Collective Action and Customer Service in Retail*

Abstract:

This article examines the relationship between workplace collective action at Walmart – the country's largest employer – and customers' perceptions of service. We show that increases in workplace collective action, as measured by OUR Walmart membership cards signed, are associated with lower customer ratings of service, as measured by Yelp reviews. We argue that this correlation poses an underappreciated obstacle for labor organizing in the service sector. The article makes use of a new, detailed database of organizing efforts within Walmart stores around the country, linked with the population of all Yelp reviews written about Walmart. We supplement our quantitative analysis with qualitative data drawn from 80 oral history interviews with Walmart workers.

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Introduction

In recent years, economists have found evidence of a negative association between workplace collective action and labor productivity and quality (Krueger and Mas 2004; Mas 2006; Mas 2008; Gruber and Kleiner 2012). This negative relationship likely has different implications for different industries, however, a topic that has gone unaddressed in the literature. Interactive service work, an increasingly large proportion of U.S. employment (Autor and Dorn 2013), replaces the traditional shop-floor relationship between workers and managers with a triadic relationship among workers, customers, and managers (Korczynski 2013; Lopez 2010; McCammon and Griffin 2000). In the service-sector, where "there are no clear distinctions between the product being sold, the work process, and the worker" (Leidner 1993, p. 2), workplace collective action may be associated with a deterioration in the quality of workers' interactions with customers. This dynamic, in turn, may make customers less sympathetic to workers' grievances, posing an under-appreciated obstacle to the sorts of worker-consumer alliances that have been important for successful union campaigns in the past (2006; Johnston 1994; Lopez 2010; Reich 2012).

We test the relationship between labor organizing at Walmart—the country's largest employer—and customers' perceptions of service. We make use of a new, detailed database of organizing efforts within Walmart stores around the country, linked with the population of all Yelp reviews written about Walmart. We find a negative association between worker card-signing and Yelp ratings using high-frequency monthly

panel variation. In our discussion, in order to begin to adjudicate among different potential causal mechanisms explaining this association, we supplement our quantitative analysis by drawing on a set of 80 oral history interviews conducted with Walmart workers.

The organization of the paper is as follows: In the next section we review the literature on the relationship between workplace collective action and labor quality, and suggest why this relationship may have different implications in the service sector. Then we review our methods and data. We first discuss our primary independent variable, OUR Walmart card-signatures, and then discuss our dependent variable, Yelp ratings. We also describe our qualitative data. Next we undertake the empirical analyses described above. We conclude by outlining two mechanisms that could give rise to the correlations and providing qualitative evidence for each, and argue that instead of service work fostering affinity between customers and worker organizing due to increased interactions (as in Allport 1954 or Heider 1959), it may in fact increase antagonism.

The Relationship Between Workplace Collective Action and Labor Quality

Evidence from the manufacturing sector suggests that workplace collective action negatively impacts labor quality. Krueger and Mas (2004), for example, demonstrated that a contentious strike at a Bridgestone/Firestone plant in Decatur increased the number of defective tires produced at the plant during this time. Another study by Mas (2008) showed that contract disputes at Caterpillar Corporation factories in the 1990s led to a decline in workmanship during the conflict.

Within the service sector, scholars have found a similar negative impact of workplace collective action on labor productivity and quality. Making use of final offer arbitration cases involving wage disputes among New Jersey police officers, for example, Mas (2006) showed that police officer productivity—measured by arrest rates, clearance rates, and crime rates—declined when police unions lost arbitrations, even when such arbitrations involved a net pay increase. Likewise, Gruber and Kleiner (2012) demonstrated that patients suffered higher mortality and readmission rates when they were admitted to hospitals in the midst of nurses' strikes, and that these effects were particularly strong among patients with conditions requiring intensive nursing care.

The aforementioned scholarship is evidence that workplace collective action is negatively related to labor quality across the manufacturing and service sectors, though the mechanisms driving the association seem to vary across the studies. For instance, in the case of the nurses' strikes, the association seems to be explained simply by the nurses' withdrawal of their skilled labor during the strike (Gruber and Kleiner 2012, pp. 154-155). In the case of the Bridgestone/Firestone plant, in contrast, the decline in labor quality seems to be explained not by the strikers' withdrawal of their labor but by shop-floor conflict between strikers, managers, and replacement workers. Krueger and Mas (2004, p. 256) conclude that "it is not simply that undertrained or poorly supervised replacement workers produced defective tires. Instead, the timing suggests that the concurrence of replacement workers and union members working side by side before the contract was settled, as well as labor strife in the months leading up to the strike, coincided with the production of a high number of defective tires." Mas likewise suggests, in his study of Caterpillar, that conflict between workers and management—

rather than strike activity—explains the association between collective action and declines in labor quality (Mas 2008, p. 254). Finally, in the case of New Jersey police officers, perceived unfairness regarding the labor contract—rather than explicit conflict at the workplace—explains the decline in worker quality (Mas 2006; see also Fehr and Fischbacher 2002).

All of these studies suggest a negative association between workplace collective action and labor quality and productivity. They also hint at an important potential difference regarding the impact of this association in the manufacturing versus the service sector. It seems that consumers would be much more likely to attribute productivity losses caused by labor unrest *to workers* in the service industry than they would in manufacturing. In the case of Bridgestone/Firestone and Caterpillar, for example, a consumer may be outraged by the low quality of a product, but she would likely direct her outrage to the corporation as a whole rather than to workers. Given the physical and temporal distance between collective action and the faulty tire, it is unlikely that the tire consumer would realize that the faulty tire was related to worker productivity. An admittedly unsystematic review of consumer complaints about Firestone tires unearths no mention of production workers at all—those who complain about the quality of the product attribute responsibility to the company as a whole.[1] In the case of a nurses' strike leading to substandard care, however, it seems far more plausible that a patient would fault the striking nurses themselves.

[1] We base this assertion on reviews of Firestone Tires written on the website ConsumerAffairs.com. http://www.consumeraffairs.com/automotive/firestone.html [Accessed October 20, 2015].

Such a difference in consumers' attributions for productivity losses might be due to the different nature of the goods being produced in the manufacturing and service sectors and the different production functions involved. Within the service sector, the product of service work is in large part the customer's interaction with a worker (Hochschild 1983; Leidner 1993); changes in labor productivity thus manifest themselves as changes in the quality of the interactions between workers and customers. This may be an unrecognized paradox of Marx's (1990[1867], p. 165) commodity fetishism: since, in the manufacturing sector, relations among people appear as relations among things, the impact of workplace collective action on the quality of a product is more difficult for a consumer to attribute to workers themselves. In contrast, in the service-sector, where a component of the product *is* the interaction, the impact of labor strife on the quality of such interaction would more likely be attributed to workers.

Based on existing literature on the impact of workplace collective action on worker productivity, and the particular nature of productivity within the interactive service sector, we hypothesize that increases in workplace collective action in the service sector will be associated with lower satisfaction among customers and more negative customer perceptions of workers in particular. We argue that this may lead customers to be less sympathetic to workers' grievances and collective goals.

Background and Methods

The Organization United for Respect at Walmart (OUR Walmart) is a voluntary association made up of current and former[2] Walmart employees. The organization was founded in late 2010 in coordination with the United Food and Commercial Workers union (UFCW), which provided the majority of its funding, and it is often discussed as a model for a "new" labor movement that operates outside the representation framework established by the National Labor Relations Act (NLRA) (see Aronowitz 2014, pp. 130-131). OUR Walmart does not seek to win union recognition from Walmart; rather, it advocates for Walmart workers through collective actions such as annual Black Friday strikes, through attendance at the company's annual shareholders' meeting, through earned and paid media, and through smaller-scale campaigns at specific stores. During the period we study, OUR Walmart was the only labor group organizing Walmart workers.

The most obvious measure of the strength of OUR Walmart is the size of its membership. In order to become a member, a worker must sign a card and agree to pay a small amount ($5) in monthly dues. Members participate in regular meetings with one another, plan and execute local actions, and take part in a broader community of workers and community-members committed to changing company policy. The sorts of collective action problems familiar to scholars of social movements (Olson 1965) are amplified in this context. Compared to a traditional union election drive, the potential public goods produced through collective action are abstract and temporally uncertain. Meanwhile, Walmart is notoriously aggressive in its opposition to any sort of worker

[2] Almost all members of OUR Walmart join at a time during which they are employed by Walmart, but some continue to belong to the organization after they have left (or have been fired from) the company.

organizing effort, putting members at risk of illegal discipline or termination (Lichtenstein 2009).

Given the uncertainty of the public goods produced through participation in the organization, and the much more immediate risks of participation, a worker seems likely to join only when he or she feels rewarded by the expressive benefits of participation. Based on our interviews with members of OUR Walmart, joining often seems to have resulted from the perceived disrespect with which one feels treated by Walmart, and a commitment to challenging this disrespect collectively at the level of a store and at the level of the corporation as a whole. Signing is not an indicator of store-level conflict so much as an indicator of store-level grievance, and willingness to participate in collective action around this grievance.

A worker signing a membership card often represents the culmination of other steps at both the worker and store level. At the store level, this process tends to unfold in a predictable way. A paid organizer (some but not all of whom are former Walmart workers themselves) makes initial contact with workers in a store through brief and often surreptitious interactions on the floor.[3] Oftentimes an organizer will form an organizing committee made up of particularly active members who, in turn, will help the organizer recruit other members.

We make use of a database maintained by OUR Walmart that includes information on every worker with whom the organization was in contact between 2010 and 2015. The database includes detailed information on all members of the organization, including the stores for which they work, their departments and shifts, as

[3] These sorts of visits are legal but contested by Walmart and other retail employers.

well as their home zip codes. The database also includes the date at which a worker was entered into the database and (for members) the date at which the member signed. Figure 1 shows the cumulative number of cards signed across the country between the organization's inception and early 2015. This does not take into consideration member attrition. This is a limitation and yet one that is unlikely to impact our results dramatically. Our main results concern variation in *new* monthly signing rather than cross-sectional variation in total membership.

[Figure 1 About Here]

We use signed membership cards as our primary indicator of store-level collective action, and aggregate the number of signed cards to the store and month level. We use both an indicator variable for any cards signed as well as a count measure of the number of cards signed, to examine differences between extensive and intensive margins. We control for the number of workers contacted to date in a given store-month as a proxy for the organizing resources committed to a particular store and the pool of contacts organizers already have access to.

In order to examine the relationship between worker organizing and customers' perceptions of workers, we also draw on the population of Yelp reviews written about Walmart stores. Yelp.com was founded in 2006. Between 2006 and early 2015, 35,114 unique reviews were written on the site about Walmart stores around the country. There at least two advantages for using Yelp reviews for this study. First, the breadth of Yelp data far exceeds other potential sources of data about customer experiences at Walmart or other large retailers. Second, since reviewers include both quantitative ratings (between

one and five stars) of experiences and qualitative descriptions of experiences, we are able to combine standard regression methods with textual analysis. The shape of the distribution of Yelp ratings does not change dramatically over the course of our study period, though the reviews do become more negative overall between 2011 and 2015.

Since we are interested in how worker organizing is related to customers' perceptions of workers, our primary analyses draw on a restricted sample of Yelp reviews that make explicit mention of workers—those that include the terms "worker," "workers," "employee," "employees," "associate," or "associates." Of the 35,114 reviews in the dataset, 4,195 (or 11.9 percent) make explicit mention of workers. We also report the results of the analyses using the full population of Yelp reviews.

We validate that this restricted sample provides a good indicator of customers' perceptions of workers with simple language-processing techniques, identifying the adjectives across the population of reviews that are the most highly correlated with worker mentions. The adjectives most strongly associated with worker mentions seem to refer to the service that a reviewer received from a worker—i.e. words like "rude," "bad," "mean," as well as "helpful" and "friendly." This supports our intuition that reviews mentioning workers tend to be about the quality of the service that a reviewer feels he or she received from workers. Such analysis also reveals the negative valence with which customers tend to regard workers in general. The adjective "rude" is the adjective most frequently associated with the reviews mentioning workers, and the overwhelming majority of adjectives that have a valence are negative: "mean," "bad," "horrible," "poor," "terrible," etc.[4]

[4] Wordclouds showing these patterns are in the online Appendix.

As with the full sample of Yelp reviews, the distribution of ratings among those Yelp reviews mentioning workers changes somewhat over the course of the study period. However, qualitative features remain similar: e.g. the modal review is 1 star, the average review is close to 2 stars, and the median review is either 1 or 2 stars. The distribution of the reviews mentioning workers are even more negatively skewed than those in the full sample. Along with the adjective analysis above, this is more evidence that workers become more salient to customers as customers' reviews of their experiences decline.

There is some question as to whether Yelp reviews are an accurate indicator of average customer experiences. Criticisms of the accuracy of Yelp reviews in the popular press typically concern (1) whether companies (or their competitors) are able to forge Yelp reviews in order to artificially inflate (or deflate) ratings; (2) whether Yelp has an incentive to boost or otherwise doctor the ratings of those who pay Yelp for its business services; and (3) whether Yelp reviewers are representative of customers as a whole.

These concerns seem to have varying degrees of validity, although none would likely impact our results. Yelp has obvious financial incentives to filter fraudulent reviews in order that its service remain useful to consumers. Luca and Zervas (2015) suggest that small businesses are more likely to fabricate positive reviews for themselves and to fabricate negative reviews for their competitors. This is consistent with other research by Luca (2011) suggesting that online reviews drive revenues at small businesses more than they do at national chains. Large retailers such as Walmart, for which reviews are less likely to impact revenues, have little incentive to participate in fraud—or, for that matter, to pay Yelp in order to boost its ratings.

Moreover, we are interested in within-store variation over time. While reviewers may not be representative of all consumers, there is no reason to suspect that—for a particular store—the typical reviewer changes in a systematic way over time. In other words, while any individual review may not be an accurate reflection of the typical customer's experience, changes in reviews over time *are* likely indicative of changes in the customer experience.

Given that our analysis concerns how customers' experience of a store changes as workers organize within the store, we conduct our analyses at the store level by creating a panel of store-month average Yelp reviews and numbers of cards signed. Summary statistics are presented in Table 1, separately by store-months in which cards were signed and those in which no cards were signed. We restrict attention to stores that received at least one card at some point in the 2010-2015 period.

[Table 1 About Here]

In the summary statistics, we can already see that store-months in which cards are signed have lower Yelp ratings, both overall and when we restrict attention to reviews that mention workers. We can also see that the two categories of store-months—those in which cards are signed and those in which they are not—are broadly comparable: the stores in each category exhibit similar sales volumes and square footage measures, and the months exhibit similar levels of Walmart news counts. When linked to 5-digit zip code characteristics, we see that store-months in which cards are signed seem also to be similar in terms of income and fraction Latino, although stores with card signing do tend to be in somewhat higher fraction black zip codes. The summary statistics also show us

that, overall, organizing is rare. Even when it does occur, less than 2 cards are secured per store-month on average.

In order to further explore the relationship underlying the observed association between worker card-signing and declines in customer satisfaction, we turn to a set of 80 oral history interviews conducted with Walmart workers over the summer of 2014. Of the eighty workers interviewed, 50 were members of OUR Walmart. These interviews were conducted by a team of nineteen undergraduate research-assistants in Southern California, Dallas, Southwestern Ohio, Chicago, and Central Florida, and lasted between thirty minutes and two hours. The interviews were broad in scope, asking workers to describe their childhoods, their pathways to work at Walmart, their experiences of work at Walmart, and—for those who had joined OUR Walmart—the processes by which they decided to join the organization and the activities in which they had participated as a part of it. Interviews were transcribed, imported into an electronic database, and coded systematically using the qualitative software Dedoose. We undertook both open coding and focused coding in order to determine prominent themes among the interviews (Weiss 1994, pp. 154; Emerson, Fretz, and Shaw 1995, pp. 142-144).

The Association Between Worker Organizing and Customer Ratings

Our analyses use monthly variation to examine the correlation between OUR Walmart membership card signatures and average Yelp ratings that mention workers. All results in this section are at the store level, with some specifications weighting stores by the total number of Yelp reviews they receive in our sample period (2010-2015). Recall that we are restricting attention to stores that experienced at least one card signed in the

2010-2015 period. We estimate a difference-in-differences specification, controlling for all time-invariant, unobserved store-specific characteristics (store fixed effects) as well as all time-varying characteristics that affect Yelp ratings in all stores the same way (time fixed effects). These specifications also allow us to look at dynamics, examine pre and post-trends, and control for a number of potential confounds.

Our basic specification is of the form:

$$Worker\ rating_{it} = \beta \quad Cards\ signed_{it} + \sum_{k=0}^{2} \gamma^{k} Number\ of\ reviews_{it-k} + \alpha NumberContacted_{it} + \delta_i + \delta_t + \epsilon_{it} \tag{1}$$

where δ denotes either store (i) or month (t) fixed effects. Standard errors are clustered at the store level to account for autocorrelation of ratings over time. We control for lags of the number of reviews in order to mitigate concerns about selection into reviewing. We further control for the cumulative number of workers contacted in a store up to month *t*, in order to control for organizing effort of OUR Walmart.

We present regression results of card-signing in Table 2. In the even-numbered columns we also control for month-specific effects of Log Sales Volume and Log Store Square Footage to adjust for store size. First we examine the relationship between a binary indicator for any card signed in a store-month and Yelp ratings that mention workers (Columns 1-2). Second, we examine the relationship between the *number* of cards signed on Yelp ratings that mention workers (Columns 3-4). Finally, we examine the same relationships, only now using the full population of Yelp ratings (not only those

in which workers are mentioned) (Columns 5-8). In all specifications in columns 1-4 the relationship between card-signing and ratings is negative and significant, although the effect is stronger when we use the count measure rather than the binary indicator. The coefficient on Column 1 suggests that having any workers signing cards in the store decreases the Yelp score by a fifth of a point, while Column 3 suggests that an additional card signed in a particular month is correlated with a drop of one twentieth of a Yelp point, in the reviews that mention workers. A standard deviation increase in the "any cards signed" measure would result in fifteen percent of a standard deviation decrease of the Yelp rating, roughly 0.17 points. In the online Appendix, we show binned scatterplots of residuals illustrating the relationship, as well as show that all specifications are robust to omitting size and number contacted controls, replacing the outcome with first-differenced measures of worker ratings, and weighting by store volume.

Finally, columns 5-8 of Table 2 show that while cards signed have a negative impact on average Yelp ratings overall, this effect is weaker than the effect on just those Yelp reviews that mention workers. This supports our contention that worker organizing is associated with customers' perceptions *of workers* more strongly than with customers' perceptions of a store more generally. We conducted a further placebo test (shown in the online Appendix), using Yelp reviews that mention managers, and find no effect of card signing on these ratings. In the online Appendix we also estimate specifications that controlled for measures of manager mentions in the Yelp reviews as well as the mean ratings of reviews that mention managers (as a covariate rather than as an outcome). Here we controlled for Unfair Labor Practices, which OUR Walmart files in response to firings for union activity, among other management practices that violate NLRB

protections. None of these specifications affect our main results.[5] Such results do not at all disprove the idea that some management practice may drive the association between worker organizing and customers' perceptions of workers. They do, however, offer evidence that the association we observe is not driven by customers' explicit perceptions of management, or of measurable management practices like Unfair Labor Practice violations.

Finally, Table 3 examines robustness of our main results to alternative specifications and sets of control variables. Panel A shows specifications where mean monthly Yelp ratings are regressed on the indicator variable for any cards signed in that month, while Panel B uses the number of signed cards as the independent variable. Each panel examines only those Yelp reviews that mention workers, and all control for store size, 3 lags of the number of reviews, store and period fixed effects, as well as the cumulative number of workers contacted.

Column 1 of Table 3 reproduces the main specification from columns 2 and 4 from Table 2, but replaces the outcome variable with an indicator for average Yelp rating being greater than 1. As can be seen, in both Panel A and Panel B, this reasonable transformation of the outcome variable remains significantly negatively correlated with both measures of cards signed. Column 2 replaces the outcome variable with a measure of the prevalence of reviews that mention workers, and there is no correlation of either measure of cards signed with this. This is consistent with our interpretation that it is the valence of consumer perceptions of workers, rather than the prevalence of Yelp reviews that mention workers, that are driving our results. Column 3 adds state-year fixed effects.

Column 4 controls for the mean number of mentions of workers, managers, service, and race (proxied by the appearance of the term "ghetto") across reviews in a store-month, ensuring that it is not discussion of other store qualities on Yelp driving our results. Column 5 includes 5-digit store zip code characteristics, which include log average income, fraction black and fraction Latino, and centroid latitude and longitude, all interacted with month effects. Column 6 also includes 3-digit zip code specific interactions with the Google News count of the number of articles mentioning Walmart. Our coefficient increases slightly but remains in the same general vicinity as our baseline specification, further suggesting that our results are not picking up idiosyncratic store patterns unrelated to organizing. Column 7 takes this logic even further and includes 3-digit zip code specific time trends. Again coefficients are qualitatively similar. Finally, our last specification restricts the sample: Column 8 restricts attention to the largest states in our sample (California, Florida, and Texas), which have the bulk of the variation in organizing. The magnitude of the effect is similar to our baseline specification, albeit less precise owing to the smaller sample size.

[Table 3 About Here]

Finally, in the online Appendix we show results from a distributed lag specification, allowing for leads and lags of the number of cards signed (with all the controls in our baseline specification), and find that it is very much a contemporaneous effect: Yelp ratings fall in the month that cards are signed, with no effect the preceding month and a rapid return to mean rating.

In sum, while our data is imperfect and we lack truly exogenous variation in worker organizing, our use of high-frequency data in a difference-in-differences framework, examination of dynamics, and extensive controls provide reasonably convincing evidence of a negative association between workplace collective action and Yelp reviews. While we cannot definitely rule out unobserved sources of heterogeneity that may affect both cards signed and Yelp ratings that mention workers, discussed more fully below, we still believe that this correlation is informative. Even if manager malfeasance is causing both negative Yelp reviews and inducing employees to sign organizing cards, it seems to be the case that workers are blamed for the poor customer service that occurs concurrently with their organizing.

Discussion

We have provided evidence suggesting that workplace collective action at Walmart is associated with customers' more negative perceptions of the service they receive. While workplace collective action may have a negative impact on worker productivity across all industries, we have argued that this impact thus seems to have additional and underappreciated consequences in the service sector. When workplace collective action caused a decline in the quality of Firestone Tires (Krueger and Mas 2004), this relationship was likely invisible to tire consumers. And yet, as we have shown, customers *are* likely to hold workers responsible for negative experiences at Walmart. This, we have argued, is a distinctive feature of contemporary service work—the worker is less distinguishable from her product.

The evidence we present, however, does not allow us to identify definitively the causal mechanism by which worker organizing is associated with negative customer ratings. Here we outline the two mechanisms we believe most consistent with our quantitative data, supplemented with our interviews with Walmart workers.

One causal explanation supported by our quantitative evidence is that workers' recognition of injustice at their jobs leads both to becoming a member of OUR Walmart and to reducing their effort in relationship to customers—a withdrawal of effort akin to that observed among police officers by Mas (2006). Service jobs at Walmart and elsewhere inevitably involve interactions with customers who are unhappy with the services they have received, or who are simply rude. Among those workers who sign up with OUR Walmart, however, it seems plausible that customers' rudeness might be understood as part of the broader injustice of their jobs—and that workers would be less willing acquiesce to it. At the margin, it seems likely that a worker attuned to the injustice of the job would be less likely to try to make a rude customer's "day go a little better," as a Walmart worker from Arkansas described his job, and more likely to resist a customer "getting by with anything and everything," as a Walmart worker from Ohio described her encounter with rude customers. For the customer, of course, the latter worker's resistance would likely be experienced as poor service; presumably the customer able to harass the worker without resistance would be more likely to rate the shopping experience higher than the customer who is challenged.

A second possible explanation for the association is that managerial mistreatment of workers leads to worker discontent, which in turn leads both to card-signing and to lower customer reviews of workers. In this case, the recognition of injustice may not be

what leads to the withdrawal of emotional labor (as it does in explanation above); rather, this recognition occurs *alongside* a worker's overall dissatisfaction, which is what impacts customer service. For instance, within our interviews there were several examples in which workers describe becoming motivated to join OUR Walmart as a result of specific negative interactions with a manager. A cashier from Southern California described how a manager humiliated her by forcing her to change the nickname on her Walmart nametag; managers at a store in Ohio told the stockers that they were not allowed to sing while they worked, and were prohibited from referring to customers "hon" or "sweetie." Managers at a store in Chicago refused to accommodate workers' pregnancy-related needs in ways that led to several workers having miscarriages. These kinds of interactions made workers dissatisfied with their jobs and simultaneously likely motivated them to join OUR Walmart; in this case, card-signing is an indication of worker unhappiness, but *manager-driven unhappiness* (rather than anything about the process of worker collective action itself) is likely responsible for the association between card-signing and Yelp reviews.

The difference between these two competing mechanisms is somewhat subtle, and has to do with the degree to which we believe that card-signing is an endogenous process driven by labor organizing (i.e. "agitation") and peer-influence, versus one driven by exogenous changes in the workplace that make workers more unhappy and so both less willing to provide customer service and more likely to sign-cards. There is some evidence to support each account. As just described, many workers do describe concrete examples of managerial mistreatment that led them to join OUR Walmart. Yet a large number of workers also attribute their involvement in OUR Walmart to social influence.

Among the fifty members of OUR Walmart interviewed, forty-three discussed the processes by which they became involved in the organization. Of these forty-three, only two signed up independently (signing up online). The rest described their participation as a result of interactions with labor organizers or their peers. Granted, interactions may be a necessary but insufficient condition for signing; there are many workers who are contacted in some way by OUR Walmart but do not sign. Nevertheless, the prevalence of social influence in people's accounts of signing is at least suggestive of a worker and organizer driven process of organizing, which in turn supports a causal model in which the process of becoming involved in OUR Walmart leads to lower effort in encounters with customers, perhaps via store-level grievances being made salient to employees.

Despite the superficial similarities between these two mechanisms, their implications are starkly different. To the extent that managerial behavior drives the association, then workers' and customers' interests theoretically might be aligned in confronting managers over this behavior (even if customers might *see* the problem as arising from workers). Moreover, to the extent that this is the case, Yelp reviews might serve as useful signals to labor organizers, indicating a workforce likely amenable to workplace collective action. On the other hand, if the process of workplace collective action itself causes lower Yelp reviews, then this suggests a deeper conflict between the interests of workers and the interests of customers in the service sector; furthermore, in this case, Yelp reviews would be the *result* of worker action and useless as a signal of its possibility.

Conclusion

The focus of this paper is on the association between workplace collective action and customer satisfaction. It is not about the longer-term potential impacts of unionization or other forms of institutionalized bargaining power on labor productivity and quality. Indeed, many of the gains that workers might win as a result of unionization—like higher wages or higher staffing ratios—would likely make workers' jobs more pleasant and the customer service experience more pleasant as well.

Yet the short-term negative associations we observe between workplace collective action and customer satisfaction may be an obstacle to achieving this joint long-term benefit. Regardless of the specific causal mechanisms at work, it appears that workers are likely to be interested in taking part in workplace collective action at the moment at which customers are least likely to support them in doing so. This is a dynamic that may be generalizable across the service sector, from health care workers to teachers to retail workers. The service sector has become increasingly central to the U.S. economy over the last fifty years (Autor and Dorn 2013), yet has low levels of unionization, a fact that is somewhat surprising given that the factors negatively impacting unionization rates in manufacturing—such as global trade and technological innovation—tend to be less salient in service industries (Baldwin 2003; Kristal 2013).

Historically, such a negative association might be of academic interest but irrelevant to the strategic thinking of labor organizations themselves. Increasingly, however, the most ambitious labor organizing efforts have relied on "corporate campaigns" that seek to influence company behavior at least in part through a variety of stakeholders. Within this new context, a perceived antagonism between the interests of workers and interests of customers may be a serious liability.

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Figures and Tables

Figure 1: OUR Walmart Cards Signed Over Time

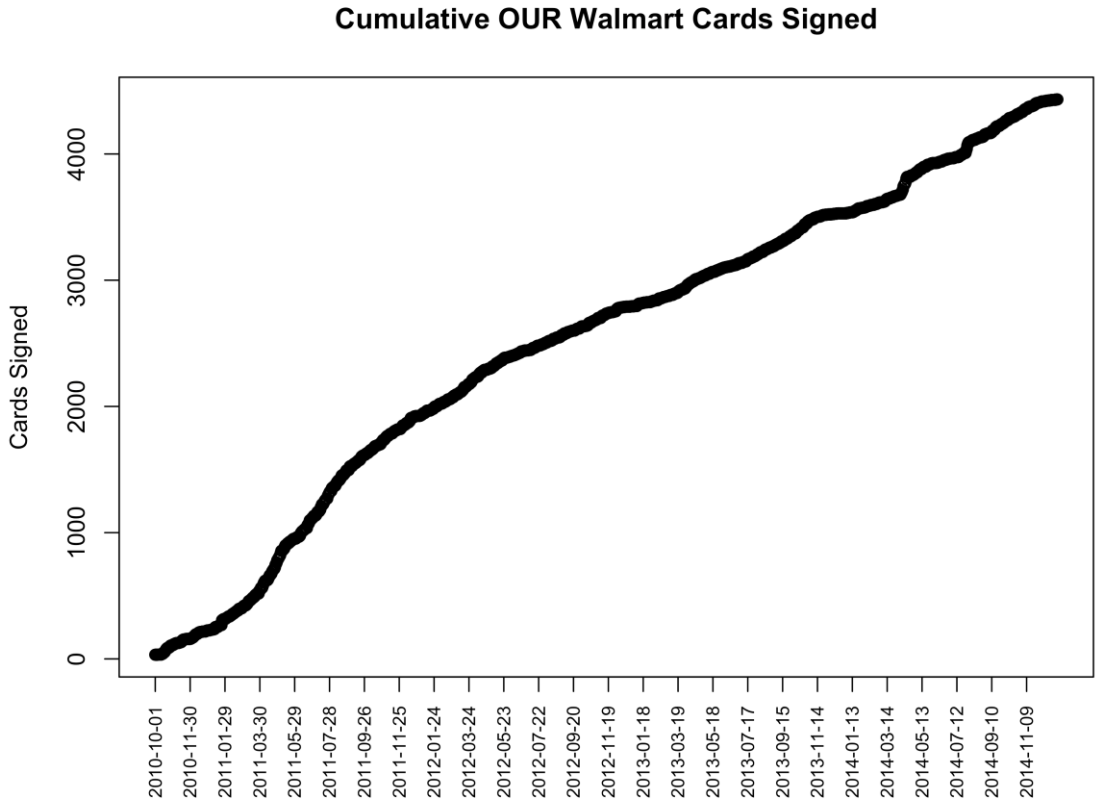


Table 1: Summary Statistics

	Mean	Std. Dev.	N
	Any Cards Signed		
Signed Cards	1.97	1.84	429
Any Card Signed	1	0	429
Cum. Workers Contacted/1000	0.06	0.11	429
Mean Yelp Rating	2.09	1.06	429
Rating (Worker Mentions)	1.66	0.99	226
Number of Yelp Reviews	2.86	2.12	429
Weekly Store Volume (000's)	1501.83	341.35	394
Store Square Footage (000's)	150.55	33.69	394
Walmart News Counts	72.34	29.41	429
Mean Zip Income	62182.71	30804.13	429
Mean Zip Pct Black	16.41	22.60	429
Mean Zip Pct Latino	30.99	21.93	429
	No Cards Signed		
Cum. Workers Contacted/1000	0.04	0.09	3530
Mean Yelp Rating	2.22	1.14	3530
Rating (Worker Mentions)	1.94	1.17	1650
Number of Yelp Reviews	2.23	1.72	3530
Weekly Store Volume (000's)	1553.66	429.05	3214
Store Square Footage (000's)	154.45	40.38	3214
Walmart News Counts	76.07	36.45	3530
Mean Zip Income	61428.35	25348.39	3530
Mean Zip Pct Black	11.07	13.93	3530
Mean Zip Pct Latino	29.96	21.03	3530

Table 2: Correlation between Yelp Ratings and Cards Signed

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Mean Yelp Rating (Worker Mentions)				Mean Yelp Rating (All)			
Any Card Signed	-0.200**	-0.194*			-0.0638	-0.0896		
	(0.0915)	(0.107)			(0.0525)	(0.0561)		
Signed Cards			-0.0617**	-0.0588*			-0.0257**	-0.0279**
			(0.0254)	(0.0331)			(0.0120)	(0.0135)
Cum. Workers Contacted/1000	0.988*	0.827	0.982	0.828	0.635	0.311	0.623	0.312
	(0.597)	(0.727)	(0.622)	(0.747)	(0.574)	(0.638)	(0.571)	(0.633)
Size Controls	No	Yes	No	Yes	No	Yes	No	Yes
3 Lags No. of Reviews	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Store FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample Size	1380	1250	1380	1250	2686	2439	2686	2439
Clusters	177	155	177	155	237	212	237	212

Standard errors in parentheses, clustered at the store level. Lags of Number of Reviews includes contemporaneous and two lags of the number of Yelp reviews. Size controls are month-specific effects of Log Square Footage and Log Weekly Sales Volume. * $p < .1$, ** $p < .05$, *** $p < .01$

Table 3: Robustness

	Panel A: Any Card Signed						
	Rating More Than 1	Worker Mentioned	Rating (Worker Mentions)				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Any Card Signed	-0.108**	0.00384	-0.205**	-0.186**	-0.231**	-0.190*	-0.197**
	(0.0435)	(0.0618)	(0.0897)	(0.0935)	(0.116)	(0.110)	(0.0893)
Cum. Workers Contacted/1000	0.637**	0.120	1.099	0.820	0.689	2.873**	0.904
	(0.273)	(0.414)	(0.670)	(0.697)	(0.745)	(1.269)	(0.756)
	Panel B: Number Cards Signed						
	Rating More Than 1	Worker Mentioned	Rating (Worker Mentions)				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Signed Cards	-0.0322**	-0.000816	-0.0595*	-0.0526*	-0.0842**	-0.0679*	-0.0521
	(0.0131)	(0.0191)	(0.0324)	(0.0275)	(0.0325)	(0.0400)	(0.0338)
Cum. Workers Contacted/1000	0.639**	0.116	1.115	0.830	0.661	2.929**	0.934
	(0.268)	(0.413)	(0.702)	(0.714)	(0.735)	(1.258)	(0.801)
Size Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region X Year FE	No	No	Yes	No	No	No	No
Mentions	No	No	No	Yes	No	No	No
Date Specific Zip-5 Controls	No	No	No	No	Yes	No	No
Zip-3 specific WM news	No	No	No	No	Yes	No	No
Zip-3 specific Trends	No	No	No	No	No	Yes	No
3 Lags No. of Reviews	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Store FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample Size	1250	2439	1250	1250	1250	1250	1018
Clusters	155	212	155	155	155	155	100

Standard errors in parentheses, clustered at the store level. Rating more than 1 is an indicator variable for average ratings in a store-month larger than 1. Worker mention is the count of the the number of Yelp ratings that mention workers. Lags of Number of Reviews includes contemporaneous and two lags of the number of Yelp reviews. Size controls are month-specific effects of Log Square Footage and Log Weekly Sales Volume. Mentions are counts of Yelp reviews that mention workers, managers, or race, as in the text. Zip-5 controls include log mean income, fraction black and fraction Latino. Zip-3 specific WM news are Zip-3 specific effects of the Google News counts of Wal-Mart. Zip-3 specific trends are 3-digit zip codes interacted with month trends. Column 5 restricts attention to the states. CA, FL, and TX. * $p < .1$, ** $p < .05$, *** $p < .01$

Online Appendix Figures and Tables

Wordclouds

Figure A1: Word Cloud of Adjectives Correlated with "Employees"

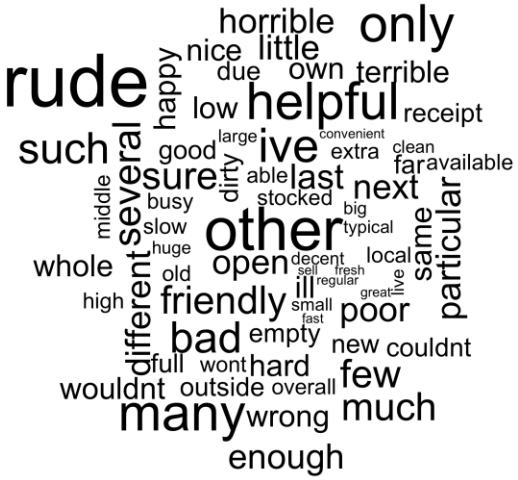


Figure A2: Word Cloud of Adjectives Correlated with "Workers"

Binscatters

In order to show the variation graphically, we show binned scatterplots of the (residualized) dependent and independent variables. These graphs, which show the mean Yelp rating for stores, conditional on month and store FE, as well as 3 lags of the number of reviews and number of workers contacted, binned by vintiles of the similarly residualized cards signed measure, are displayed in Figure A3 and Figure A4.

Figure A3: Binned Scatterplot, Any Cards Signed Indicator and Average Ratings That Mention Workers by Store-Month (conditional on number contacted, 3 lags of number of Yelp reviews, and month and store fixed effects)

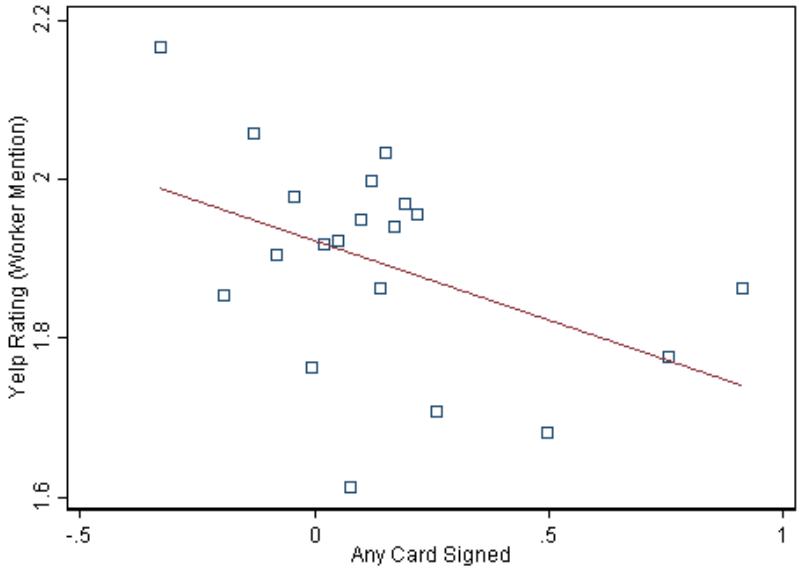
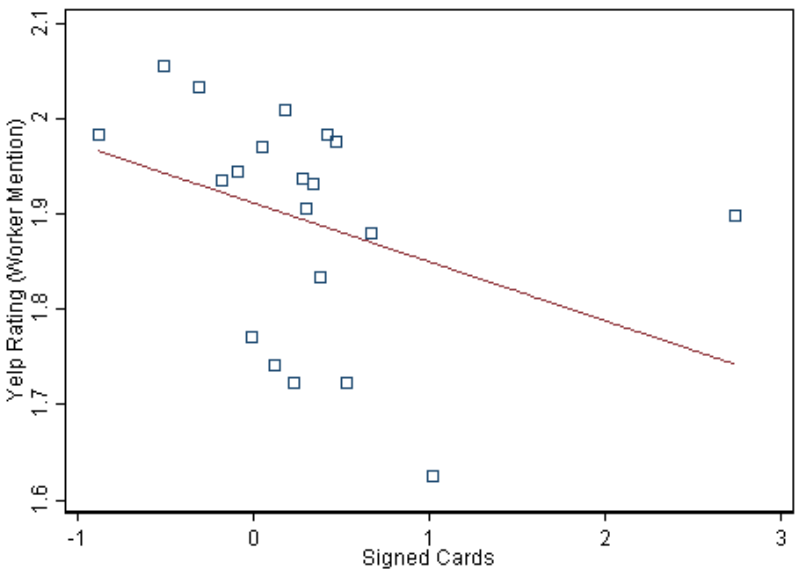


Figure A4: Binned Scatterplot, Number of Cards Signed and Average Ratings That Mention Workers by Store-Month (conditional on number contacted, 3 lags of number of Yelp reviews, and month and store fixed effects)



Distributed Lags

Further exploring the high-frequency variation, in order to examine pre-trends and lagged effects, we plot coefficients from a distributed lag specification of the form:

$$Worker\ rating_{it} = \sum_{k=-1}^{3} (\beta^k cards\ signed_{it-k} + \rho^k NumberContacted_{it-k} + \gamma^k Number\ of\ reviews_{it-k}) + \delta_i + \delta_t + \epsilon_{it} \quad (2)$$

This specification allows us to test for pre-trends with the "-1" lags as well as look at multiple months of persistent effects. We present the results from this specification graphically in Figures A5 and A6 with 5% confidence intervals. As can be seen, there is no significant pre-difference

in either the binary or the count measure of organizing activity, while the contemporaneous effect is significantly below 0, with little persistent effect.

Figure A5: Monthly Store Panel Dynamic Specification, conditional on month FE, store FE, and 1 lead and 2 lags of the number of reviews and cumulative number contacted.

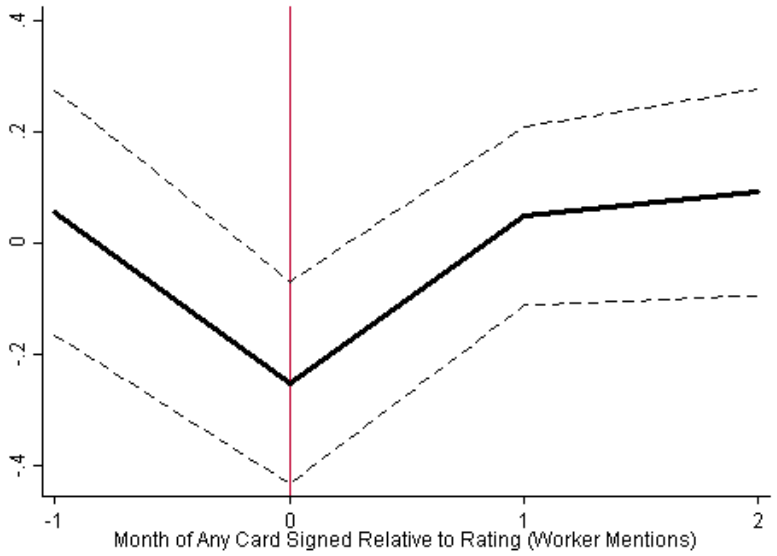


Figure A6: Monthly Store Panel Dynamic Specification, conditional on month FE, store FE, and 1 lead and 2 lags of the number of reviews and cumulative number contacted.

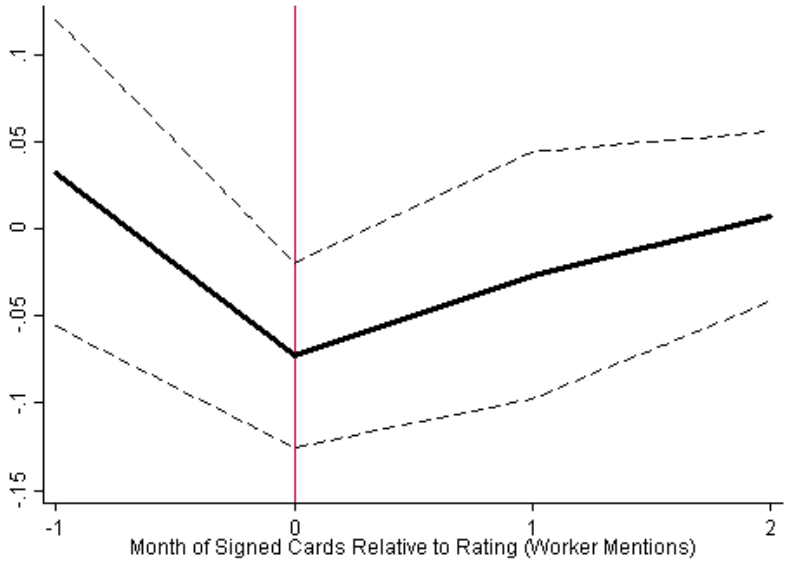


Table A1: Robustness of Main Specification

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Rating (Worker Mentions)			FD Rating	Rating (Worker Mentions)			FD Rating
Any Card Signed	-0.214**	-0.201**	-0.193*	-0.368***				
	(0.0904)	(0.0918)	(0.103)	(0.133)				
Signed Cards					-0.0683***	-0.0620**	-0.0608**	-0.147**
					(0.0239)	(0.0256)	(0.0246)	(0.0702)
Cum. Workers Contacted/1000		0.939	0.755	-0.624		0.935	0.739	-0.786
		(0.580)	(0.611)	(0.894)		(0.605)	(0.625)	(0.971)
3 Lags No. of Reviews	Yes	No	Yes	Yes	Yes	No	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Store FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Weighted	No	No	Yes	No	No	No	Yes	No
Sample Size	1380	1380	1250	780	1380	1380	1250	780
Clusters	177	177	155	131	177	177	155	131

Standard errors in parentheses, clustered at the store level. Lags of Number of Reviews includes contemporaneous and two lags of the number of Yelp reviews. Weighted means weighted by 2015 Weekly Sales Volume. FD Rating is the first-differenced mean Yelp rating of reviews that mention workers. * $p < .1$, ** $p < .05$, *** $p < .01$

Table A2: Falsification With Manager Ratings

	(1)	(2)	(3)	(4)
	Mean Yelp Rating (Manage Mentions)			
Any Card Signed	0.0188	0.0001		
	(0.152)	(0.195)		
Signed Cards			0.0359	0.0262
			(0.0581)	(0.0668)
Cum. Workers Contacted	0.000430	0.000317	0.000549	0.000401
	(0.000999)	(0.000884)	(0.00103)	(0.000917)
Size Controls	No	Yes	No	Yes
3 Lags No. of Reviews	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes
Store FE	Yes	Yes	Yes	Yes
Sample Size	815	738	815	738
Clusters	152	134	152	134

Standard errors in parentheses, clustered at the store level. Lags of Number of Reviews includes contemporaneous and two lags of the number of Yelp reviews. Size controls are month-specific effects of Log Square Footage and Log Weekly Sales Volume. * $p < .1$, ** $p < .05$, *** $p < .01$

Table A3: Additional Controls

	(1)	(2)	(3)	(4)	(5)	(6)
	Mean Yelp Rating (Worker Mentions)					
Any Card Signed	-0.251**	-0.185*	-0.241**			
	(0.108)	(0.0973)	(0.116)			
Signed Cards				-0.0894**	-0.0553*	-0.0898**
				(0.0348)	(0.0330)	(0.0347)
Cum. Workers Contacted/1000	0.163	0.835	0.231	0.135	0.836	0.204
	(0.899)	(0.680)	(0.888)	(0.960)	(0.697)	(0.940)
Size Controls	Yes	Yes	Yes	Yes	Yes	Yes
Yelp Manager Mentions	Yes	No	Yes	Yes	No	Yes
Yelp Manager Rating	Yes	No	Yes	Yes	No	Yes
ULP Controls	No	Yes	Yes	No	Yes	Yes
3 Lags No. of Reviews	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
Store FE	Yes	Yes	Yes	Yes	Yes	Yes
Sample Size	531	1250	531	531	1250	531
Clusters	108	155	108	108	155	108

Standard errors in parentheses, clustered at the store level. Lags of Number of Reviews includes contemporaneous and two lags of the number of Yelp reviews. Size controls are month-specific effects of Log Square Footage and Log Weekly Sales Volume. Yelp Manager Mentions are counts of Yelp reviews that mention management, Yelp Manager rating is the average rating of those Yelp reviews that mentione management. ULP Controls is the count of all Unfair Labor Practices filed against Wal-Mart in that zipcode. * $p < .1$, ** $p < .05$, *** $p < .01$