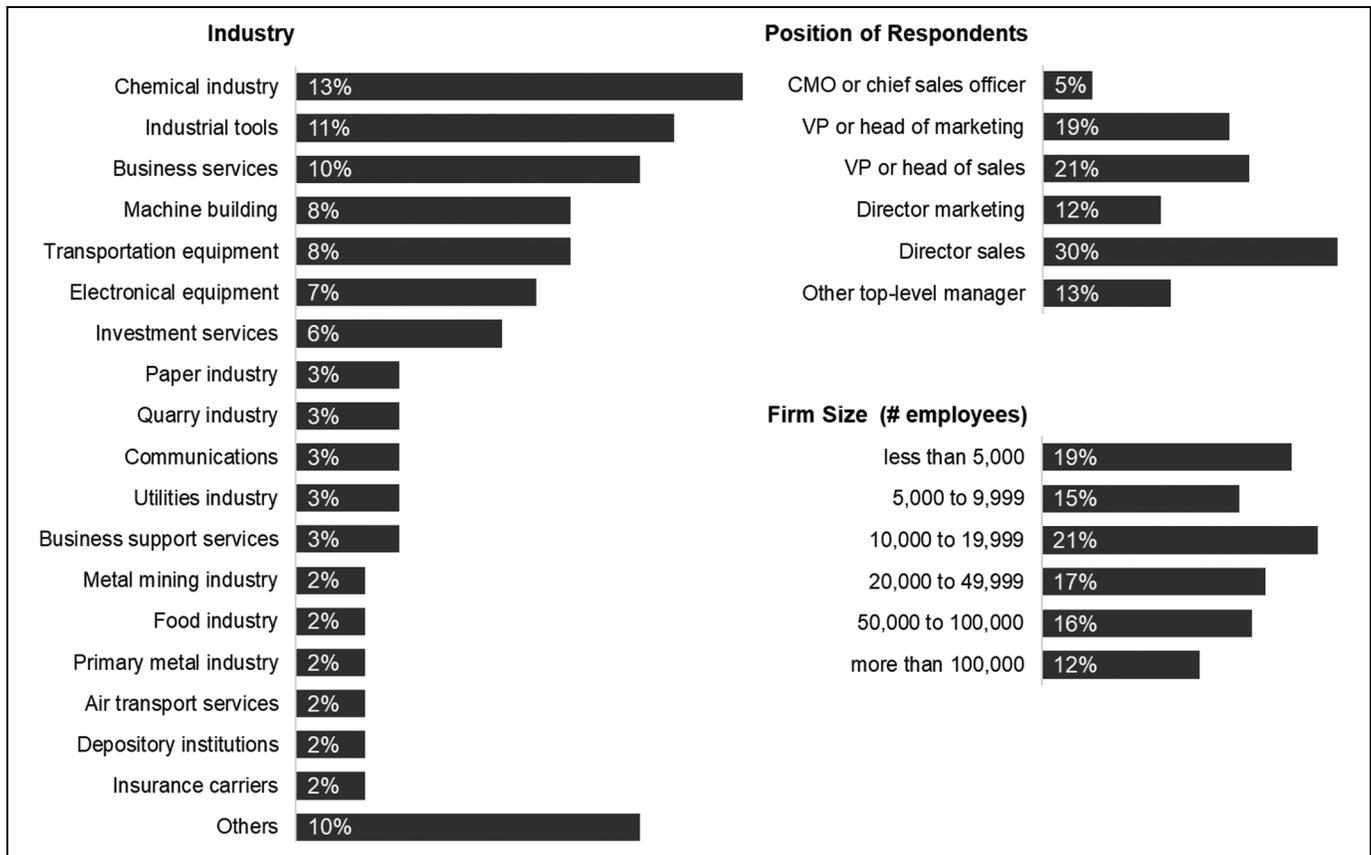


Figure 2. Sample composition for Study 1.

Notes: $n = 106$.

because it overemphasizes TMT wage changes compared with changes in employee wage, whereas the ratio variable more equally accounts for changes in both.¹ This unbalanced treatment of wage changes by the range variable is problematic empirically and when deriving practical implications. Moreover, we suspect that it is more intuitive to learn that it would take 100 years to earn a top manager's wage (ratio variable) than that a top manager makes US\$4.95 million more than the employee (range variable).

Therefore, we computed a ratio variable (see Equation 1), where the numerator is the average TMT wage and the denominator represents the average employee wage (Faleye, Reis, and Venkateswaran 2013). We chose the TMT instead of the CEO as a referent because the CEO wage is rather volatile (i.e., one person's wage with a larger variable wage component). By contrast, the TMT wage (i.e., average wage of multiple people) is a more reliable reference (Connelly et al. 2016).

¹ Suppose that, initially, the TMT wage was US\$5 million and employee wage US\$50,000. Then, the wage ratio would be 100 to 1 and the wage range US\$4.95 million. If, ceteris paribus, the TMT wage grew by 10% to US\$5.5 million, the new wage ratio would be 110 to 1 (an increase by 10% compared with the initial wage ratio) and the new wage range US\$5.45 million (also approximately a 10% increase). However, if instead the employee wage grew by 10% to US\$55,000, the new wage ratio would be 91 to 1 (a decrease by 9%) and the new wage range US\$4.945 million (a decrease by merely .1%).

$$\text{Wage Inequality} = \frac{\text{avg TMT wage}}{\left(\frac{\text{total labor expenses} - \text{total TMT wages}}{\text{number of employees}} \right)} \quad (1)$$

We calculated the average TMT wage by dividing the total wages of all top managers (i.e., including salary and short- and long-term bonuses) by the number of top managers in the firm (Connelly et al. 2016; Ridge, Aime, and White 2015). The denominator of wage inequality comprised the average employee wage, which we calculated as the firm's total labor expenses, excluding top managers' wages, divided by the number of employees. To establish temporal order, we measured wage inequality in the year before the focal year of analysis ($t - 1$). German firms in our sample display the lowest average wage inequality, with an average employee having to work for 35.9 years ($SD = 29.2$, $Mdn = 26.9$, first quartile [Q1] = 18.7, third quartile [Q3] = 43.2) to earn the TMT's average annual wage. By contrast, an average employee from a U.K. firm has to work for 54.8 years ($SD = 42.1$, $Mdn = 38.8$, $Q1 = 28.2$, $Q3 = 72.4$) and from a U.S. firm for 133.8 years ($SD = 92.9$, $Mdn = 99.4$, $Q1 = 68.9$, $Q3 = 164.7$). These results confirm the general observation that wage inequality is highest in the United States and lowest in Germany of the countries in the sample.

We operationalized short-term profitability as return on assets in the focal year of analysis (t). ROA is a widely

accepted measure of profitability in studies that investigate wage inequality (Connelly et al. 2016; Messersmith, Kim, and Patel 2018; Ridge, Aime, and White 2015). We are interested in the effect of wage inequality-induced employee actions on customer-related outcomes and resulting firm performance. According to the marketing performance outcomes chain, employee actions and customer-related outcomes more directly affect accounting-based performance than market-based performance (Katsikeas et al. 2016). More specifically, accounting-based measures such as ROA gauge a firm's internal ability to generate profits from its assets, whereas market-based measures rely on external investors' preferences and expectations of a firm's value. Consequently, ROA captures the dimension of performance that is more closely related to the internal functioning of a firm and independent of investor preferences. To account for potential industry effects in the cross-industry sample, we adjusted the ROA by industry. More specifically, we subtracted the industry mean ROA—calculated for each two-digit Standard Industrial Classification (SIC) code as the average ROA of firms included in the sampling frame—from the firm's ROA.

We include a rich set of control variables to mitigate omitted variable bias and ensure that the model is robust when including other factors that may provide alternative explanations for the hypothesized effects (e.g., Rutz and Watson 2019). In particular, we account for firm-, industry-, and country-level factors because they may offer alternative explanations for each of the hypothesized relationships. At the firm level, we control for the year-over-year employee growth rate at time $t - 1$; CMO presence at time $t - 1$ (Nath and Mahajan 2011); firm size, measured as the logarithm of the number of employees at t ; and prior year performance, operationalized as industry-adjusted ROA at $t - 1$ (Cobb and Lin 2017; Connelly et al. 2016). At the industry level, we include the following control variables: industry concentration, measured as the two-digit SIC Herfindahl index of firm sales at t ; industry growth, computed as the two-digit SIC industry's lagged three-year average of the median sales growth ($t - 2, t - 1, t$); and industry stability, operationalized as the two-digit SIC industry's lagged three-year standard deviation of the median sales growth ($t - 2, t - 1, t$) (Nath and Mahajan 2011). At the country level, we include country dummy variables indicating whether a firm is listed on a stock index to account for national differences in institutions and cultures (Connelly et al. 2014). Notably, as all these control variables could simultaneously relate to wage inequality, the customer-related consequences, customer satisfaction, and firm performance, we include them at each stage in the model.

We collected key informant survey data on customer-directed effort, customer-directed opportunism, customer-oriented culture, and customer satisfaction for the focal year of analysis (t). We adapted all survey measures from existing scales after thoroughly reviewing the literature (see the Appendix). For customer-directed effort, we adapted the following rating scale from Palmatier (2008): "How often do representatives from your company communicate with each of your customers on average in a typical month?" For the

remaining scales, we employed a reflective measurement approach and seven-point rating scales for all multi-item constructs (Jarvis, MacKenzie, and Podsakoff 2003). We measured customer-directed opportunism with three items adapted from Palmatier, Dant, and Grewal (2007) (e.g., "In working with our customers, it sometimes happens that our company alters facts to a certain extent to meet our own goals and objectives"). For customer-oriented culture, we adapted five items from Deshpandé, Farley, and Webster (1993) (e.g., "We have a strategy that is based on the understanding of customers"). The scale for customer satisfaction is based on three items adapted from Homburg, Müller, and Klarmann (2011) (e.g., "On an overall basis, our customers' experience with our company has been positive").

Measurement assessment. Because of the cross-country sample, we needed to establish the configurational and metric invariance of the measures before testing them in a dependency model (Steenkamp and Baumgartner 1998). Owing to small subsample sizes, we combined the U.K. and U.S. firms, which "share a similar cultural and economic background" (Tellis, Prabhu, and Chandy 2009, p. 18), in a single category. Employing a multigroup confirmatory factor analysis (CFA), we found configurational and full metric invariance for the constructs. Therefore, pooling the subsamples for model testing is acceptable.

Next, we assessed the reliability and validity of the constructs using CFA. Overall, the scales achieved satisfactory psychometric properties. All constructs surpass the recommended thresholds for composite reliability, average variance extracted (AVE), and Cronbach's alpha (see Table 1; Bagozzi and Yi 2012). With one exception, all item reliabilities are above the recommended threshold (see the Appendix). As Table 1 shows, the square root of the AVE for each construct exceeds the correlation with the other constructs, thus meeting Fornell and Larcker's (1981) criterion and demonstrating discriminant validity between the constructs. The CFA model containing all constructs achieves good global fit indices: $\chi^2/d.f. = 1.60$, comparative fit index (CFI) = .97, Tucker-Lewis index (TLI) = .96, root mean square error of approximation (RMSEA) = .078, and standardized root mean square residual (SRMR) = .063.

Endogeneity. Beyond including a rich set of control variables to reduce concerns of omitted variable bias, we conduct several checks and take steps to address potential endogeneity to ensure the validity of the results (Antonakis et al. 2010; Rutz and Watson 2019). First, to ensure that nonresponse bias is not an issue and the results will generalize to a larger population, we performed two tests. Checking for differences between early and late responders, we found that no construct differed at the 5% level (Armstrong and Overton 1977). Furthermore, we compared the responding firms with firms in the initial sampling frame in terms of industry, firm size, and ROA. Two-sample t-tests revealed no systematic differences between our sample and the population in the number of employees and

Table 1. Descriptive Statistics and Correlations for Study 1.

Variables	M	SD	CR	AVE	CA	1	2	3	4	5	6	7	8	9	10	11	12	13	14							
1. Wage inequality ^a	58.4	63.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—						
2. Customer-directed effort	6.31	7.37	—	—	—	.17*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—					
3. Customer-directed opportunism	2.16	1.20	—	—	—	.00	—	.91	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
4. Customer-oriented culture	5.81	.96	.94	.83	.93	-.13	-.03	-.35***	.79	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
5. Customer satisfaction	5.77	.73	.89	.63	.89	-.31**	-.05	-.33***	.47***	.82	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
6. Short-term ROA ^{a, b}	-.85	6.01	.86	.67	.85	.19*	.11	.13	.11	.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
7. Employee growth rate ^a	3.26	12.9	—	—	—	.09	.01	-.07	.12	.00	.16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
8. CMO presence ^a	.15	—	—	—	—	.04	-.03	-.08	.10	.08	.16	.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9. Firm size (employees in thousands) ^a	53.9	92.4	—	—	—	.16	-.04	-.05	.12	.15	-.02	.01	-.09	—	—	—	—	—	—	—	—	—	—	—	—	—
10. Prior year performance ^{a, b}	-.46	5.32	—	—	—	.18*	.00	.04	.15	-.06	.69***	.07	.15	.02	—	—	—	—	—	—	—	—	—	—	—	—
11. Industry concentration ^a	.12	.15	—	—	—	.05	-.06	.11	.00	.04	.00	.12	-.12	.34***	-.01	—	—	—	—	—	—	—	—	—	—	—
12. Industry growth ^a	.08	.07	—	—	—	-.07	.03	.05	-.07	.07	.23**	-.09	-.13	-.11	.17*	.17*	—	—	—	—	—	—	—	—	—	—
13. Industry instability ^a	.11	.10	—	—	—	.07	.02	-.02	-.12	.01	.15	-.07	.00	-.02	.17*	.20*	.47***	—	—	—	—	—	—	—	—	—
14. German Prime Standard ^a	.66	—	—	—	—	-.50***	-.07	.26***	-.02	.05	-.14	-.12	.00	.09	-.10	.04	-.13	.02	—	—	—	—	—	—	—	—
15. Financial Times Stock Exchange ^a	.13	—	—	—	—	-.02	.06	-.11	-.08	-.03	-.11	.14	-.17	-.11	.00	.10	.23**	.05	-.55***	—	—	—	—	—	—	—

* $p < .10$.** $p < .05$.*** $p < .01$.^aSecondary data.^bIndustry-adjusted ROA expressed as a percentage.

Notes: The square roots of the AVEs are on the diagonal, if applicable; CR = composite reliability; CA = Cronbach's alpha.

ROA, and a chi-square goodness-of-fit test showed no difference in industry affiliation, each at the 5% level. These results suggest that nonresponse bias is not an issue.

Second, we reduce the potential simultaneity between wage inequality and its consequences by establishing temporal order (Rindfleisch et al. 2008; Rutz and Watson 2019). Simultaneity in our case may be prior-year profitability affecting wage inequality in the focal year or firms setting their wages differently after switching to a customer-oriented culture. To ensure that wage inequality is an antecedent and to reduce the potential of reverse causality, we took this measure at $t - 1$. Consequently, the key informant survey focused on firms' internal phenomena and customer satisfaction during the year t . We also collected data on firm profitability in the focal year of the analysis (t).

Third, to account for measurement errors, we use structural equation modeling (SEM). Imperfect measurements of any focal variable may result in imprecise estimations of construct relationships (Rutz and Watson 2019). By modeling the error component using SEM, we can ensure that any distortion caused by measurement errors is corrected.

Fourth, we test for common method variance in the survey data using the CFA marker technique to ensure that common measurement using the survey method does not distort the relationships between our focal constructs. We employed a theoretically unrelated marker variable to reveal the variance in the focal constructs potentially explained by a common method factor (Hulland, Baumgartner, and Smith 2018; Williams, Hartman, and Cavazotte 2010). In particular, we asked key informants the extent to which their firms engage in society-directed philanthropy, which is statistically unrelated to the firms' customer-directed opportunism, customer-oriented culture, and customer satisfaction at the 5% level. Following the procedure Williams, Hartman, and Cavazotte (2010) outline, we found that the indicators loaded significantly ($p < .05$) on the constructs they were intended to measure but not on the method factor ($p > .05$). Thus, we conclude that common method variance is not an issue in our study.

Results

We model the relationships presented in our framework using SEM in the R 3.6 environment with the lavaan .6.7 package. SEM is superior to conventional regression analysis for testing indirect effects when sequential mediators, parallel mediators, or both are involved (Preacher and Hayes 2008). To infer the magnitude and statistical significance of the hypothesized direct and indirect effects, we employed bootstrapped SEM with 10,000 resamples (Hayes 2009). We follow the recommendation of Preacher and Hayes (2008) to report bias-corrected and accelerated confidence intervals (CIs). The global fit indices suggest a good fit between the model and the underlying data ($\chi^2 = 191.82$, d.f. = 143, CFI = .95, TLI = .92, RMSEA = .059, SRMR = .071). The results of the SEM largely support the hypothesized effects (see Figure 3).

First, the analysis reveals a positive relationship between wage inequality and customer-directed effort with marginal statistical significance ($\gamma_{11} = .35$, $p < .10$) but, contrary to expectations, a nonsignificant relationship between customer-directed effort and customer satisfaction ($\beta_{41} = -.06$, $p > .10$). The positive indirect effect of wage inequality on customer satisfaction through customer-directed effort is not significant ($\gamma_{11}\beta_{41} = -.02$, $p > .10$, 95% CI: $[-.08, .02]$; see Table 2), providing no support for H_1 . We reflect on this nonsignificant finding in the "Discussion" section.

Second, the results confirm the proposed positive link between wage inequality and customer-directed opportunism ($\gamma_{12} = .43$, $p < .05$) and the negative link between customer-directed opportunism and customer satisfaction ($\beta_{31} = -.26$, $p < .05$). In support of H_2 , we find a negative indirect effect of wage inequality on customer satisfaction through customer-directed opportunism ($\gamma_{12}\beta_{42} = -.11$, $p < .05$, 95% CI: $[-.16, -.01]$; see Table 2).

Third, as we expected, the results show that wage inequality has a negative effect on customer-oriented culture ($\gamma_{13} = -.52$, $p < .01$) and customer-oriented culture has a positive effect on customer satisfaction ($\beta_{43} = .51$, $p < .01$). Thus, in support of H_3 , we find a negative indirect effect of wage inequality on customer satisfaction through customer-oriented culture ($\gamma_{13}\beta_{43} = -.26$, $p < .05$, 95% CI: $[-.33, -.03]$).

Fourth, the results reveal that wage inequality has an aggregated negative indirect effect on short-term profitability ($\gamma_{11}\beta_{41}\beta_{54} + \gamma_{12}\beta_{42}\beta_{54} + \gamma_{13}\beta_{43}\beta_{54} = -.07$, $p < .05$, 95% CI: $[-1.06, -.08]$). By contrast, and in accordance with H_{4a} , wage inequality also has a positive direct impact on short-term firm profitability ($\gamma_{15} = .26$, $p < .05$). These opposing indirect and direct effects reflect an inconsistent mediation (Aguinis, Edwards, and Bradley 2017), suggesting that the firm performance benefits from wage inequality are mitigated by the simultaneously harmed customer satisfaction. Indeed, the total effect of wage inequality on short-term profitability is positive but reaches only marginal statistical significance ($\gamma_{15} + \gamma_{11}\beta_{41}\beta_{54} + \gamma_{12}\beta_{42}\beta_{54} + \gamma_{13}\beta_{43}\beta_{54} = .20$, $p < .10$, 95% CI: $[-.16, 2.82]$, 90% CI: $[.06, 2.58]$).

Additional Analyses

Post hoc analysis. Prior research suggests that a customer-oriented culture can influence customer-directed effort and customer-directed opportunism (e.g., Dorsch, Swanson, and Kelley 1998). Accordingly, we repeated the SEM analysis, including paths from customer-oriented culture to customer-directed effort ($\gamma_{13} = .02$, $p > .10$) and customer-oriented culture to customer-directed opportunism ($\gamma_{23} = -.28$, $p < .01$). Notably, all hypothesized effects remain robust in this extended model.

Robustness checks. We performed a series of robustness checks to further ascertain the robustness of the findings. To that end, we estimated five model variants related to different

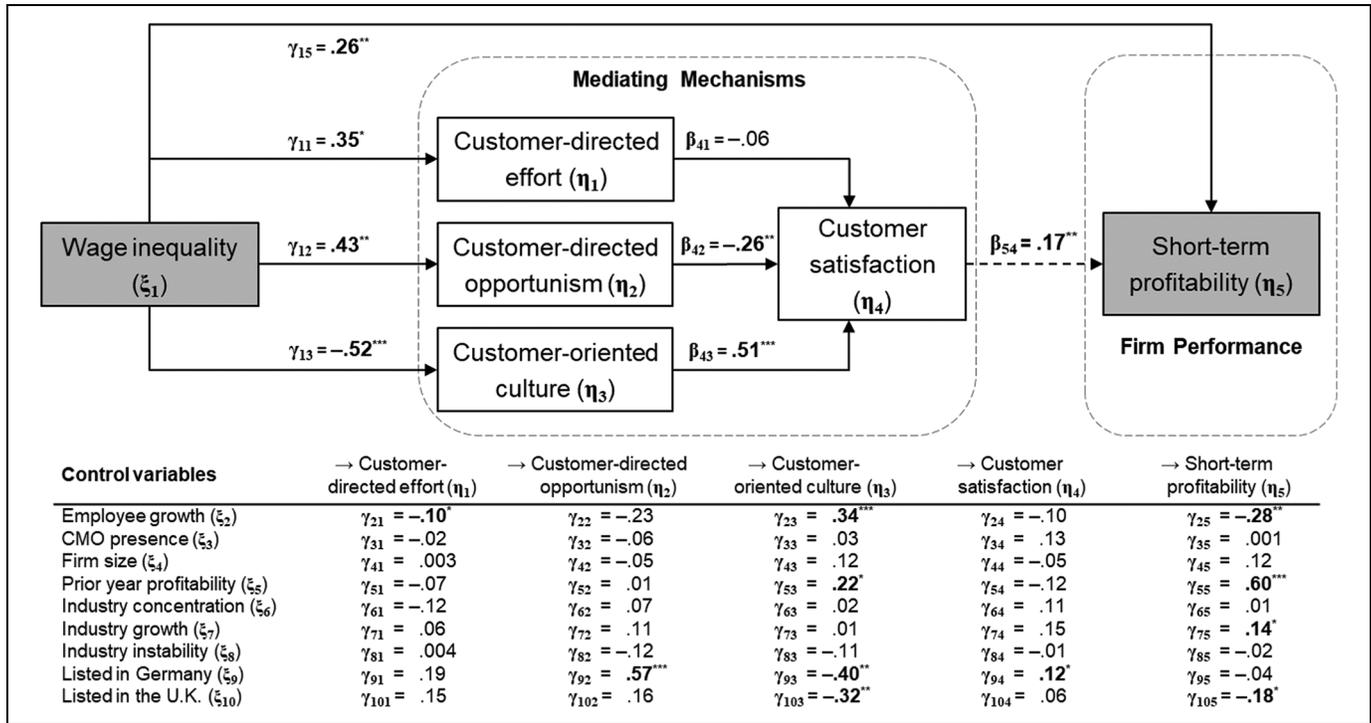


Figure 3. Results of the structural model for Study I.

*p < .10.

**p < .05.

***p < .01.

Notes: The results are based on two-tailed t-tests. Standardized coefficients are shown. Gray background indicates secondary data, and white background indicates key informant data measures. The dashed arrow indicates a path that is tested but not hypothesized.

Table 2. Bootstrapped SEM Indirect and Direct Effect Estimates for Study I.

Indirect Effect	Hypotheses	Path Coef.	95% CI
Wage inequality (ξ ₁) → Customer-directed effort (η ₁) → Customer satisfaction (η ₄)	H ₁	-.02	[-.08; .02]
Wage inequality (ξ ₁) → Customer-directed opportunism (η ₂) → Customer satisfaction (η ₄)	H ₂	-.11**	[-.16; -.01]
Wage inequality (ξ ₁) → Customer-oriented culture (η ₃) → Customer satisfaction (η ₄)	H ₃	-.26**	[-.33; -.03]
Wage inequality (ξ ₁) → Customer consequences (η ₁ , η ₂ , η ₃) → Customer satisfaction (η ₄) → ROA (η ₅)	—	-.07**	[-1.06; -.08]
Direct effect (γ ₁₅): Wage inequality (ξ ₁) → ROA (η ₅)	H _{4a}	.26**	[.21; 3.30]
Overall effect (γ ₁₅ +γ ₁₁ β ₄₁ β ₅₄ +γ ₁₂ β ₄₂ β ₅₄ +γ ₁₃ β ₄₃ β ₅₄): Wage inequality (ξ ₁) → ROA (η ₅)	—	.20*	[-.16; 2.82]

*p < .10.

**p < .05.

***p < .01.

Notes: The results are based on two-tailed t-tests. Bootstrapping with 10,000 resamples. 95% CI reported as bias-corrected and accelerated CIs (Preacher and Hayes 2008).

operationalizations of wage inequality and firm profitability and the choice of control variables. Table 3 presents the robustness check results of the hypothesized effects. First, we employed industry-adjusted return on sales (ROS) instead of industry-adjusted ROA as a dependent variable to check whether the results are robust to alternative operationalizations of firm profitability (Model 1). Second, we estimated a model with industry dummies as control variables instead of industry-adjusting the dependent variable ROA to control for industry-level effects (Model 2). Third, we performed a

robustness check in which we exclude prior year performance from the model to examine whether our modeling choices may influence the findings (Model 3). Fourth, we use the CEO instead of the TMT as the referent for the wage inequality measure (Model 4). Fifth, we include the TMT's average base wage instead of its total wage in the wage inequality measure to check whether the TMT's performance-based wage component affects the results (Model 5). The results of the robustness checks confirm that the proposed effects are robust to different measures of wage inequality and firm profitability and the

Table 3. Robustness Checks for Study 1.

	Alternative DVs		Controls	Alternative IVs		
	Base Model	Model 1 Industry-Adjusted ROS	Model 2 ROA with Industry Dummies	Model 3 Exclude Prior-Year Performance	Model 4 CEO-to-Employee Wage Ratio	Model 5 TMT Base-to-Employee Wage Ratio
Hypothesized Effects						
H ₁ : WI → CDE → CS	-.02	-.02	-.02	-.02	-.02	-.01
H ₂ : WI → CDO → CS	-.11**	-.10**	-.13**	-.12**	-.11**	-.07*
H ₃ : WI → COC → CS	-.26**	-.25**	-.26**	-.22**	-.18*	-.20**
H ₄ : WI → FP	.26**	.26**	.28**	.50***	.23*	.23**
Model Fit Indices						
χ^2 /d.f.	1.34	1.40	1.32	1.27	1.39	1.33
CFI/TLI	.95/.92	.93/.91	.93/.90	.96/.94	.94/.91	.95/.92
RMSEA/SRMR	.06/.07	.06/.07	.06/.06	.05/.07	.06/.08	.06/.07

* $p < .10$.** $p < .05$.*** $p < .01$.

Notes: The results are based on two-tailed t-tests. DV = dependent variable; IV = independent variable; WI = wage inequality; CS = customer satisfaction; FP = short-term firm performance; CDE = customer-directed effort; CDO = customer-directed opportunism; COC = customer-oriented culture.

choice of alternative controls, providing additional empirical support for the results.

Study 2

In Study 2, we analyze a panel data set of B2C firms using secondary data to extend the results of Study 1 in three important ways. First, this study attempts to replicate and generalize the overall impact of wage inequality on customer satisfaction and profitability found in Study 1. Second, whereas Study 1 measured customer satisfaction using self-reports, Study 2 leverages third-party customer satisfaction data. Third, while Study 1 is confined to the short-term performance consequences of wage inequality, this study investigates the impact of wage inequality on both short- and long-term profitability.

Methodology

Data collection and sample. For Study 2, we assembled data from multiple sources, including the ACSI, the Compustat Fundamentals Annual database, and the Execucomp database. The sampling frame contains publicly traded firms listed in the S&P 1500 index from 1994 to 2018 for which data on total labor expenses are available from the Compustat database and data on TMT wages from the Execucomp database. Following prior research, we excluded firms with incomplete reporting (Connelly et al. 2016). We then manually matched this initial sample with the ACSI, which marketing scholars commonly revert to as a measure of customer satisfaction (Fornell, Morgeson, and Hult 2016; Rego, Morgan, and Fornell 2013). For firms having multiple brands per year in the index, we took the average of their brands' ACSI scores to measure firm-level customer satisfaction (Malshe and Agarwal 2015). This process yielded a final sample of 521 firm-year unbalanced panel observations. Firms in this sample come from various

industries, such as airlines, financial services and insurance, restaurants, department and discount stores, automobiles, and utilities.

Measures. We employed the same measures and temporal order for wage inequality ($t - 1$), short-term profitability (t), employee growth rate ($t - 1$), CMO presence ($t - 1$), firm size (t), prior year performance ($t - 1$), industry concentration (t), industry growth ($t - 2$, $t - 1$, t), and industry instability ($t - 2$, $t - 1$, t) as in Study 1. In addition, we introduce ACSI as a measure for customer satisfaction at t and operationalize long-term profitability as the future three-year average industry-adjusted ROA for years t , $t + 1$, and $t + 2$ (Feng, Morgan, and Rego 2015). To ensure that extreme values do not bias the results, we winsorize the data at the 1% level before analysis (Rego, Morgan, and Fornell 2013). Table 4 reports descriptive statistics and correlations of all variables.

Results

We model the data using firm fixed-effects models. Firm fixed-effects models control for unobserved time-invariant effects at the firm and automatically also at the industry level. These models, furthermore, reduce heteroskedasticity and autocorrelation issues, and provide a conservative test of the hypotheses (Connelly et al. 2016; Srinivasan and Hanssens 2009). Our choice for a fixed-effects model over a mixed-effects model is appropriate, as the Hausman (1978) test indicates (χ^2 /d.f. = 24.6, $p < .01$). To further reduce the likelihood of heteroskedastic error terms, we employ robust standard errors in all analyses. The results of the firm fixed-effects panel regressions provide strong empirical support for our hypotheses.

First, the results replicate the effects of wage inequality on customer satisfaction and short-term firm profitability from

Table 4. Descriptive Statistics and Correlations for Study 2.

Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Wage inequality	93.0	104.4											
2. Customer satisfaction (ACSI)	74.6	7.12	-.13***										
3. Short-term ROA ^{a, b}	.72	3.89	.23***	.30***									
4. Long-term ROA (three-year average) ^{a, b, c}	.80	3.41	.25***	.37***	.87***								
5. Long-term ROA (five-year average) ^{a, b, d}	.74	3.32	.28***	.42***	.81***	.94***							
6. Employee growth rate ^b	3.31	20.12	.05	-.04	-.02	.00	.01						
7. CMO presence	.26	—	.06	-.12***	.03	-.02	-.07	-.03					
8. Firm size (employees in thousands)	111.6	127.9	.37***	.06	-.07	-.10**	-.13**	-.03	.03				
9. Prior year performance ^{a, b}	.72	3.77	.22***	.28***	.70***	.69***	.69***	.00	.01	-.04			
10. Industry concentration	.06	.04	.07*	.16***	.04	.04	.04	-.04	.11**	.53***	.05		
11. Industry growth	.06	.08	-.04	-.04	-.02	-.03	-.02	.06	.16***	-.03	-.01	.03	
12. Industry instability	.12	.09	-.09**	-.01	-.04	-.07	-.06	-.01	-.04	-.04	-.08*	.07	-.15***

* $p < .10$.** $p < .05$.*** $p < .01$.^aIndustry-adjusted ROA.^bExpressed as a percentage.^c $N = 442$.^d $N = 367$.Notes: $N = 521$.

Study 1. More specifically, wage inequality has a positive direct effect on short-term firm profitability ($\beta = .25$, $p < .05$), offering additional support to H_{4a} . Furthermore, wage inequality has a negative effect on customer satisfaction ($\beta = -.29$, $p < .01$), and customer satisfaction has a positive effect on short-term profitability ($\beta = .15$, $p < .05$). To estimate the magnitude and statistical significance of the indirect effect, we employ bootstrapping with 10,000 resamples (Hayes 2009). Again, we report bias-corrected and accelerated CIs (Preacher and Hayes 2008). The negative indirect effect of wage inequality on short-term profitability through customer satisfaction reaches statistical significance (Est. = $-.04$, $p < .05$, 95% CI: $[-.10, -.01]$) and thus confirms the results from Study 1. As in Study 1, the total effect of wage inequality on short-term profitability is positive but reaches only marginal statistical significance (Est. = $.21$, $p < .10$, 95% CI: $[-.01, .49]$, 90% CI: $[-.04, .44]$).

Second, as hypothesized in H_{4b} , the positive direct effect of wage inequality on firm profitability vanishes in the long run ($\beta = .05$, $p > .10$). Importantly, however, the negative indirect effect persists: wage inequality continues to have an indirect negative impact on long-term firm profitability through customer satisfaction (Est. = $-.05$, $p < .01$, 95% CI: $[-.09, -.01]$). Therefore, customer satisfaction fully mediates the negative effect of wage inequality on long-term profitability. The total effect fails to reach even marginal statistical significance (Est. = $.01$, $p > .10$, 95% CI: $[-.21, .21]$).

Repeating the analysis with long-term profitability measured as the future five-year average ROA yields consistent results (see Table 5). We also repeated the analyses with

short-term ROS, future three-year average ROS, and future five-year average ROS as alternative measures of firm profitability. The results provide additional and consistent support for H_{4a} and H_{4b} .

Discussion

Theoretical Contributions

Drawing on tournament theory, this study investigates the impact of wage inequality on firm performance from a marketing perspective. In addressing this issue, the study contributes to the marketing literature in two important ways. First, we contribute by examining the impact of wage inequality on customer satisfaction through customer-related consequences. Study 1 reveals that wage inequality increases customer-directed effort and customer-directed opportunism but damages customer-oriented culture.

As hypothesized, the impact of wage inequality on customer-directed opportunism and customer-oriented culture translates into reduced customer satisfaction. By showing that wage inequality negatively influences customer satisfaction through customer-directed opportunism, we answer Moorman and Day's (2016) research call to identify drivers of employee misbehavior. As hypothesized, wage inequality motivates internal competition for promotions that employees try to win by misleading, distorting facts, or cheating customers to benefit the firm and their own career, which backfires because it leaves customers dissatisfied. Our study also examines factors that may influence the establishment and maintenance of a

Table 5. Results of the Firm Fixed-Effects Panel Regression for Study 2.

Dependent Variable	Short-Term Profitability		Long-Term Profitability (Three-Year Average ROA)		Long-Term Profitability (Five-Year Average ROA)	
	ROA _t	ACSI _t	ROA _(t + 0 to 2)	ACSI _t	ROA _(t+0 to 4)	ACSI _t
Main Effects						
Wage inequality	.25** (.12)	-.29*** (.08)	.05 (.10)	-.22** (.06)	.03 (.10)	-.22*** (.07)
Customer satisfaction (ACSI)	.15** (.06)		.21*** (.07)		.19** (.08)	
Controls						
Employee growth rate	-.02 (.03)	-.04 (.02)	-.02 (.03)	-.02 (.02)	-.003 (.03)	-.01 (.02)
CMO presence	-.11 (.11)	-.14* (.08)	-.11 (.11)	-.13** (.07)	-.12 (.12)	-.06 (.08)
Firm size (log)	-.18 (.13)	.47*** (.11)	-.22 (.15)	.53*** (.10)	-.22 (.14)	.42*** (.11)
Prior year performance	.23*** (.07)	.04 (.03)	.11** (.05)	.04 (.04)	.02 (.05)	.02 (.04)
Industry concentration	.64*** (.20)	.56*** (.18)	.82*** (.18)	.52*** (.18)	.75*** (.17)	.49*** (.18)
Industry growth	.01 (.03)	-.003 (.03)	.00 (.03)	-.03 (.04)	.01 (.03)	-.08*** (.03)
Industry instability	-.04 (.03)	.03 (.03)	-.01 (.02)	.05 (.03)	.02 (.03)	.01 (.02)
Year (effects coded)	Included	Included	Included	Included	Included	Included
Model Information						
N (firm-year observations)	521		442		367	

* $p < .10$.** $p < .05$.*** $p < .01$.

Notes: The results are based on two-tailed t-tests. Robust standard errors are in parentheses. The long-term profitability models are respectively based on $N = 442$ and $N = 367$ because of the limited availability of financial data for the most recent years that are necessary to calculate the future three-year and five-year average ROA. The sub-samples may explain differences in the estimation results for ACSI across models.

customer-oriented culture. Specifically, the results show that wage inequality undermines a customer-oriented culture and customer satisfaction. This is likely because of reduced collaboration among coworkers, which leads to less knowledge exchange and thus siloed understanding of customer demands. Notably, and contrary to our expectations, wage inequality does not affect customer satisfaction positively through customer-directed effort. Perhaps employees who exert customer-directed effort behave in ways that customers perceive as more intrusive rather than relationship oriented; thus, such efforts fail to strengthen customer relationships. Taken together, the results consistently show that wage inequality harms customer satisfaction. Therefore, the study answers the call from the wage inequality literature to examine the impact of wage inequality on customer relationships (Connelly et al. 2016). To our knowledge, we are the first to empirically demonstrate that wage inequality harms customer satisfaction and does so through customer-directed opportunism and customer-oriented culture.

Second, our research also contributes by addressing the ambiguity in the effect of wage inequality on firm performance (Shaw 2014). Previous empirical research is divided on whether wage inequality affects firm performance positively, negatively, or not at all (e.g., Connelly et al. 2016; Leonard 1990; Messersmith, Kim, and Patel 2018). Indeed, Shaw (2014) calls for researchers to disambiguate this relationship by simultaneously testing the direct and indirect effects of wage inequality on firm performance.

In Study 1, the analyses of a B2B sample confirm that wage inequality has a positive direct effect on short-term profitability. Thus, wage inequality motivates employees to engage in

behaviors that lead to short-term successes to convince their managers to award them with good ratings and promote them more readily. However, the behaviors that are induced by wage inequality also adversely affect customer-related consequences and customer satisfaction and thereby indirectly dampens short-term profitability. Taken together, the positive direct and negative indirect effects result in a marginally significant, positive total effect of wage inequality on short-term profitability. These opposing indirect and direct effects reflect an inconsistent mediation (Aguinis, Edwards, and Bradley 2017) that suggests that customer satisfaction acts as a suppressor variable (MacKinnon, Krull, and Lockwood 2000). More precisely, in line with the general reasoning of MacKinnon, Krull, and Lockwood (2000), by including customer satisfaction in the model, the direct effect of wage inequality on firm performance becomes stronger. Previous research—unaware of the suppressive effect of customer satisfaction—may have underestimated the direct effect of wage inequality on firm performance and therefore may have reached ambiguous conclusions. To avoid such ambiguity, we recommend future research on the effect of wage inequality on firm performance to consider the suppressive effect of customer satisfaction.

In Study 2, we add to the findings by also investigating the effects of wage inequality on long-term profitability in a B2C sample. Importantly, we demonstrate that long-term profitability does not benefit from wage inequality. In line with our hypothesizing, the findings reveal that wage inequality fails to motivate employee behaviors that aim to achieve long-term improvements, likely because promotion tournaments prefer employees who display short-term successes. More precisely, we show that in the long run, the previously

positive direct effect of wage inequality on short-term profitability vanishes while the negative indirect effect persists. Customer satisfaction fully mediates the relationship between wage inequality and long-term firm profitability. This full mediation is notable given previous research that finds a negative effect of wage inequality on long-term profitability but does not scrutinize the underlying mechanism empirically (Connelly et al. 2016). Our study explains this effect by showing the importance of customer satisfaction for firms to sustain profitability in the long run. More specifically, the results provide insights into how firms' wage inequality—reflecting the reward distribution across job levels—leads to different short- and long-term outcomes. As such, we address the general scarcity of marketing research examining long-term performance consequences (Katsikeas et al. 2016).

Implications for Managers and Shareholders

Beyond the research implications, this study also suggests insights for managers and shareholders to rethink their approach to wage inequality. For managers, the results show that, on the one hand, wage inequality tends to be marginally beneficial rather than detrimental to short-term profitability. The positive direct effect of wage inequality on short-term profitability slightly exceeds its negative indirect effect. Thus, short-term-oriented managers can argue that wage inequality causes no immediate harm to short-term profitability. On the other hand, long-term-oriented managers should be aware that the positive direct effect of wage inequality on short-term profitability disappears over time while the negative indirect effect through customer satisfaction remains.

Although the overall impact of wage inequality on long-term profitability is not significant, wage inequality nevertheless motivates customer-oriented opportunism, undermines customer-oriented culture, and thus harms customer satisfaction. These adverse effects may lead to negative externalities. For example, customer-directed opportunism can lead to legal consequences in extreme cases, such as Wells Fargo's (Touyalai 2016; Wack 2018). Similarly, for firms that rely on their customer-oriented culture, such as Disney, excessive wage inequality could seriously damage the brand image and create negative press (Caron 2018). Finally, the harmful effects of wage inequality on customer satisfaction may lead to less repeat purchasing as well as more complaining and negative word-of-mouth behavior (Szymanski and Henard 2001).

In some cases, it may be difficult to adjust wage inequality to avoid its negative externalities. If so, managers might invest in a strong brand or corporate social responsibility to strengthen the attachment of employees and customers to the firm. This may raise employee effort and make customers more forgiving about potential misbehavior (Korschun, Bhattacharya, and Swain 2014; Stahl et al. 2012). Another promising way may be to establish clear paths for career development to strengthen the positive effect of wage inequality on effort (Messersmith, Kim, and Patel 2018) and reduce the need for opportunistic behaviors.

For shareholders, the findings suggest optimizing top managers' performance targets to balance the incentives for their short- and long-term orientation to prevent potential negative externalities. That is, top managers who secure a bonus by improving short-term profitability may tend to cut costs, which could include employee wages. Such managerial choices, however, may lead to increased wage inequality and thus have adverse effects on customer-directed opportunism, customer-oriented culture, and customer satisfaction. Over the past two decades, TMT wages have underappreciated customer satisfaction (Huang and Trusov 2020). Yet extant research suggests that wage systems need to incentivize customer orientation and customer satisfaction to improve these outcomes (Hauser, Simester, and Wernerfelt 1994; Kohli and Jaworski 1990; Narver and Slater 1990). Accordingly, shareholders should assign not only financial metrics, such as profitability, but also qualitative metrics, such as customer satisfaction, as performance targets for top managers and employees to better align their self-interests with the firm's interest.

Implications for Policy Makers

Finally, this study also has important implications for policy makers. First, our study contributes to the discussion of whether firms have an economic incentive to increase wage inequality (Tsui, Enderle, and Jiang 2018). Notably, the results reveal that higher wage inequality does not benefit a firm in the long run. A firm's short- and long-term profit gains induced by wage inequality are devoured by the indirect harmful effect of wage inequality through customer satisfaction. Specifically, suppose the average firm in the Study 2 sample decided to increase its wage inequality by 1%. In that case, this firm could expect profit gains of merely US\$3.5 million over the next three years (.02% change in ROA) or profit losses of US\$7 million over the next five years (−.03% change in ROA). These real-world effects vary around zero and are not statistically significant. Consequently, wage inequality is not beneficial for firms; it is, however, detrimental to society (OECD 2015; UN General Assembly 2015). This insight provides a new and validated argument that can help policy makers build managerial consensus to reduce excessive wage inequality.

Second, although wage inequality does not benefit the firm, managers reap substantial individual gains from higher wages. Thus, we assume that not all managers will act in the best interest of their firm, because they may be overly interested in their own profits. Therefore, policy makers need to act to stop top managers from maximizing their wages while jeopardizing their firms' and society's long-term interests. Against this background, a cap on the top-management-to-employee wage inequality, as proposed by German policy makers (Anger 2019), seems sensible. Similarly, taxing firms in proportion to their wage inequality—and thus reducing their short-term profitability gains—which is being considered in California (Rihn 2020), appears promising. Taken together, our study provides a nuanced understanding of the wage inequality–firm performance relationship. These insights can

help policy makers gain managerial consensus on regulating wage inequality in a meaningful way, thereby protecting long-term economic growth and societal cohesion.

Limitations and Avenues for Further Research

Our study lays the foundation for further research to understand better how wage inequality affects customer relationships. As with any study, our work has some limitations, which may provide avenues for further research. First, our study focuses on outcomes of vertical TMT-to-employee wage inequality. Further research could analyze horizontal employee-to-employee wage inequality. Such wage inequality has been shown to reduce cooperation among employees (Levine 1991; Pfeffer and Langton 1993). This suggests that wages of marketing versus sales employees affect their functional interface and, thus, customer relationships.

Second, we focus on how employees respond to the impact of wage inequality between top managers and employees. Thus, we cannot speak to the effect of CEO-to-TMT wage inequality on TMT members' competitive or collaborative behaviors and resulting customer-related outcomes. However, we expect the outcomes to be in line with our theoretical development. Prior research finds that TMT members increase their effort and engage in opportunistic behavior, such as misreporting product or service quality (Shi, Connelly, and Sanders 2016), affecting customer-related outcomes. Further research on how upper echelons respond to wage inequality would be of high interest (Whitler et al. 2020).

Third, our study explains *how* wage inequality affects firm performance. Further research might substantiate our results and offer insights to managers by empirically testing *when* the effects are stronger or weaker. Moderators of the wage inequality–customer satisfaction link may govern competition or collaboration among coworkers based on organizational and environmental factors. From an organizational standpoint, formalized paths for career development and wage raises may increase customer-directed effort (Messersmith, Kim, and Patel 2018) and reduce customer-directed opportunism in response to wage inequality. Moreover, brand equity or corporate social responsibility may moderate the impact of wage inequality on employees' and customers' attachment to a firm as they want to relate to strong brands or socially responsible firms (Korschun, Bhattacharya, and Swain 2014; Stahl et al. 2012). As a result, employees may be more likely to exert effort to compete for promotion, and customers may be more forgiving of misbehavior. From an environmental standpoint, market competition may amplify the positive effect of wage inequality on opportunism because showing performance through effort alone is hard. A firm with high wage inequality that operates in a highly competitive market may have less satisfied customers than if it operated in a less competitive market.

Fourth, we carefully identified knowledgeable key informants to collect reliable data in Study 1. Yet, relying on a

single informant from each firm and self-reports on customer satisfaction poses limitations. In Study 1, collecting satisfaction data from customers was not feasible due to data protection laws and the unwillingness of the sample firms to provide customer access. Indices such as the ACSI also did not help because they focus on B2C firms, whereas Study 1 examines B2B firms. Thus, further research using a second key informant or alternative data sources may be warranted. To mitigate these limitations, we set high standards for key informant competency. In addition, Study 2 confirms the effects of wage inequality on customer satisfaction and profitability using ACSI data for a B2C sample.

Appendix. Measures, Items, Item Reliabilities, and Standardized Item Loadings.

Measures	IRs ^a	ILs ^b
Customer-Directed Effort^c (adapted from Palmatier [2008])		
How often do representatives from your company communicate with each of your customers on average in a typical month?	—	—
Customer-Directed Opportunism^d (adapted from Palmatier, Dant, and Grewal [2007])		
In working with our customers, it sometimes happens that our company...		
...alters facts to a certain extent to meet our own goals and objectives.	.79	.89
...does not always negotiate from a good faith bargaining perspective.	.92	.96
...neglects formal or informal agreements to benefit themselves.	.75	.87
Customer-Oriented Culture^d (adapted from Deshpandé, Farley, and Webster [1993] and Homburg, Grozdanovic, and Klarmann [2007])		
We emphasize customer-related activities and success.	.38	.62
We have a customer-oriented culture.	.92	.96
Our customers are a focal point of our activities.	.81	.90
We have a strategy that is based on the understanding of customers.	.49	.70
We have realized that customer needs are constantly evolving and that it is necessary to be informed about trends and customer demands.	.43	.65
Customer Satisfaction^d (adapted from Homburg, Müller, and Klarmann [2011])		
Our customers enjoy collaborating with our company.	.47	.68
On an overall basis, our customers' experience with our company has been positive.	.76	.87
On an overall basis, our customers are satisfied with our company.	.80	.89

^aItem reliabilities.

^bStandardized item loadings: square root of item reliabilities (Bagozzi and Yi 2012).

^cItem was answered using integer values.

^dItems were rated on a seven-point Likert scale (1 = "strongly disagree," and 7 = "strongly agree").

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