

RESEARCH ARTICLE

Workforce engagement: What it is, what drives it, and why it matters for organizational performance

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Summary

Based on a review of the history of the employee engagement construct and its measurement, we define workforce engagement as the aggregate of the work engagement experiences of individual employees in an organization. In contrast to most research on employee engagement, we study companies rather than individuals and the companies represent a diverse set of industries. We hypothesize and demonstrate on a sample of (up to) 102 publicly traded companies that workforce engagement significantly predicts organizational financial (adjusting for industry: Return on Assets, Net Margin but not Tobin's q) and customer metrics (the American Customer Satisfaction Index and the Harris Reputation Quotient) 1 and 2 years after the workforce engagement data were collected. In addition, using a split-sample approach to avoid method bias, we hypothesize and show that (a) company organizational practices (the strongest correlate), supervisory support, and work attributes are significant correlates of workforce engagement and (b) that workforce engagement mediates the relationship between these correlates of engagement and the organizational performance metrics. Implications of the findings for research and practice are discussed.

KEYWORDS

aggregate engagement, employee engagement, engagement, organizational performance, work engagement

1 | INTRODUCTION

Kahn (1990) achieved a breakthrough in thinking about people at work when he elevated the idea of working to include the whole of the person in doing immediate work tasks. In later writings (2010), he explained what he meant by the whole person being engaged at work by saying: "We believe that people are engaged when we see them working hard, putting in effort, staying involved. They truly show up for work. They remain focused on what they are doing. They strive to move their work ahead" (2010, p. 21). It is the aggregate of these indicants of work engagement with which we are concerned in this study. In particular, we are interested in people's psychological experiences of engagement (i.e., their state engagement; Macey & Schneider, 2008) in alignment with studies of engagement as reported in the research literature (e.g., Saks & Gruman, 2014). In addition, we study the organizational level consequences of workforce engagement, the

hypothesized contextual correlates or drivers of workforce engagement, and workforce engagement as a mediator of the relationships between these hypothesized drivers of it (organizational practices, supervisory support, and work attributes) and the organizational performance metrics.

Considerable progress has been made in establishing the link between individual level experiences of work engagement and individual task performance and related issues such as individual turnover intentions (Bakker, Albrecht, & Leiter, 2011; Christian, Garza, & Slaughter, 2011; Saks & Gruman, 2014; Schaufeli & Salanova, 2011), but there is relatively less evidence surrounding the organizational consequences of employee engagement. Thus, the major question we raise here concerns the organization-level performance consequences of having high individual employees' average levels of workforce engagement and what drives such workforce engagement. Our focus is on the aggregate engagement experiences of employees in their immediate task or job, and our outcome of interest is the competitive advantage companies may achieve as the result of such aggregate

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engagement (Albrecht, Bakker, Gruman, Macey, & Saks, 2015). Although there is considerable evidence at the individual level of analysis on the performance and turnover consequences of employee engagement (e.g., Saks & Gruman, 2014), there is scant evidence that such engagement in the aggregate actually yields competitive advantage. That is, whereas an individual company may use engagement survey data as a basis for improving the average results it obtains in the future, such individual company improvements reveal nothing about the comparative or competitive advantages achieved in terms of organizational performance. This study answers the question about comparative competitive advantage because we have little evidence about such consequences of engagement. In addition, there is a shortage of research concerning the antecedents or drivers of company-level engagement, so we explore three likely drivers of such engagement, namely, organizational practices, supervisory support, and attributes of the work itself.

The paper makes four contributions to the employee engagement literature. First, the survey measure of employee engagement used here focuses on the experiences of engagement in keeping with Kahn's (2010) construct as shown in our opening quote about focus on work, energy from work, and truly "showing up" for work. The survey measure is also modeled after the Christian et al. (2011, p. 95) conceptualization of work engagement as a relatively enduring state of mind about the investment of personal energies in the experience and performance of work. Second, the research is accomplished at the organizational level of analysis across a sample of (up to 102) publicly traded U.S. companies, and the outcomes of interest are a variety of financial and customer effectiveness metrics. Thus, in contrast to other studies of organizational-level engagement in which the units came from a single industry (credit unions in Barrick, Thurgood, Smith, & Courtright, 2015) or company (restaurants and hotels from a chain of hotels in Salanova, Agut, & Peiró, 2005), the sample we studied includes organizations from diverse industries. Third, the study is a predictive study with the employee engagement data being gathered 1 and 2 years before the performance metrics permitting 1 and 2-year predictive validities to be examined. Fourth, the paper presents evidence regarding a set of potential drivers of workforce engagement at the organizational level of analysis using a split sample procedure as recommended by Ostroff, Kinicki, and Clark (2002) and Podsakoff,

MacKenzie, Lee and Podsakoff (2002) to reduce the ubiquitous response contamination in survey data with a potential same-source bias (cf. Cucina, Walmsley, Gast, Martin, & Curtin, In Press). Finally, we explore workforce engagement as a mediator of the relationships between the contextual correlates of it and the organizational performance metrics. Figure 1 presents the overall framework that guided the research.

The article begins with a brief review of the engagement construct and measures, brief because there have been numerous recent reviews of these in the form of journal articles (Saks & Gruman, 2014; Schaufeli & Salanova, 2011) and books (Bakker & Leiter, 2010; Albrecht, 2010). Next, we discuss the importance of studying the relationship between workforce employee engagement and outcomes at the organizational level of analysis. Here, we focus on an understanding of engagement as an organizational resource that has the potential to enable competitive advantage (Albrecht et al., 2015; Ployhart, 2015). This is an important part of the introduction because there are very few studies at the company level of analysis that examine engagement and its organizational performance consequences despite the implicit assumption that such relationships exist. A third major section of the introduction then raises issues having to do with the potential antecedents or drivers of workforce engagement. It is one thing to establish relationships between workforce engagement and important organizational performance outcomes but another to provide evidence on the likely antecedents (drivers) of such workforce engagement. We generate a series of hypotheses in this section regarding the relationships to be studied. The last section of the introduction explores the issue of workforce engagement as a potential mediator of the relationships between the antecedents and the performance outcomes and presents a series of hypotheses to serve as a conceptual foundation for the research effort that follows.

The complex set of methods used to carry out the study are then presented in detail, followed of course by the results of a study of 102 publicly traded companies from diverse industries. There, we reveal the significant predictive validity of workforce employee engagement of two corporate financial metrics and two customer satisfaction metrics. We also explore the hypothesized relationships between workforce engagement and organizational practices, supervisory support, and work attributes. Finally, we present evidence, again at

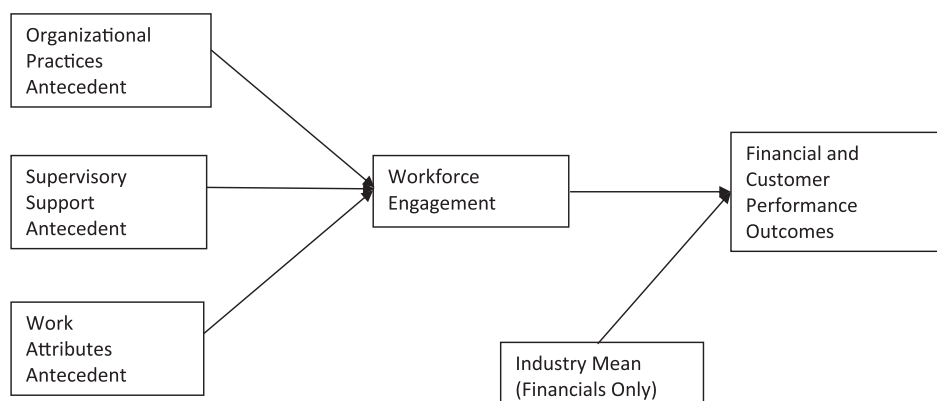


FIGURE 1 The general framework guiding the workforce engagement research effort

the organizational level of analysis, of workforce work engagement as a mediator of the relationships between organizational practices, supervisory support, and work attributes.

1.1 | Employee engagement: Construct and measurement

It was essentially a decade between the time Kahn (1990, 1992) first discussed the psychology of engagement and the beginnings of quantitative research on it (Saks & Gruman, 2014). His engagement construct was one focused on the relationship between people and their work and emphasized the various ways that people were engaged emotionally, cognitively, and physically with that work; that is, they were energized by and focused on their job and truly “showed up” for work. Kahn's research was qualitative in nature, and he interviewed individual people to help him evoke and identify the experiences and behaviors of what it meant to be engaged.

The active quantitative research that most focuses on the work itself and the job vis-à-vis engagement emerged out of the European-based job demands-resources (JD-R) model of engagement (see Bakker & Demerouti, 2017, for a review) rather than being based on Kahn's (1990, 1992) earlier work. In fact, early research on engagement emerged from the work on burnout (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Maslach, Schaufeli, & Leiter, 2001; Schaufeli & Bakker, 2004) and was seen as the antithesis of burnout (Maslach et al., 2001). The JD-R model emphasized the idea that the demands in jobs can be such that burnout is more likely but that when resources exceed demands then engagement is possible.

Of the various academic survey measures of engagement that emerged in the early 2000s (see Saks & Gruman, 2014, for a detailed review), the one that most immediately and persistently received attention was the Utrecht Work Engagement Scale (UWES; Schaufeli & Bakker, 2004; Schaufeli, Bakker, & Salanova, 2006). Other similar measures that focus on engagement in the work itself have emerged (e.g., May, Gilson, & Harter, 2004), but the UWES is the most widely used engagement questionnaire (Schaufeli & Bakker, 2010) despite some recent questions about its construct validity (Byrne, Peters, & Weston, 2016; Saks & Gruman, 2014). Our and others' reviews of the measures of engagement (cf. Byrne et al., 2016; Saks & Gruman, 2014; Schaufeli & Bakker, 2010) yield these general conclusions: (a) the UWES can reveal factorially independent nonorthogonal facets of engagement (vigor, dedication, and absorption), which are moderately to highly intercorrelated and so are frequently scored as a single scale (Byrne et al., 2016; Saks & Gruman, 2014); (b) research on just about all measures (for exceptions, see Barrick et al., 2015 and Salanova et al., 2005) has focused on the individual level of analysis (Albrecht et al., 2015); (c) when administered with measures of job satisfaction, organizational commitment, and job involvement, work engagement scales show significant overlap with these other measures of employee attitudes (Christian et al., 2011), revealing the so-called A (for attitude factor, cf. Harrison, Newman, & Roth, 2006, and Newman, Joseph, & Hulin, 2010), but the overlap does not seem to be severe enough for researchers to simply collapse across these constructs to make a single factor or construct that accurately reflects all of them (Shuck, Nimom, & Zigarmi, 2017; and (d) measures of individual work

engagement are consistently and significantly related to task performance and organizational citizenship behavior (OCB) and turnover (Bakker et al., 2011; Christian et al., 2011).

1.2 | On workforce engagement

Barrick et al. (2015, p 11) note that “... [D]espite the suggested link between employee engagement and organizational performance, very little research examines engagement at the organizational level of analysis ...” One of the earliest and most cited such studies used Gallup's Q12 aggregated to business unit and organizational levels of analysis (Harter, Schmidt, & Hayes, 2002; see also Harter, Schmidt, Asplund, Killham, & Agrawal, 2010), but it was not a study of engagement as understood by the academic research community. The behavioral items in the Q12 may be more akin to the antecedents of employee engagement in the organization as well as reflecting antecedents of work engagement because half of the items refer to the work itself with the remainder referring to friends at work, feedback from supervisors, and so forth (Saks & Gruman, 2014; Schaufeli & Bakker, 2010). As Harter et al. (2010, p. 378) themselves note in describing the Q12, “The instrument is composed of 12 items ... measuring antecedents to (causes of) personal job satisfaction and other affective constructs (measured on a 1–5 agreement scale), and one overall satisfaction item (satisfaction with the overall organization, measured on a 1–5 satisfaction scale). Each of the 12 items measures perceptions of work characteristics that can be improved by the action of managers.” In other words, the Q12 is a measure of antecedents or correlates of engagement, not engagement with the work itself. We will have more to say about the antecedents of engagement later when we explicitly address that issue.

Barrick et al. (2015), using the term “collective organizational engagement,” studied the antecedents and consequences of work engagement in small to medium-sized independent credit unions. The referent in all of their engagement items was the level of engagement respondents observed in their coworkers. For example, items referred to the effort and energy respondents observed others put into their work and the pride others derived from doing their work well. Results of this study revealed a significant relationship between aggregate collective work engagement and credit union Return on Assets (ROA) 6 months later.

In perhaps the first published unit-level study of engagement, Salanova et al. (2005) explored work engagement (assessed with the UWES) as a foundation for the creation of a service climate, which, in turn, would be reflected in customer satisfaction and loyalty. They hypothesized and showed using aggregated employee and aggregated customer survey data that (a) a set of three organizational resources is correlated with employee engagement and service climate, and (b) service climate mediated the relationship between aggregated employee work engagement and customer satisfaction.

With the exception of the Harter et al. (2002), Barrick et al. (2015), and Salanova et al. (2005) papers, we were unable to find organizational level research on the consequences of work engagement in the academic research literature. One of course may question why, if work engagement is an individual-level construct, it is necessary or useful to raise the level of analysis to organizational outcomes. First, the implicit

practical assumption in almost everything we do at the individual level of analysis is that it has organizational consequences. From selection research to leadership research to research on employee engagement, it is implicitly assumed that work on what Ployhart and Hale (2014, p. 145) call “the micro-foundations of strategy and competitive advantage” tells us something about organizational performance and effectiveness. Indeed, in their extensive and intensive model and multilevel conceptual review of the engagement literature, Albrecht et al. (2015) identify employee engagement as a key mediator between (a) human organizational attributes such as climate and culture and HR practices of all kinds such as high performance work practices (HPWP), and so forth, and (b) individual, team, and organizational performance. In other words, they argue that HPWP, climate, and culture influence organizational performance through their impact on the engagement levels of the people who work in organizations. But this logic requires additional substantiation through research on these presumed relationships. In brief, we view workforce engagement as one of the central human elements of organizations through which organizational factors, especially work attributes, get carried through to the positive organizational consequences they were designed to achieve. Simply put, when employees at a company work at tasks in which they are more fully engaged, these companies are more likely to be effective. We make this explicit in the following hypothesis:

Hypothesis 1. *The organizational-level aggregate of individuals' engagement in work—workforce engagement—significantly predicts organizational performance in terms of both financial and customer metrics.*

To be clear, the hypothesis is not that workforce engagement is the immediate proximal correlate of these performance metrics but that such engagement is related to and predicts these outcomes. The implicit hypothesis, untested here, is that workforce engagement yields aggregate engagement behaviors in which employees behaviorally focus on tasks and issues and problems that are important for organizational success. We conceptualize workforce engagement as a foundational human organizational attribute on which companies can build the key strategic behaviors required to be competitive in their market (Albrecht et al., 2015; Barrick et al., 2015; Salanova et al., 2005). So, for example, an engaged workforce will be more responsive to and receptive to senior management priorities such as service quality (as in Salanova et al., 2005), innovation, or safety compared to an unengaged workforce. From a practical vantage point, it follows that companies that focus on executing their strategic priorities without the accompanying foundation of workforce engagement will have limited strategic success.

1.3 | On drivers of workforce engagement

The model underlying the present effort posits that when the work attributes in organizations are such that people can be more engaged in their work (Kahn, 1990, 1992, 2010), workforce engagement will be positive and yield the kinds of behaviors that ultimately produce organizational success. Like Kahn (2010), Barrick et al. (2015), and the JD-R model of engagement (e.g., Hakenen & Roodt, 2010; Salanova et al., 2005), we conceptualize the work itself as existing in

a larger work environment that also influences the work engagement employees will experience. That is, Barrick et al. note that when organizational practices are designed such that they enhance employees' positive views of the organization, then work engagement is also improved. Indeed, Hakenen and Roodt (2010) identify the broad classes of context resources that might influence work engagement this way: “Job resources may be located on the following levels: organization (salary, career opportunities, job security); interpersonal and social relations (e.g., supervisor and coworker support); organization of work (e.g., role clarity, participation in decision making); and task (e.g., performance feedback, skill variety, autonomy)” (p. 86). And especially in Kahn's (2010) later writings, it is clear that the actual work people do is only one facet of the context that may get reflected in work engagement. Based on these scholars' views of the contextual resources that influence work engagement (see also Mauno, Kinnunen, Makikangas, & Feldt's, 2010, review of drivers of individual level engagement), we propose the following hypotheses:

Hypothesis 2. *Employees' aggregate perceptions of work attributes that are meaningful and empowering will be significantly related to workforce engagement.*

Hypothesis 3. *Employees' aggregate perceptions of supervisory support will be significantly related to workforce engagement.*

Hypothesis 4. *Employees' aggregate perceptions of organizational practices will be significantly related to workforce engagement.*

The hypotheses about contextual drivers of workforce engagement are not intended to be exhaustive of the range of possible antecedents. Organizational practices, supervisory support, and work attributes are suggestive of the idea that numerous practices and work characteristics at multiple levels can have an influence. For example, we believe that HPWP (Albrecht et al., 2015) and specific leadership practices (e.g., Segers, De Prins, & Brouwers, 2010) as well as perhaps a climate for engagement (Albrecht, 2014) though not measured in the present article also are likely antecedents of workforce engagement. Moreover, Salanova et al. (2005) assessed, based on the JD-R model, resources having to do with training, perceived autonomy, and technological resources as antecedents of engagement. The point is that the generic hypothesis is that contextual features of the workplace may yield engagement, and in this study, we explored work attributes, supervisory support, and organizational practices.

1.4 | On workforce engagement as a mediator

Based on the logic and hypotheses presented above, it becomes clear that workforce engagement has been implicitly considered a mediator of the relationship between the potential contextual antecedents that yield it and the outcomes predicted to emerge from it. Schaufeli and Bakker (2010, p. 20), put this notion as follows: “... we propose a model of employee motivation with work engagement as a psychological state that mediates the impact of job resources ... on organizational outcomes.” This thinking results in the following hypothesis:

Hypothesis 5. *Workforce engagement mediates the relationships between the hypothesized antecedents and the financial and customer metrics.*

In summary, the present paper elevates the construct of individual employee work engagement to the organizational level of analysis by introducing the concept of workforce engagement, an aggregate of individual employee experiences of work engagement. We hypothesize that workforce engagement (a) is a significant predictor of both organizational financial as well as customer metrics; (b) has as its hypothesized antecedents company-level organizational practices, supervisory support, and work attribute characteristics; and (c) mediates the relationship between the hypothesized antecedents and the financial and customer metric outcomes for organizations.

2 | METHOD

2.1 | Sample

Participants in the main body of the research were members of a panel maintained by a research firm that gathered the employee engagement survey data. The sample targeted primarily employees who worked for Fortune magazine's Best Places to Work (http://archive.fortune.com/magazines/fortune/best-companies/2012/full_list/) or Most Admired Companies (http://archive.fortune.com/magazines/fortune/most-admired/2012/full_list/). Respondents to the survey were all working in the United States and asked to report on their experiences working in their home companies in the United States. The sample, depending on the specific analysis, contained as many as 102 publicly traded U. S. companies representing diverse industries (see Table 1), for a total sample size of 4,199 individuals with an average of 41 respondents per company. Participants were asked to name the specific company for which they worked so that the outcome data could be linked with the appropriate workforce engagement survey data.

A construct validation sample for the measure of work engagement was also obtained to explore relationships between the measure used here and the UWES (Schaufeli et al., 2006). The validation sample

of 412 people was collected via Mechanical Turk (MTurk), an online marketplace where microtasks called "Human Intelligence Tasks" are posted for workers to complete for monetary compensation. Our study was posted as a Human Intelligence Task, and compensation was provided in return for participation. Data were collected from the same individuals in October of 2015 ($N = 553$) and again in December 2015 ($N = 412$). Evidence for the reliability of these MTurk data and their usefulness was recently reviewed quite positively by Landers and Behrend (2015). We limited participation in our study to working adults in the United States.

2.2 | Measures

2.2.1 | Workforce engagement

The survey data explored in this study were gathered as part of a norming study of a survey conducted in late 2012/early 2013. The workforce engagement score was based on the within-company average of the responses to four items: (1) "I am excited about the way in which my work contributes to my company's success"; (2) "I feel energized by my job"; (3) "I feel that it is very easy to maintain my focus at work"; and (4) "I look forward to coming to work each day."

Readers will recall that these tap into issues in Kahn's (2010, p. 11) definition of engagement having to do with people experiencing energy, putting in effort, staying involved, showing up for work, and remaining focused on what they are doing. This definition of engagement is separate from assessing work behaviors (which would be more akin to OCB) and is more aligned to reports of being psychologically engaged, or what Macey and Schneider (2008) and Christian et al. (2011) referred to as state engagement. A 5-point Likert-type scale, *strongly disagree to strongly agree*, was used. Data for the scale were aggregated within companies, and the resultant ICC(1) and ICC(2) values were .06 and .71, respectively. These reveal reliable company-level effects for workforce engagement (Bliese, 2000; LeBreton & Senter, 2008), especially given the organizational (as compared to team-level) of aggregation involved as Woehr, Loignon, Schmidt, Loughry, and Ohland (2015) note in their review of aggregation issues. That is, when aggregating to the company level of analysis, Woehr

TABLE 1 Industry sectors for the present sample, number of companies in each, and industry sector averages for the financial metrics

Industry sector	N	Percent	ROA Sector Mean	Net Margin Sector Mean	Tobin's q Sector Mean
Energy	2	1.9	.6654	.0972	1.1358
Materials	3	2.9	.8203	.0675	1.3539
Industrials	17	16.6	.9612	.0940	1.6990
Consumer discretionary	25	24.5	1.2262	.0873	1.9331
Consumer staples	13	12.7	1.3304	.1119	2.2701
Health care	6	5.9	.8467	.1139	2.1454
Financials	16	15.7	.1859	.1750	1.6095
Information technology	12	11.8	.6405	.1580	1.8769
Telecommunication services	2	1.9	.3552	.0529	.9889
Uncoded	6	5.9			
Total	102	99.8	.7727	.1149	1.7139

Note. ROA = Return on Assets.

The industry sector names here correspond to those for the Global Information Classification Standard (GICS) 2-digit codes; see this website for definitions of the ten industry sectors: <https://www.msci.com/documents/1296102/1339060/GICSSectorDefinitions.pdf/fd3a7bc2-c733-4308-8b27-9880dd0a766f>. Sector means are based on the S&P 500 companies not the present sample; the total is 99.8% due to rounding errors.

et al. found that the typical ICC values would be expected to be relatively lower at that level of analysis than when aggregating to the group or team level of analysis.

We note here and will mention it again in Section 4 that the workforce engagement items were not worded using Chan's (1998) referent-shift procedure as was true in Barrick et al. (2015). In the referent-shift procedure, items are worded at the level to which data will be aggregated. For a referent-shift model, the items would have needed to be phrased from the view point of "employees at my company." But the engagement items used here measure a latent psychological state as in Salanova et al. (2005) who used the UWES and are thus not likely to be observed in others—it would have to clearly be inferred. So, rather than characterizing the engagement observed in others in the organization, the framework used here is what Chan (1998) called the direct consensus model, that is, aggregating personally framed items to form an aggregate index.

The MTurk sample responded to the UWES (Schaufeli et al., 2006) 2 months prior to responding to the items used for the engagement measure we used. This separation in time yields a conservative estimate of the relationship between the two measures with the results still yielding a significant ($p < .01$) correlation of .71 between the two ($N = 412$). We conclude that the measure of the engagement experience used here has supporting construct validity evidence—at least insofar as it is strongly related to the UWES, the most often used measure of engagement in the research literature.

2.2.2 | Antecedents of workforce engagement

Items for the assessment of work attributes, supervisory support, and organizational practices were administered as part of the workforce engagement survey norming study. Thus, data on the hypothesized antecedents of workforce engagement were not gathered prior to the workforce engagement data though we conceptualize them as if they are truly antecedent; we comment further on this issue in Section 4.

Four of the researchers coded the items in the survey for their focus on (a) work attributes, (b) supervisory support, and (c) organizational practices as these seemed to be the themes most characteristic of the total item set. Items that had no specific focus and/or were ambiguous in their focus were not retained for further analysis. The final set of items chosen for each of the three hypothesized antecedents are shown in Appendix 1 where we also report the results of a principle components analysis on the individual level data with oblique (direct oblimin) rotation. We used principal components analysis because we conceptualize these antecedents as formative constructs rather than latent constructs driving responses to each of the survey items. Although two organizational practices items did have slightly higher loadings on other components ("I receive ongoing feedback that helps me improve my performance" and "My company provides flexible solutions for managing work and personal life"), the content of the items reflected organizational practices, and thus, they were included in that scale for all analyses that follow.

As shown in Appendix 1, the work attributes scale was assessed with a total of six items referring to empowerment and meaningfulness of the work such as the following: "I have the flexibility to decide the

best way to accomplish my goals" and "My job makes good use of my skills and abilities." Supervisory support was assessed with a total of seven items including the following: "My immediate supervisor takes an active interest in my growth and development" and "My immediate supervisor treats me with respect." This scale thus focuses on the quality of the supervisory relationship as experienced by employees. Finally, 13 items were used for the assessment of organizational practices, two examples of which are as follows: "Senior leadership effectively communicates what the company is trying to accomplish" and "The procedures for considering employees for job openings are fair." As can be seen in reviewing the items for this scale, it focused on both goal clarity issues and organizational practices focused on employee well-being (e.g., fair treatment, recognition, and opportunities for development). At the individual level, all three scales had Cronbach's alpha greater than .87, and these alpha statistics were greater than .91 at the company level.

Barrick et al. (2015) did not include work attributes or supervisory support as potential correlates of their collective organizational engagement measure. However, their two attributes of the organization, (a) HRM investment and expectations-enhancing practices and (b) strategic implementation, overlap considerably with our measure of organizational practices (see Appendix A, p. 134 in Barrick et al., 2015). In other words, efforts to measure organizational practices include the communication of organization goals, performance feedback practices, and perceived fairness in the treatment of people. In the review of Mauno et al. (2010) of engagement antecedents (at the individual level of analysis), numerous studies reveal work characteristics like those assessed here are significantly related to engagement usually assessed with the UWES. For example, like in the present measure of work attributes, issues of autonomy at work frequently emerge (see Salanova et al., 2005) as does the question of workload and self-efficacy experiences from the work itself. In addition, the Mauno et al. (2010) review reveals the potential impact of the immediate supervisor on engagement with issues such as supervisory support, coaching, and communication. In brief, our measures of antecedents seem to reflect various facets previously found to contribute to employee engagement.

2.2.3 | Organizational financial and customer performance data

Performance data for the sampled companies were obtained at the end of 2013 and the end of 2014 permitting a replication of predictive validity (recalling that the survey data were collected early 2013 and the performance metrics collected end of 2013 and end of 2014.). The performance metrics were of two kinds: financial metrics and customer metrics.

2.2.4 | Financial metrics

Three financial metrics were obtained when available to be calculated from the Compustat data base (<http://www.spcapitaliq.com/our-capabilities/our-capabilities.html?product=compustat-research-insight>) and/or calculated based on data available there on the last business days of 2013 and 2014: (a) ROA, which indicates how profitable a company is relative to its total assets and which is calculated by dividing annual

earnings by total assets; (b) Net Margin (Margin), which indicates how profitable a company is relative to its costs and indexes how much out of every dollar of sales a company actually keeps in earnings (calculated by dividing annual earnings by revenue); and (c) Tobin's Q (Tobin, 1969), which is a market value indicator that measures a firm's assets in relation to the firm's market value. Thus, Tobin's Q indicates whether a company's stock is overvalued or undervalued, and it is calculated as the market value of a company divided by the replacement costs of its assets. The Deloitte publication on business performance metrics (Raynor & Ahmad, 2014) was used as a basis for the calculation of these financial metrics. All of the financial metric data were not available for all companies so the sample size for each analysis exploring the hypotheses is noted in the relevant tables in the data analyses that follow.

2.2.5 | Customer metrics

Two customer metrics were obtained when available on the last business days of 2013 and 2014: (a) The American Customer Satisfaction Index (ACSI; <http://www.theacsi.org/the-american-customer-satisfaction-index>) and (b) The Harris Reputation Quotient (Harris; <http://www.harrisinteractive.com/Products/ReputationQuotient.aspx>). The ACSI is housed at the University of Michigan and is a measure that indexes the customer satisfaction of U.S. household consumers with the quality of products and services offered by the largest (by market share) U.S. companies. The Harris Reputation Quotient indexes the reputations of the most visible companies in the United States as perceived by the general public and a panel of experts (called "elites"). The reputation "score" a company receives is based on a composite of ratings it receives on six facets of performance: (a) products and services, (b) financial performance, (c) workplace environment, (d) social responsibility, (e) vision and leadership, and (f) emotional appeal. Customer data were not available for all companies, so the sample size for each analysis exploring the hypotheses is noted in the relevant tables for the data analyses that follow.

2.3 | Analytical method

2.3.1 | Controlling for common method bias in bivariate relationships

To avoid the usual response or common method bias (Cucina et al., In Press) in the correlational analyses involving the three antecedents and workforce engagement, a randomized split-sample approach (Ostroff et al., 2002; Podsakoff, MacKenzie, Lee, & Podsakoff, 2002) was used. This involved creating new split samples for each organization to calculate the scale intercorrelations. For four variables, this meant producing four random split samples to calculate the interscale correlation coefficients across companies as follows: one split sample for correlating each of the three antecedents with workforce engagement; a second split sample for the relationship between work attributes and supervisory support; a third for the correlation between work attributes and organizational practices; and a fourth for the relationship between supervisory support and organizational practices. We report later on the quite dramatic effect the split-sample procedure had on lowering the scale intercorrelations.

2.3.2 | Adjusting for possible industry effects on the financial metrics

Because we had companies from various industry sectors, which are known to differ in terms of financial outcomes, we accounted for industry sector by including industry means as a control variable in our analyses of the relationship between workforce engagement and the financial outcomes. We used the Global Industrial Codes Standards 2-digit code to categorize companies by industry. These codes are a result of a 1999 collaboration between Standard & Poor's and Morgan Stanley Capital International. We essentially controlled for industry by using two "scores" for each company for each of ROA, Net Margin, and Tobin's q (i.e., the raw score for a company and the industry average for the metric). For the bivariate correlation coefficients involving relationships between engagement and the financial metrics, we computed partial correlations, controlling for the industry average. For example, in examining the correlation between ROA and workforce engagement, we also included the industry average for ROA for each company and partialled it out of the workforce engagement-ROA relationship. We used the same partial correlation technique for every bivariate relationship involving ROA, Net Margin, and Tobin's q.

For the mediation analyses, we controlled for industry average by including it as another predictor of the financial outcome in the model (see Figure 1). That is, as suggested by Sharp, Bamburgh, and Ming (2013) and based on Raynor and Ahmad's (2014) helpful details on financial information by industry sector, we were literally able to control for industry average effects in both our bivariate and mediation analyses of the financials. Interested readers will find Sharp et al., (2013) an excellent summary of the analytic issues that arise when conducting research on company financials across industries. It is useful to note that such across-industry analyses are not a problem usually confronted in I/O and OB, with our typical focus on individuals or units within companies but quite typical in studies of strategic management research across companies in different industries.

Table 1 shows the broad cross section of industrial sectors we used for our sample of 102 companies, the number of companies within each sector, and the mean sector scores for ROA, Net Margin, and Tobin's q. Note that the comprehensive industry sector means shown in Table 1 are not for the sample we studied here but for all companies in that sector in the Compustat database of Global Industrial Codes Standard codes. As will be shown later, adjusting for these industry averages had some minor impact on the correlations between workforce engagement and these metrics. In contrast, the customer metrics were not adjusted for industry effects as customer satisfaction and company reputation are not controlled by asset investments (tangible assets as conceptualized in such corrections), a fundamental issue for which financial metrics are adjusted.

2.4 | Mediation analyses

2.4.1 | Testing for evidence of mediation

Techniques for testing for mediation are of considerable interest these days (cf. Aguinis, Edwards, & Bradley, 2016; MacKinnon, Fairchild, & Fritz, 2007; Rucker, Preacher, Tormala, & Petty, 2011), the typical conclusion being that (a) the earlier use of the Baron and Kenny (1986) causal-step procedure requiring a significant relationship between

the antecedent and the final outcome(s) is no longer appropriate and (b) structural equation modeling (SEM) is the preferred approach for such tests.

Methodologists argue that if separate tests of the antecedent–mediator and mediator–outcome relationships are both significant, then there is evidence of a mediation effect between the antecedent and the outcome (see LeBreton, Wu, & Bing, 2008; MacKinnon et al., 2007; MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002; Rucker et al., 2011). These paths can be tested via OLS (ordinary least squares; i.e., regression) or SEM, but SEM is typically preferred due to its flexibility and ability to test for model-data fit. For the current study, all variables are observed (nonlatent), and thus, the coefficients and tests of their significance will be identical to the results obtained via path analysis or regression. We tested for mediation via SEM, with the three antecedents predicting workforce engagement, which in turn predicted each outcome variable separately. The SEM models were tested using the Lavaan package in R with maximum likelihood estimation (Rosseel, 2012).

In order to minimize the impact of common method bias on the parameter estimates, we conducted the SEMs on covariance matrices produced from the correlation matrices and descriptive statistics presented in Tables 4a–4e. Those tables contain correlations among the antecedents, workforce engagement, and the outcome metrics calculated using the listwise random split-samples approach described earlier. It is important to reiterate that the correlation matrices involving the financial metrics do not partial out the impact of industry means on these metrics, but the tables indicate the statistical relationship of the industry mean on the financial metrics. We control for the impact of industry differences in financial outcomes by including industry mean in the SEM model as a predictor of the outcome (see Figure 1).

One last important point regarding our SEM analyses concerns the sample size used for each outcome. When calculating the bivariate correlation coefficients to be reported, we used the maximum sample available for each correlation. In the language of software for such calculations, we employed “pairwise deletion,” thus maximizing the sample available for each bivariate relationship. However, for the mediation analyses regarding SEM, we used “listwise deletion.” So, for each of the mediation analyses involving workforce engagement, the hypothesized antecedents, and each of the five outcomes, we used the sample in which all data for all variables were available for each company. For example, the maximum sample size available ($N = 102$) was for the survey data, but the maximum sample available for the mediation analyses against Net Margin was $N = 89$, so for that analysis, the sample of 89 was used for all variables that went into that analysis. When we present the results of the analyses, we will repeat these notes on the sample used and the ways in which we adjusted for the industry averages in the analyses involving the financial metrics.

2.4.2 | Testing the significance of the indirect effects

In keeping with Figure 1, our overall guide for this research effort, the question then becomes the degree to which workforce engagement mediates the relationship between the antecedents as a set and the financial and customer metrics. In fact, methodologists argue that more emphasis should be placed on the size of the indirect effects (i.e., the product of the two path coefficients) and the statistical significance

of those indirect effects (see MacKinnon et al., 2002; MacKinnon et al., 2007; Rucker et al., 2011). There are several different approaches that can be used to test for statistical significance (e.g., Sobel, 1982; see MacKinnon et al., 2002), but because the product of two regression coefficients is rarely normally distributed, best practices include constructing confidence intervals (CI) around the estimated indirect effect using either the distribution-of-the-product, Monte Carlo simulations, asymptotic normal distribution, or various other bootstrapping methods (Tofighi & MacKinnon, 2011). Tofighi and MacKinnon (2011) conducted a simulation to compare the various different methods for testing for indirect effects and found that though the results were similar, the distribution-of-product method performed the best overall in terms of Type 1 error rates and CI lengths, especially for sample sizes < 100 . As such, we used an R package called RMediation (Tofighi & MacKinnon, 2011) to apply the distribution-of-the-product method in testing for the significance of the indirect effects. This method uses the unstandardized path coefficients and standard errors obtained from the SEM analyses and, by using the distribution-of-the-product method, constructs a 95% CI around the estimate of the indirect effect.

3 | RESULTS

We first present results for the relationships between workforce engagement and the 2013 and 2014 financial and customer metrics (Hypothesis 1), followed by the results for the hypothesized antecedent correlates of workforce engagement (Hypotheses 2, 3, and 4). Finally, we present the results of testing the degree to which workforce engagement is a mediator of the antecedents–organizational performance outcome relationships (Hypothesis 5).

3.1 | Workforce engagement and the financial and customer metrics

Table 2 reports the means, standard deviations, and intercorrelations obtained from these data with industry-adjusted correlation coefficients below the diagonal and unadjusted correlation coefficients above the diagonal. Readers will recall that the adjusted correlation coefficients for the financial metrics below the diagonal were accomplished by partialling out the industry average in the calculation.

Focusing on the adjusted relationships, Table 2 reveals (see Column 1 below the diagonal) that 2013 workforce engagement is a significant predictor of end-of-year 2013 ROA ($r = .26, p < .01$) and Net Margin ($r = .25, p < .05$) but not Tobin's q ($r = .17, ns$; note that although not significant at $p < .05$, the p value was .08). It also significantly predicts the 2013 ACSI ($r = .44, p < .01$) and 2013 Harris ($r = .34, p < .05$). For end-of-year 2014 metrics, 2013 workforce engagement is again a significant predictor of ROA ($r = .30, p < .01$) and Net Margin ($r = .24, p < .05$) but again is not significant for Tobin's q ($r = .20, ns$) but is significant for both the ACSI ($r = .48, p < .01$) and the Harris ($r = .46, p < .01$). These data provide considerable support for Hypothesis 1 with regard to workforce engagement–organizational performance outcomes even when adjustments for industry are applied to the financial metrics. Thus, although the sample sizes differ depending on the

TABLE 2 Means, standard deviations, and intercorrelations for workforce engagement and the financial and customer metrics for 2013 and 2014 (see note below)

	Mean	SD	N	1	2	3	4	5	6	7	8	9	10	11
1. Engagement	3.65	.26	102	1.00	0.27**	0.33**	0.21	0.44**	0.34	0.32**	0.33**	0.24*	0.48**	0.46**
2. 2013 ROA	.06	.05	95	0.26**	1.00	0.43**	0.37**	0.14	0.44*	0.83**	0.32**	0.49**	0.19	0.50**
3. 2013 Margin	.09	.08	95	0.25*	0.57**	1.00	0.17	-0.11	0.06	0.26*	0.85**	0.17	-0.05	0.16
4. 2013 Tobin's Q	1.52	.94	77	0.17	0.31**	0.16	1.00	0.33*	0.50**	0.57**	0.28*	0.92**	0.30*	0.45*
5. 2013 ACSI	78.06	5.39	52	0.44*	0.03	-0.17	0.29	1.00	0.67**	0.16	-0.06	0.26	0.93**	0.70**
6. 2013 Harris	71.55	7.27	32	0.34**	0.36*	0.17	0.40*	0.67**	1.00	0.44*	0.10	0.48*	0.69**	0.90**
7. 2014 ROA	.06	.05	94	0.30**	0.80**	0.36**	0.54**	0.05	0.45*	1.00	0.37**	0.69**	0.16	0.51**
8. 2014 Margin	.09	.07	94	0.24*	0.39**	0.78**	0.20	-0.09	0.18	0.51**	1.00	0.31**	-0.03	0.23
9. 2014 Tobin's Q	1.70	.97	76	0.20	0.44**	0.17	0.92**	0.24	0.48*	0.70**	0.30*	1.00	0.25	0.44*
10. 2014 ACSI	76.88	5.66	53	0.48**	0.11	-0.13	0.25	0.93**	0.69**	0.07	-0.13	0.21	1.00	0.70**
11. 2014 Harris	72.52	7.00	37	0.46**	0.42**	0.23	0.35	0.70**	0.90**	0.43**	0.29	0.33	0.70**	1.00

Note. ACSI = American Customer Satisfaction Index; ROA = Return on Assets.

The below-diagonal correlations are the partial correlations among engagement and the outcomes and among the outcomes controlling for the industry means on the financial outcomes involved in the correlation. For example, the partial correlation between 2014 ROA and Engagement in the lower diagonal controls for 2014 industry mean ROA, and the partial correlation between 2014 Net Margin and 2014 ROA in the lower diagonal controls for industry means on both 2014 ROA and 2014 Net Margin. The above-diagonal values are unadjusted pairwise correlations.

* $p < .05$; ** $p < .01$.

specific correlation of interest, these quite diverse performance metrics (except for Tobin's q) are significantly predicted for both 2013 and for 2014 by workforce engagement.

There are several additional findings shown in Table 2 that are worth noting. First, Table 2 shows that the unadjusted correlation coefficients above the diagonal between workforce engagement and the financial metrics are a bit stronger (.01 for ROA to .09 for Net Margin) but quite similar to those below the diagonal when the financial metrics have had the industry average partialled out of the relationships. Second, Table 2 indicates below the diagonal that the customer and financial metrics are relatively stable over time (2013 to 2014) with all "re-rate reliabilities" greater than .83 (ROA). Also of note is the fact that the three adjusted financial indicators are not redundant with each other (the average intercorrelation of the three adjusted financial metrics for 2013 is .35 and for 2014 it is .50), which indicates that they are assessing somewhat different facets of financial performance. The Harris and ACSI are correlated .67 and .70 for 2013 and 2014, respectively, indicating considerable overlap in these two customer metrics. Because the financial metrics are not highly intercorrelated, the cross correlations with the customer metrics vary, but the same pattern of relationships exists for 2013 as for 2014. Thus in both time periods, the ACSI has non-significant relationships with the financial metrics, whereas Harris has only one significant relationship (for 2014 with ROA; $r = .42, p < .05$).

Figure 2 shows another way to picture the relationships between workforce engagement and the financial and customer metrics. The bar charts (for all but Tobin's q which was not significant) were calculated as follows: We divided the 2013 workforce engagement scores into quartiles, and for the companies in each quartile, we then calculated the average of the 2014 outcome metrics for the companies. For the two financial metrics, the bar charts show the percent below or above the average across all companies based on the financial data adjusted for relevant industry averages. For

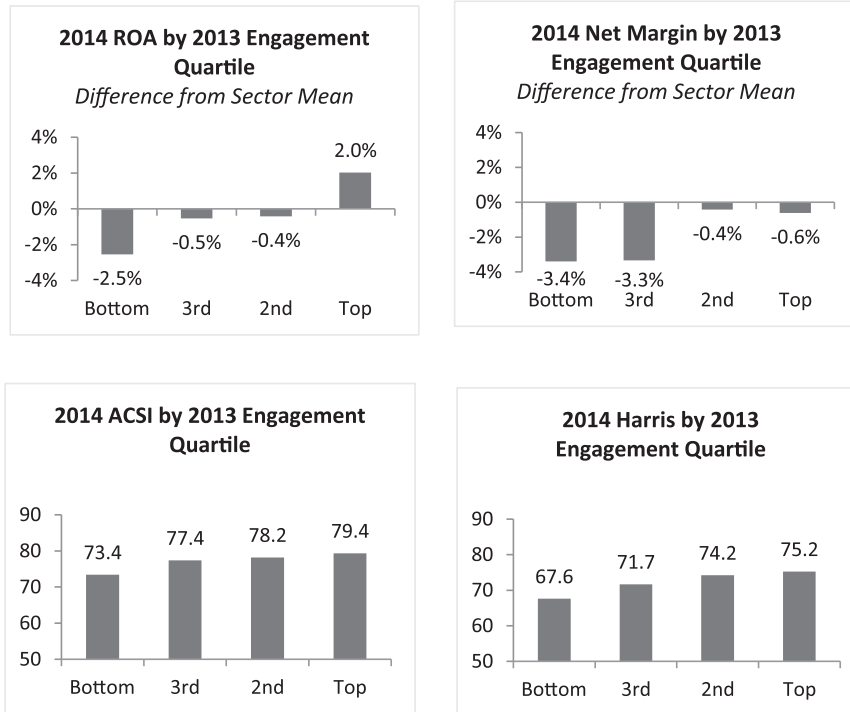
example, Figure 2 shows that the bottom quartile companies for workforce engagement had an average ROA 2.5% below the industry average, whereas the top quartile had an average ROA 2.0% above the industry average.

In summary, Hypothesis 1 was quite strongly supported as workforce engagement significantly predicted four of the five company outcomes. Specifically, 2013 workforce engagement significantly predicted two of the three 2014 industry-adjusted financial metrics (ROA and Net Margin but not Tobin's q) as well as the 2014 ACSI and Harris Reputation Quotient.

3.2 | Hypothesized antecedent correlates of workforce engagement

We hypothesized three antecedent correlates of workforce engagement: work attributes, supervisory support, and organizational practices. As noted earlier, we used a randomized split-sample approach (Ostroff et al., 2002; Podsakoff et al., 2002) to explore these correlates of workforce engagement in order to minimize common method bias in the results. The results in Table 3 reveal the quite dramatic effect this procedure had on the scale intercorrelations because workforce engagement without the split sample approach correlated .90, .65, and .86 with organizational practices, supervisory practices, and work attributes respectively compared to .29, .24, and .42, respectively, for the split sample approach. Table 3 also presents the (company-level) Cronbach's alpha for the four scales where such alpha is based on an average of the split-samples used to calculate each correlation coefficient. So, for example, the alpha of .94 for workforce engagement is an average of alpha from its split-sample correlations with work attributes, supervisory support, and organizational practices.

Tables 4a, 4b, 4c, 4d, 4e present another set of correlation coefficients and descriptive statistics, this time for the listwise split-sample intercorrelations of workforce engagement, its three



Note. For ROA and Net Margin, the data are based on adjustments for industry sector (see the text for an explanation of this adjustment). The figures for the financial metrics show the percentage above or below the means adjusted for industry. The figures for the customer metrics show the raw means for each workforce engagement quartile.

FIGURE 2 Workforce engagement 2013 quartiles plotted against 2014 Return on Assets (ROA), Net Margin, the American Customer Satisfaction Index (ACSI), and the Harris Reputation Quotient

TABLE 3 Means, standard deviations, and intercorrelations among workforce engagement and its three hypothesized antecedents on the full sample (N = 102) contrasting the split-sample approach to a “normal” approach

	Mean	SD	Alpha	1	2	3	4
1. Engagement	3.65	.26	.94	1.00	.86**	.65**	.90**
2. Work attributes	3.77	.23	.92	.29**	1.00	.73**	.84**
3. Supervisory support	3.99	.23	.95	.24*	.10	1.00	.72**
4. Organizational practices	3.75	.26	.96	.42**	.38**	.27**	1.00

Note. Correlations below the diagonal were calculated using different random split samples within company to control for common method bias (see text). Correlations above the diagonal were calculated without taking a split-sample approach. Cronbach's alpha shown is all averages across the split samples used (see text).

*p < .05; **p < .01.

hypothesized antecedents, and each of the performance metrics. These tables are based on listwise analyses because all correlations in these tables are based on the sample available in which all variables were present and which were used to create the covariance matrices used as input for the mediation analyses. In addition, for the intercorrelation matrices regarding the financial metrics (Tables 4a, 4b, 4c) we also show the data for the industry mean. For example, Table 4a shows the data for ROA, in which all correlation coefficients shown

for the workforce engagement and its three hypothesized antecedents are based on listwise split-samples across 94 companies. This is in contrast to the intercorrelation coefficients shown in Table 3 which were based on a sample of 102 companies—the total available sample. Readers will see that the sample size on which the intercorrelation coefficients were calculated varied across the performance metrics (e.g., N = 91, 89, 71, 53, and 37 for ROA, Net Margin, Tobin's q, ACSI, and Harris, respectively). Interestingly, this large difference in the sample size had relatively little impact on the intercorrelation coefficients for workforce engagement and its hypothesized antecedents as can be seen by examining row three in each of Tables 4a, 4b, 4c, 4d, 4e.

With regard to the Industry Mean shown in each of Tables 4a, 4b, 4c (for the financial metrics), recall that we controlled for that mean by partialling it out of the bivariate relationships shown in Table 2. Thus, the intercorrelations shown in the tables for the financial metrics are based on the unadjusted financial metrics. That is, for the mediation analyses, as noted earlier, we include the industry average directly into those analyses and this serves as the control when examining the relationship between workforce engagement and the financial outcomes. That is, the listwise split-sample correlation coefficients shown in Tables 4a, 4b, 4c, 4d, 4e were used as input into the calculations necessary for the mediation analyses that follow, and for the financial metrics, we control for industry by including the industry average directly into the SEMs (see Figure 1).

TABLE 4A Descriptive statistics for 2013 survey data and 2014 ROA and the ROA industry mean ($N = 91$)

ROA	Mean	SD	1	2	3	4	5
1. Work attributes	3.77	.24	1.00				
2. Supervisory support	3.99	.23	0.11	1.00			
3. Organizational practices	3.74	.27	0.40**	0.28**	1.00		
4. Workforce engagement	3.65	.26	0.29*	0.24*	0.40**	1.00	
5. 2014 ROA	.06	.05	0.28*	0.12	0.34**	0.32**	1.00
6. 2014 ROA industry mean	.07	.03	0.02	-0.21*	0.04	0.04	0.36**

Note. ROA = Return on Assets.

Listwise split-sample correlations presented between the hypothesized antecedents and workforce engagement.

* $p < .05$; ** $p < .01$.

TABLE 4B Descriptive statistics for 2013 survey data and 2014 Net Margin and the Net Margin industry mean ($N = 89$)

Net margin	Mean	SD	1	2	3	4	5
1. Work attributes	3.78	.23	1.00				
2. Supervisory support	4.00	.22	0.10	1.00			
3. Organizational practices	3.76	.26	0.40**	0.23*	1.00		
4. Workforce engagement	3.67	.26	0.29**	0.22*	0.40**	1.00	
5. 2014 Margin	.10	.07	0.30**	0.27**	0.36**	0.30*	1.00
6. 2014 Margin Industry Mean	.12	.05	0.25*	0.24*	0.26*	0.14	0.46**

Note. Listwise split-sample correlations presented between the hypothesized antecedents and workforce engagement.

* $p < .05$; ** $p < .01$.

TABLE 4C Descriptive statistics for 2013 survey data and 2014 Tobin's q and the Tobin's q industry mean ($N = 71$)

Tobin's Q	Mean	SD	1	2	3	4	5
1. Work attributes	3.77	.25	1.00				
2. Supervisory support	3.98	.23	0.10	1.00			
3. Organizational practices	3.75	.27	0.47**	0.23*	1.00		
4. Engagement	3.65	.28	0.30**	0.18	0.37**	1.00	
5. 2014 Tobin's Q	1.74	.99	0.11	-0.08	0.25*	0.21	1.00
6. 2014 Tobin's Q Industry Mean	2.00	.38	0.04	-0.11	0.13	0.09	0.13

Note. Listwise split-sample correlations presented between the hypothesized antecedents and workforce engagement.

* $p < .05$; ** $p < .01$.

TABLE 4D Descriptive statistics for 2013 survey data and 2014 ACSI ($N = 53$)

ACSI	Mean	SD	1	2	3	4
1. Work attributes	3.74	.22	1.00			
2. Supervisory support	3.92	.21	0.07	1.00		
3. Organizational practices	3.74	.25	0.44**	0.39**	1.00	
4. Workforce engagement	3.62	.25	0.37**	0.30*	0.45**	1.00
5. 2014 ACSI	76.89	5.66	0.30*	0.15	0.31*	0.48**

Note. ACSI = American Customer Satisfaction Index.

Listwise split-sample correlations presented between the hypothesized antecedents and workforce engagement.

* $p < .05$; ** $p < .01$.

TABLE 4E Descriptive statistics for 2013 survey data and 2014 Harris ($N = 37$)

Harris	Mean	SD	1	2	3	4
1. Work attributes	3.77	.22	1.00	0.12	0.61	0.28
2. Supervisory support	3.94	.20	0.12	1.00	0.39	0.26
3. Organizational practices	3.78	.26	0.61**	0.39	1.00	0.40
4. Engagement	3.67	.26	0.28	0.26	0.40	1.00
5. 2014 Harris	72.52	7.00	0.27	0.08	0.37	0.46

Note. Listwise split-sample correlations presented between hypothesized antecedents and workforce engagement.

* $p < .05$; ** $p < .01$.

3.3 | Workforce engagement as mediator of the antecedents–outcome relationships

Hypothesis 5 proposed that workforce engagement would mediate the relationships between the three hypothesized antecedents of workforce engagement and the outcomes. Based on Tables 3 and 4a, 4b, 4c, 4d, 4e, we already knew that each of the antecedents was typically individually significantly related to workforce engagement. Table 5 and Figure 3a–e reveal what happens when they are regressed as a set on workforce engagement. The results show that only organizational practices retains its significant effect after controlling for the other antecedents, suggesting that organizational practices are the most important driver of workforce engagement and thus the antecedent most likely to have an impact on organizational performance outcomes. In addition, we know from Table 2 that engagement is a significant predictor of all financial and customer

TABLE 5 Simultaneous mediation SEMs for three antecedents of workforce engagement against the three financial metrics (controlling for industry means) and two customer metrics

	Unstand. Coeff.	SE	CI lower	CI upper	Stand. Coeff.	p value	Indirect effects on outcome	Stand. Coeff.	Unstand. Coeff.	SE	CI lower	CI upper
ROA												
Org → Eng	0.300**	0.103	0.099	0.502	0.303**	0.002	Org → ROA	0.093*	0.019*	0.009	0.004	0.038
Sup → Eng	0.153	0.108	-0.059	0.365	0.136	0.152	Sup → ROA	0.042	0.010	0.008	-0.004	0.026
Work → Eng	0.179	0.113	-0.041	0.4	0.16	0.106	Work → ROA	0.049	0.011	0.008	-0.002	0.029
Eng → ROA	0.062**	0.019	0.026	0.099	0.306**	<.001						
Industry Mean → ROA	0.731**	0.191	0.357	1.105	0.351**	<.001						
Net Margin												
Org → Eng	0.308**	0.108	0.097	0.52	0.303**	0.003	Org → Margin	0.073*	0.020*	0.011	0.003	0.045
Sup → Eng	0.154	0.116	-0.074	0.381	0.13	0.18	Sup → Margin	0.031	0.010	0.009	-0.005	0.031
Work → Eng	0.182	0.117	-0.048	0.412	0.161	0.114	Work → Margin	0.039	0.012	0.009	-0.003	0.034
Eng → Margin	0.066**	0.025	0.017	0.115	0.242**	0.007						
Industry Mean → Margin	0.632**	0.137	0.363	0.9	0.423**	<.001						
Tobin's Q												
Org → Eng	0.280*	0.129	0.027	0.533	0.272*	0.024	Org → Tobin's Q	0.054	0.199	0.156	-0.033	0.566
Sup → Eng	0.128	0.135	-0.137	0.392	0.105	0.341	Sup → Tobin's Q	0.021	0.091	0.123	-0.108	0.384
Work → Eng	0.186	0.137	-0.083	0.455	0.166	0.168	Work → Tobin's Q	0.033	0.132	0.136	-0.069	0.46
Eng → Tobin's Q	0.71	0.411	-0.096	1.516	0.2	0.078						
Industry Mean → Tobin's Q	0.285	0.298	-0.299	0.869	0.111	0.334						
ACSI												
Org → Eng	0.280*	0.146	-0.007	0.567	0.274*	0.048	Org → ACSI	0.132	0.199	0.156	-0.033	0.566
Sup → Eng	0.211	0.154	-0.091	0.513	0.177	0.163	Sup → ACSI	0.085	0.091	0.123	-0.108	0.384
Work → Eng	0.273	0.152	-0.025	0.571	0.238	0.064	Work → ACSI	0.114	0.132	0.136	-0.069	0.46
Eng → ACSI	10.798**	2.706	5.495	16.101	0.481**	<.001						
Harris												
Org → Eng	0.308	0.209	-0.101	0.717	0.301	0.126	Org → Harris	0.139	3.018	1.797	-0.076	6.962
Sup → Eng	0.177	0.215	-0.245	0.599	0.134	0.406	Sup → Harris	0.062	2.279	1.808	-0.959	6.197
Work → Eng	0.098	0.225	-0.344	0.54	0.083	0.662	Work → Harris	0.038	2.946	1.846	-0.256	6.99
Eng → Harris	12.340**	3.893	4.71	19.969	0.462**	<.001						

Note. Eng = workforce engagement; Org = organizational practices; Sup = supervisory support; Work = work attributes; ROA = Return on Assets; Margin = Net Margin; Industry Mean = industry mean for each financial metric (ROA, Net Margin, Tobin's Q; see text); Harris = Harris Reputation Quotient; and ACSI = American Customer Satisfaction Index (see text). CI = Confidence Interval; SE = Standard Error; Unstand. Coeff = Unstandardized Coefficient; Stand. Coeff = Standardized Coefficient. For each outcome (e.g., ROA) the SEMs were run based on listwise split-sample correlations shown in Tables 4a, 4b, 4c, 4d, 4e.

* $p < .05$; ** $p < .01$.

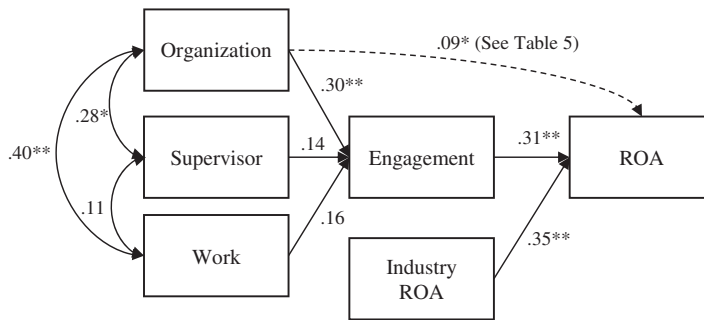
satisfaction metrics tested, with the exception of Tobin's q. Thus, these results support the notion that engagement mediates the relationship between the antecedents and ROA, Net Margin, the ACSI, and the Harris.

In terms of the statistical significance of the indirect effects, Table 5 presents the results for the indirect effects of the antecedents on each of the outcomes when workforce engagement is included as a mediator in the column labeled "Indirect Effects on Outcomes." Examination of Table 5 reveals that (a) workforce engagement significantly mediates the relationship between organizational practices and ROA with the 95% CI being .004 (CI Lower) and .038 (CI Upper), which exclude zero; (b) workforce engagement also significantly mediates the relationship between organizational practices and Net Margin with the 95% CI being .003 (CI Lower) and .045 (CI Upper), again not including zero; (c) there are obviously no significant

indirect effects for organizational practices and Tobin's q as Tobin's q was not significantly related to workforce engagement; (d) there are no significant indirect effects for organizational practices on the ACSI or the Harris; and (e) there are no significant indirect effects for supervisory support or work attributes on any of the financial or customer metrics.

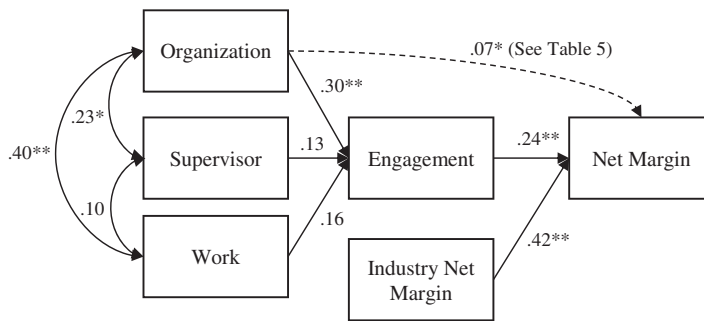
The statistically significant indirect effects (shown in the column labeled Standardized Coefficient) of organizational practices on ROA (.09, $p < .05$) and Net Margin (.07, $p < .05$) indicate that workforce engagement mediates those relationships, even after controlling for the other antecedents in the model. But of course, there may be other mediators of such relationships between antecedents and outcomes; we studied one and it mediates the relationship between the antecedents and the performance outcomes. Figure 3a–e pictorially presents these findings.

(a) ROA (N = 94)



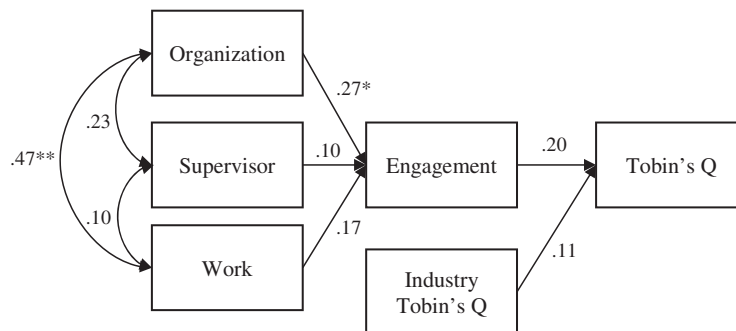
Note: Standardized path coefficients shown. Analyses based on the covariance matrix created from Table 4a. * $p < .05$ ** $p < .01$

(b) Net Margin (N = 89)



Note: Standardized path coefficients shown. Analyses based on the covariance matrix created from Table 4b. * $p < .05$ ** $p < .01$

(c) Tobin's q (N=71)



Note: Standardized path coefficients shown. Analyses based on the covariance matrix created from Table 4c. * $p < .05$ ** $p < .01$

FIGURE 3 (a–e) structural equation modeling mediation analyses testing 2013 workforce engagement as a mediator of the hypothesized 2013 antecedents –2014 performance metrics

Based on the mediation analyses, we conclude these results support Hypothesis 5 regarding workforce engagement as a mediator of the hypothesized antecedents–performance outcomes relationships.

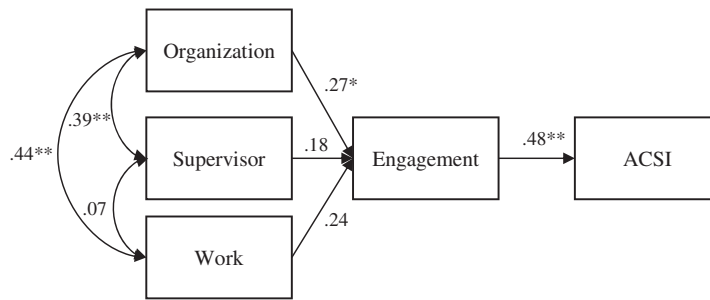
4 | DISCUSSION

In contrast to the predominance of the employee engagement research literature, this study tested the hypothesis that a company-level aggregate engagement construct—workforce engagement—

would be a significant correlate of both financial and customer metrics at the company level of analysis. In partial support of our first hypothesis, we demonstrated on a relatively large sample of companies in diverse industries (see Table 2) that workforce engagement was significantly predictive of both industry-adjusted financial metrics (ROA and Net Margin but not Tobin's q) and customer metrics (ACSI and Harris) both 1 and 2 years after the engagement data were collected.

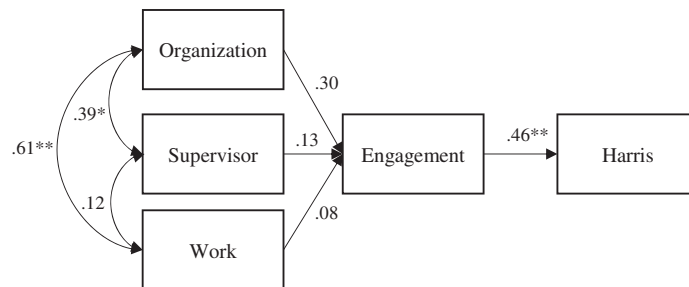
Based on Hakenen and Roodt (2010), Kahn (2010), and Mauno et al. (2010), three potential antecedents of workforce engagement were hypothesized and studied: work attributes, supervisory support,

(d) The ACSI (N = 53)



Note: Standardized path coefficients shown. Analyses based on the covariance matrix created from Table 4d. * $p < .05$ ** $p < .01$

(e) The Harris (N = 37)



Note: Standardized path coefficients shown. Analyses based on the covariance matrix created from Table 4e. * $p < .05$ ** $p < .01$

FIGURE 3 (Continued)

and organizational practices. To avoid common method issues, a randomized split-sample procedure (Ostroff et al., 2002; Podsakoff et al., 2002) was used across the companies to explore the relationships between these hypothesized antecedents and workforce engagement. The results revealed that all three were significantly related to workforce engagement but that the strongest correlate of workforce engagement, somewhat surprisingly, concerned organizational practices (e.g., “Senior leadership effectively communicates what the company is trying to accomplish” and “The procedures for considering employees for job openings are fair.”; see Appendix 1 for all of the items that defined organizational practices).

It is useful to reflect on organizational practices as the strongest correlate of workforce engagement. Earlier, we cited the quote from Hakenen and Roodt (2010, p. 86) in which they summarized the variety of resources—what we have called antecedents—that can yield employee engagement: “Job resources may be located on the following levels: organization (salary, career opportunities, job security); interpersonal and social relations (e.g., supervisor and coworker support); organization of work (e.g., role clarity, participation in decision making); and task (e.g., performance feedback, skill variety, autonomy).” Although they provide no indication of which resources may be the most important ones, the implication since Kahn’s (1990, 1992) early work and the development of the UWES (Schaufeli et al., 2006) has been that the work itself is critical for employee work engagement. Yet even Kahn (2010), especially in his later writings, and the JD-R framework in which so much of work engagement research has been done (cf. Bakker & Demerouti, 2017) reveal considerable interest in the larger work

context in which the work itself exists, as being important for people and their work engagement. For example, Kahn (2010, p. 24) says that “We engage in the context of systems that we find trustworthy, predictable, and sensible” and (2010, p. 28) “We engage in relations with leaders who validate and respect us.” In fact, in the cited chapter, Kahn lists 13 specific organizational and leadership conditions that he says have an impact on employee engagement.

The present article is the first of which we are aware in the academic research literature that empirically tests how these three facets of the context differ in their relationships with work engagement—and do so at the organizational level of analysis uncontaminated by potential common method bias. Perhaps the explanation for why organizational practices is the stronger correlate of workforce engagement is simply that when the larger organization is seen as demonstrating a strong strategic focus and concern for people, it is a more macro or overall determinant of workforce engagement than the job/task or the immediate supervisor themselves—whose attributes are in turn determined by organizational practices.

This set of findings on a relatively large sample of diverse organizations has some interesting conceptual implications for furthering the study of employee engagement. First, the almost-always implicit assumption that higher aggregate levels of employee engagement can yield competitive advantage for organizations has been validated. Macey and Schneider (2008) in their early review of the academic research literature made this point as have others since then (e.g., Albrecht et al., 2015; Barrick et al., 2015), but it has not been empirically validated. In the study of organizational commitment—a close correlate

of engagement (Rich, Lepine, & Crawford, 2010)—there has been more research at the organizational level of analysis, which has yielded insights for additional outcomes of interest such as turnover rates for organizations or, in the field of health care, hospital patient outcomes (Wright & Kehoe, 2010). More research exploring these work engagement microfoundations of organizational behavior appears to certainly be warranted (Ployhart, 2015).

The phrase “work engagement” is also worth noting here because the construct and measure of workforce engagement used here was focused on engagement with the work itself. Work engagement is about what Kahn (1990) originally wrote and the UWES assesses, but there is another tradition in the field that has been on a parallel track, rarely crossing over into the engagement/UWES world, and that concerns self-determination theory (SDT; e.g., Gagne, 2014). SDT and scholars in this tradition (e.g., Deci & Ryan, 1985, as well as Hackman & Oldham, 1980) have focused very strongly on the work itself and the intrinsic motivation people find in their work as the key issue. Although we did not assess intrinsic motivation here, we have indirectly at a minimum shown the importance of workforce work engagement for understanding important organizational consequences as researchers in the SDT tradition would predict.

It is important to note that the present findings indicate that the focus on the work itself in SDT as the key to work engagement is called into some question by the present results as it has also been called into some question in the SDT research tradition itself (Vallerand, Houliort, & Forest, 2014). Thus, in our work, we show that organizational practices is the strongest correlate of workforce work engagement, and Houliort and Vallerand (2013, as cited in Vallerand et al., 2014), working within the SDT framework, have shown how leadership and organizational culture (especially a culture of harmonious relationships) directly influence what they call a passion for work—what we have called work engagement. Their research, then, reveals similar findings to ours, supporting the role of the larger work environment beyond the work itself as an important correlate of work engagement.

4.1 | Managerial implications

Workforce engagement—the aggregate of individual employee engagement with the work itself—has both financial and customer consequences. But workforce engagement is likely a result of more than the attributes of the work itself. That is, the results presented here indicate that the larger context in which work exists has a stronger impact than the work itself on workforce engagement in work. Our results reveal that the primary driver of workforce engagement in work is a work context where people experience the organization as being goal directed and demonstrating concern for people. That is, even when work attributes and supervisory support were assessed, it is organizational practices that dominates relationships with workforce engagement. The creation of workforce engagement following our findings involves attention to a system of contextual variables that, if attended to, ultimately yields the financial and customer metrics performance most companies desire. Attending to this larger organizational-level system of contextual variables will be difficult but doing so has the potential to create significant competitive advantage for companies (Albrecht et al., 2015; Ployhart, 2015). Competitive advantage in our

conceptualization is derived from the implementation of organizational practices that are difficult for others to replicate (Ployhart, 2015), and as we showed, it is organizational practices contributing the most to the workforce engagement companies say they want. In short, top management has to take the bull by the horns and make these organizational practices tangible and real for their people if they wish to promote an engaged workforce.

We note here that the nonacademic literature on work engagement has focused more on engagement in the organization for measures of engagement, which is in stark contrast to the academic literature. As Meyer (2013) so nicely showed, the practitioner literature has focused more on what might best be called organizational commitment—focusing on engagement in the organization and not just the work. For example, the measure of engagement used at Kenexa (Wiley, 2010) never mentions engagement in the work itself, having items regarding pride in and satisfaction with the organization, seeking a new job (not), and referring a friend or family to the company (see p. 57). Schaufeli and Bakker (2010, p. 12) demonstrate that the definitions of engagement used by consulting firms focus on (a) belongingness and pride in the organization (Development Dimensions International); (b) speaking positively about the organization, a desire to remain with the organization, and striving to contribute to business success (Hewitt); (c) personal satisfaction from work and being a part of the organization (Towers Perrin); and (d) feeling a vested interest in the success of the organization (Mercer). We would hypothesize that such definitions and measures of engagement would be even more strongly driven by the organizational practices studied here so a focus on those practices as summarized in Appendix 1 could prove useful in raising the levels of workforce engagement shown here to be reflected in both financial and customer metrics.

If engagement of the workforce was easy to achieve, all companies would achieve it. Macey, Schneider, Barbera, and Young (2009) write that many of the organizations they encounter administer engagement surveys but seem to expect that administering a survey alone will lead to change. Kraut's (2006) expansive edited book on using surveys reveals the truth of this statement with numerous chapter authors decrying the paucity of follow-up from surveys. Though we did not study what happens when or if follow-up action occurs, we do know from the present results that the potential for improvements in organizational-level performance indicators is there.

Indeed, there are suggestions in the literature that workforce engagement may have a trickle-down effect on individual and team levels of engagement. That is, engagement and performance interact in a virtuous cycle. For example, Bakker, Van Emmerik, and Euwema (2006) showed that team-level engagement has what they called a “cross-over effect” on individual employee engagement over and above individual employees' reports of their job demands and resources. In short, if companies can create a climate characterized by high workforce engagement, it can permeate the company and become a source of individual work engagement (Albrecht, 2014).

4.2 | Limitations

There are several limitations to this study and the conclusions one can reach from it. First, although we proposed that behaviors intervening

between workforce engagement and the financial and customer outcomes are the likely proximal causes of them, we did not have data on such potential behavioral mediators. For example, OCBs have been identified as a behavioral manifestation of engagement, and these behaviors could well be some of the key drivers of organizational success as documented in Schneider, Ehrhart, Mayer, Saltz, and Niles-Jolly (2005).

Some might argue that our measurement of workforce engagement, as an organizationally conceptualized construct, should have been assessed using Chan's (1998) referent-shift procedure. Using that procedure would have had respondents reporting on what they saw happening in their work world as in Barrick et al. (2015). Instead, we used the direct-consensus model where we aggregated respondents' reports on their own work engagement (as in Salanova et al., 2005). If we had conceptualized workforce engagement as an organizational climate variable, Chan's referent shift procedure would have made sense but we did not; we conceptualized workforce engagement as the aggregate of individual-level work engagement. It is interesting to note with regard to this measurement issue that a meta-analysis comparing referent-shift and direct-consensus models for the measurement of organizational climate finds that both are significantly related to outcomes of interest though the referent-shift procedure yields stronger relationships with organizational level outcomes (Wallace et al., 2016).

A third limitation is that, following Bowen and Schneider (2014), we propose that workforce engagement is a foundational issue for implementing strategic foci in organizations but we did not study such foci here. For example, workforce engagement might be critical for an organization to focus on service quality through service climate (Salanova et al., 2005). That is, workforce engagement provides a foundation on which a service climate can be built, which in turn yields customer-focused OCBs, which result in better consumer experiences and increased customer satisfaction (Schneider et al., 2005). The present results indeed suggest that engagement may serve as a foundation for a wide variety of strategic foci and thus behaviors because it significantly and directly predicts a wide variety of financial and customer metrics. Further research on both antecedents of engagement and mediators of the engagement–outcome relationships are clearly warranted to serve as a basis for structural, organizational, HRM process and leadership interventions (antecedents) and management of the behaviors (mediators) to obtain key outcomes. The combination may usefully lead to the understanding and prediction of organizational success (cf. Schneider & Barbera, 2014) and enable companies to achieve a competitive advantage over others (Ployhart, 2015) precisely because the creation of workforce engagement is not easily duplicated.

A potential fourth limitation concerns the sample of companies studied because they were drawn from Fortune's Most Admired Companies or Best Places to Work For. As such, one may expect these companies to have higher workforce engagement than the average company. Although we do not have company-level workforce engagement from a broader population, we do have benchmark and norming data at the individual level of analysis. Comparing the individual employees in our sample ($N = 9,068$) to those surveyed in 2013–2014 as part of a global norming panel ($N = 68,218$) shows that the two samples are actually quite comparable ($M = 3.63$ and $SD = .89$ for the current sample vs. $M = 3.68$ and $SD = .82$ for the norming sample).

In addition, the data in Tables 4a, 4b, 4c, 4d, 4e for the financials indicate that the companies were about average on ROA (mean of .07) and Net Margin (mean of .12) and slightly above average on Tobin's q (mean of 1.74). With regard to the ACSI and the Harris, the data reveal they were essentially average on both (see theacsi.org and <http://www.theharrispoll.com/reputation-quotient/>). If the sample had been biased positively, then it would have yielded some restriction in range hindering correlational results such as those presented here, but it appears to not have been an issue for us given how average the respondents in this sample of companies seemed to be in terms of work engagement, and the companies in terms of financial and customer metrics.

Fifth, it is acknowledged by us and should be a note of caution that the relationships shown here between workforce engagement and the outcomes are modest at best (modest for the customer metrics and weak for the financial metrics). Of course, except for Tobin's q , they were statistically significant (and, as reported earlier, Tobin's q had a p value of $p < .08$). But the fact that workforce engagement is significantly reflected in this wide variety of organizational performance outcomes is at least worth further research. As noted earlier, it is completely possible, perhaps likely, that the workforce engagement assessed here provides a foundation on which the behaviors necessary for organizational performance can emerge or be created. Thus, again as noted earlier, the likely behaviors to mediate the workforce engagement–outcome relationships certainly deserve further efforts.

A final limitation of this study concerns the timing of the measurement of the hypothesized antecedents of workforce engagement. That is, although the term “antecedents” clearly implies a time-based causal influence, we collected data on them concurrently with the workforce engagement data. Most naturally occurring organizations (as elsewhere in nature) likely have reciprocal relationships among hypothesized antecedents and outcomes (e.g., Schneider, Hanges, Smith, & Salvaggio, 2003). For example, it is possible that in more financially successful organizations, employees will perceive their work environment through a more favorable lens and be more engaged (Schneider et al., 2003) and/or that more successful organizations are able to attract, select, and retain people, perhaps via Schneider's (1987) ASA cycle, who are more likely to be engaged in and behave in ways to produce such effectiveness (Oh, Kim, & Van Iddekinge, 2015). These possibilities cannot be ruled out as potential issues for the present results.

In summary, this study reveals that aggregate employee work engagement in companies—workforce engagement—significantly predicts a variety of organizational level financial (ROA, Net Margin) and customer (ACSI and Harris Reputation Quotient) outcomes 1 and 2 years later. Further, an exploration of three potential antecedents of workforce engagement (work attributes, supervisory support, and organizational practices) revealed (a) that they were all significantly related to workforce engagement with organizational practices revealing the strongest relationship and (b) workforce engagement served as a mediator between these drivers of workforce engagement and the outcomes.

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APPENDIX A

Survey items and principal components analysis results for three hypothesized antecedents

	Organizational practices	Supervisor support	Work attributes
<i>Organizational Practices</i>			
Senior leadership provides a clear direction for my company.	0.98	-0.04	-0.08
Senior leadership effectively communicates what the company is trying to accomplish.	0.98	-0.06	-0.06
I understand my company's goals and objectives.	0.87	-0.02	-0.03
My company is making the changes necessary to compete effectively.	0.85	-0.02	0.00
An attitude of service is common throughout my company.	0.79	0.02	0.00
My company is always moving toward improved ways of doing things.	0.73	0.05	0.08
Sufficient effort is made to get the opinions and thinking of people who work here.	0.53	0.19	0.21
There is a clear link between performance and compensation at my company.	0.48	0.10	0.25
The procedures for considering employees for job openings are fair.	0.47	0.13	0.22
If I sustain a high level of performance, I will get ahead in my company.	0.46	0.07	0.35
When I do an excellent job, my accomplishments are recognized.	0.35	0.31	0.28
I receive ongoing feedback that helps me improve my performance.	0.33	0.36	0.22
My company provides flexible solutions for managing work and personal life.	0.26	0.17	0.39
<i>Supervisory Support</i>			
My immediate supervisor treats me with respect.	-0.10	0.96	-0.03
My immediate supervisor treats everyone in my work group fairly.	-0.08	0.94	-0.02
My immediate supervisor shows that he/she truly cares about the people in my work group.	-0.05	0.93	-0.01
I feel free to go to my immediate supervisor when I have a question or problem.	0.03	0.84	0.00
My immediate supervisor encourages an environment where individual differences are valued.	0.07	0.82	0.05
My immediate supervisor communicates useful information to employees.	0.13	0.74	-0.02
My immediate supervisor takes an active interest in my growth and development.	0.11	0.73	0.10
<i>Work Attributes</i>			
My job makes good use of my skills and abilities.	-0.07	-0.13	0.93
My work gives me a feeling of personal accomplishment.	-0.01	-0.07	0.86
I have the authority to make decisions that improve the quality of my work.	0.08	0.12	0.71
I am empowered to make decisions that enable me to do my job effectively.	0.11	0.15	0.67
I have the flexibility to decide the best way to accomplish my goals.	0.09	0.16	0.64
The amount of stress I experience on my job is acceptable.	0.03	0.15	0.51

Note. See text for explanation of the analyses that yielded this Appendix.