Customer Satisfaction as a Mediator of the Turnover- Performance Relationship

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We developed and tested a model examining the influence of unit-level voluntary and involuntary turnover on critical performance outcomes within a relationship based business context. Utilizing the notion of relational assets, we proposed that voluntary and involuntary turnover levels disrupt the existing stock of relationships with customers thus negatively affecting customers' satisfaction with the firm, thereby decreasing unit-level financial performance. We tested our hypotheses using longitudinal data related to voluntary and involuntary turnover of full-time staff, customer satisfaction, and financial performance (net operating profits per employee) obtained from 46 regional offices of a temporary help services (THS) firm. Consistent with our predictions, customer satisfaction with the THS firm mediated the relationship between both voluntary and involuntary turnover rates and unit-level financial performance.

INTRODUCTION

While numerous research articles have been published examining the antecedents of turnover, few have examined the consequences of turnover (Holtom, Mitchell, Lee, & Eberly, 2008). This research reveals that high levels of employee turnover can have negative effects on business-unit performance. Specifically, there is support for the argument that voluntary turnover disrupts normal operations of the firm (Staw, 1980) and engenders the loss of firm-specific human and social capital (Dess and Shaw 2001; Shaw, Gupta, & Delery, 2005), thereby decreasing unit-level efficiency (Kacmar, Andrews, Van Rooy, Steilberg, & Cerrone, 2006; Morrow & McElroy, 2007), customer service outcomes (Hausknecht, Trevor & Howard, 2009), and financial performance (Glebbeek & Bax, 2004; Shaw, Duffy, Johnson, & Lockhart, 2005; Siebert & Zubanov, 2009). Similarly, involuntary turnover has been found to negatively influence business outcomes including organizational efficiency (Zatzick & Iverson, 2006), profitability (Guthrie & Datta, 2008), and stock prices (Nixon, Hitt, Lee, & Jeong, 2004). While several studies have examined the relationship between turnover and unit-level performance, relatively few have theorized and measured the mediators of the turnover-performance relationship for both voluntary (Holtom et al., 2008), and involuntary (Datta, Guthrie, Basuil, & Pandey, 2010) turnover, and even fewer have attempted to test these mediated relationships using longitudinal designs (Morrow & McElroy, 2007). There is a critical need to examine the 'black box' or theoretical intermediaries of these effects.

We address this gap by proposing and testing a model where customer satisfaction mediates the relationship between both forms of turnover and unit performance. Utilizing the notion of relational assets (Srivastava, Fahey, & Christensen, 2001), we argue that high turnover levels can destabilize the existing stock of relationships between business units and their customers, leading customers to evaluate the business unfavorably, and through their dissatisfaction, affect unit-level financial performance. Given that 83% of workers in the United States produce a service rather than a product (Lee & Mather, 2008) and that the value of services are inextricably linked to the interaction between employees and customers (Schneider & White, 2004), we believe it is critical to explore the role that effective service relationships play in influencing financial performance. We developed our theoretical argument within the context of a relationship-based service business—temporary help services (THS)—and tested it using time-lagged turnover, customer, and financial performance data gathered from 46 units of a THS firm in the US.

THEORY AND HYPOTHESES

Theorized Mechanisms for the Turnover-Performance Relationship

Three theoretical perspectives predict the negative influence of turnover levels on organizational outcomes. First, according to operational disruption theory (Staw, 1980; Hausknecht, et al., 2009), employee departures affect "the ability of others to produce because of the interdependence of work roles" (Staw, 1980; p. 256), thus disrupting the normal operations of the unit and diverting unit-resources (i.e., people, time, and money) toward dealing with this disruption. Although specific forms of involuntary turnover (e.g., downsizing and layoffs) are typically initiated by firms in order to increase their efficiency levels by reducing labor costs (Freeman & Cameron, 1993), empirical evidence instead suggests efficiency reducing (Wagar, 1998; Zatzick & Iverson, 2006) or value-neutral (Baumol, Blinder, & Wolff, 2003) effects. Particularly pertinent to our study is the finding that both dismissals and reduction-in-force initiatives are negatively associated with customer satisfaction, productivity, and profitability (McElroy, Morrow, & Rude, 2001).

Second, human capital theory (Becker, 1964) asserts that turnover leads to the depletion of firm-specific human capital and therefore to a decline in firm performance (Shaw et al, 2005). Because firm-specific human capital includes employees' knowledge of "specific product features, service agreements, pricing, packaging, promotions (and)…demand characteristics of particular individuals or segments (Batt, 2002; p. 588)," employee turnover can translate into a loss of customer-related knowledge and lead to lowered levels of customer service (Liao, Toya, Lepak, & Hong, 2009).

Third, researchers focusing on social capital or the connections between members of an organization view turnover as leading to the dissolution of key relationships between organizational members (Adler & Kwon, 2002; Leana & VanBuren, 1999). Regardless of turnover type, loss of key members can lead to communication problems within the firm's social network and engender a loss of efficiency in communication and work flow (Shaw et al., 2005b), which are likely to translate into lowered levels of customer satisfaction (Morrow & McElroy, 2007).

In the context of relationship-based service organizations such as THS firms, we believe that a fourth, complementary, theoretical argument applies. In short, we contend that relationships with customers are a critical resource for firms (Srivastava, et al., 2001). Considered in this light, high rates of turnover among full-time, permanent staff members can disrupt the ability of THS firms to form effective service relationships with their customers and, thereafter, financial performance.

Turnover Levels and Customer Satisfaction

Boundary spanning employees constitute a critical link between firms and their customers (Schneider & Bowen, 1985; Bettencourt, Brown, & MacKenzie, 2005; Gelade & Young, 2005), and there is evidence that customers' loyalty to the firm is strongly influenced by their loyalty to the firm's representatives (Palmatier, Scheer, & Steenkamp, 2007). This is because repeated interactions with customers provide employees with the opportunity to develop a deeper understanding and appreciation of individual customers' needs and preferences (Liao & Subramony, 2008), and consequently lead them to exert

discretionary effort to solve customer problems (Bettencourt, Gwinner, & Meuter, 2001). These discretionary behaviors are typically reciprocated by customers in the form of attachment directed specifically toward the employee (Tax & Brown, 1998). Through frequent interactions over time, employees and customers often form personal bonds or relationships, mutual trust, and commitment. Overall, these relationships are difficult to replace (Hunt, 1997; Hunt & Morgan, 1994). The loss of relationships can significantly disrupt the stock of relational assets accumulated by the firm, and lead to customer dissatisfaction and defection (Bendapudi & Leone, 2001; Tax & Brown, 1998).

The interactions between THS firms and their customers are characterized by relational exchanges (Dwyer, Schurr, & Oh, 1987). Customers typically interact with the same staff for the identification, placement, and management of multiple temporary employees. Over the course of this relationship, they develop an understanding of each others' contexts, capabilities, and vulnerabilities and become uniquely suited to meet each others' needs (Druker & Stanworth, 2004). In addition, over the long term, both parties receive opportunities to develop mutual trust and commitment (Hunt & Morgan, 1994), and establish mutually-acceptable relational norms (Palmatier, Dant, & Grewal, 2007). Staff turnover, in these circumstances, could lead to customer dissatisfaction due to factors such as disruption in communication, reduced speed of response, and delays in execution arising from disruption of the firm's operations amongt others.

While it can be argued that voluntary and involuntary turnover have different etiologies (Chatman, 1991; Mitchell et al., 2001; Shaw, Delery, Jenkins, & Gupta, 1998), they tend to have similar effects on firm-customer relationships (Bendapudi & Leone, 2002). Organizational units that experience higher rates of employee attrition are less likely to anticipate and deliver high-quality service (Hausknect et al., 2009) because their employees lack the critical knowledge, skills, abilities, and customer relationships, unlike organizations with lower attrition rates (Kacmar et al., 2006). Consequently, customers are more likely to be dissatisfied with the received levels of service (Brown & Lam, 2008; Brown, Barry, Dacin, & Gunst, 2005; Zeithaml, Parasuraman, & Berry, 1990).

> *Hypothesis 1: The rate of unit-level voluntary and involuntary turnover will be negatively related to customer satisfaction.*

Customer Satisfaction and Unit Financial Performance

Current literature demonstrates the positive effects of customer satisfaction on key customer behaviors (Szymanski & Henard, 2001). Satisfied customers are likely to continue buying from the firm in spite of viable alternatives (Gustafsson, Johnson, & Roos, 2005), strongly identify with the firm (Homburg, Wieseke, & Hoyer, 2009), and be more tolerant of service transgressions (Grégoire, Tripp, & Legoux, 2009). These behaviors have been found to improve firm-level performance through two key routes. First, as a consequence of customer retention and loyalty, firms with higher levels of customer satisfaction enjoy greater revenue growth and profitability than firms with lower levels of customer satisfaction (Anderson, Fornell, & Lehmann, 1994; Smith & Wright, 2004). Second, customers' propensity to stay with the firm and provide positive word-of-mouth reduces the need to attract more customers, which leads to a reduction in marketing and promotion expenses (Luo & Homburg, 2007). In sum, customer satisfaction with the firm should enhance revenues and decrease expenses such that we would expect higher levels of net operating profit.

Because net operating profit per unit could vary dramatically by the number of staff within the unit, we utilize net operating profits divided by the number of full-time employees per unit (NOP/EE), as the measure of unit-level financial performance. This measure is similar to labor productivity because it provides an estimate of per-employee contribution in the unit. It has an additional advantage as it controls for one of the unit's largest operating expenses (labor cost), making it ideal for service businesses such as THS (Barber & Strack, 2005; Bryan, 2007).

> *Hypothesis 2: Customer satisfaction will be positively related to unit-level financial performance.*

Based on the above rationale, we propose that the detrimental effect of both voluntary and involuntary turnover on unit-level financial performance will be fully mediated by customer-satisfaction levels.

> *Hypothesis 3: The negative relationship between unit-level voluntary and involuntary turnover and unit-level financial performance will be fully mediated by customer satisfaction.*

Recent reviews (e.g., Mathieu, DeShon, & Bergh, 2008; Wood, Goodman, Beckmann, & Cook, 2008) have noted the relative lack of time-lagged or longitudinal designs in testing mediated relationships. It takes time for the relationship-destabilizing effects of turnover to manifest in the form of customer dissatisfaction, which, in turn, takes time to translate into unit-level performance. Although, it is difficult to precisely pinpoint the amount of elapsed time for these effects to unfold, a review of the few longitudinal studies suggest that a one-year time-lag is sufficient for detecting these effects (Luo & Homburg, 2006; McElroy, et al, 2001).

METHOD

Sample and Procedure

Our sample consisted of 46 regional offices of a THS firm in the United States. This firm employs 1,485 (unit mean = 32; SD = 16) full-time staff who recruit and manage 430,000 contingent workers delivering a variety of limited-term administrative, and professional/skilled (e.g., quality technician, electronic assembly, computer programming, and accounting) services to over 40,000 client organizations in the US. Each regional office in this sample was a semi-autonomous unit with its own annual objectives and performance metrics. Voluntary and involuntary turnover data of full-time staff for these units were obtained for an 18-month period (from January 2005 to June 2006) for all 46 units in the sample. Customer-satisfaction data for these units were collected in June 2007 (i.e., a year after the last wave of turnover data) through a telephone-survey of a random sample of contact persons working for the customer organizations. These surveys were conducted by a market-research company contracted by the THS firm. Responses were received from 1,956 customers (n ~ 43 per unit). Financial performance data (i.e., net operating profit per full-time employee) was obtained for 2008 from these units.

Measures

Turnover

Voluntary and involuntary turnover data were reported in the form of the proportion of full-time staff voluntarily or involuntarily (i.e., terminations and discharges) leaving each unit. These proportions were calculated by dividing the total number of staff voluntary and involuntary leaving each unit and dividing these numbers by the average number of employees in each unit in the 18-month period from January 2005 to June 2006.

Customer Satisfaction

Customer satisfaction with the THS firm's operations was measured using 3 items rated on a 5-point Likert scale. Items included: Your satisfaction with…"How well we communicate information that is relevant to your staffing needs", "How innovative we are in meeting your staffing needs", and "Overall satisfaction with the firm's service delivery." This measure is similar to others used to capture global customer satisfaction (c.f., Netemeyer, Maxham, & Lichtenstein, 2010). The internal consistency of this scale (Alpha = .88) was found to be high.

Financial Performance

Unit-level financial performance was measured using net operation profit (i.e., gross operating profits minus operating expenses) for each unit divided by the number of full time staff at the end of the year 2008.

Control Variables

Based on previous evidence indicating that unit-size can affect the relationship between voluntary-turnover and customers' service quality evaluations (Hausknecht, et al., 2009), we controlled for the size of the regional offices, operationalized as the number of full-time staff working in these offices. Additionally, we gathered unemployment data for the year 2006, reported for different states and metropolitan regions by the Bureau of Labor Statistics (www.bls.gov), and explored the relationship between regional unemployment rates and the other variables in our analyses.

Data Aggregation

All our analyses were conducted at the unit level (i.e., regional office). While turnover rates, financial performance, and the control variables were a-priori conceptualized and measured at the unit level of analyses, customer satisfaction data were acquired from the responses of individual customers. There is ample precedent for aggregating customer data at the unit level of analyses (e.g., Schneider, White, & Paul, 1998; Susskind, Kacmar, & Borchgrevink, 2003; Hausknecht, et al., 2009). Moreover, the THS firm itself used aggregated data for its service improvement programs. Additionally, we conducted analyses to ensure that customers for each regional office evaluated the THS firm similarly. We did this by calculating the inter-rater agreement of customers for each unit using within-group correlation (r_{wgj}; James, Demaree, & Wolf, 1984), and average deviation index (ADI; Burke, Finkelstein, & Dusig, 1999) values. The r_{wgj} value for customer satisfaction (Mean $r_{wgj} = .77$; SD $= .02$) was found to be higher than the recommended cut-off value of .70; and statistically significant at the $p \leq .05$ level (Dunlap, Burke, & Smith-Crowe, 2003). As opposed to r_{wgj} indices, ADI values are assumed to reflect high levels of inter-rater agreement when they are lower than .83 for items utilizing a five-point scale. In our sample, the ADI values for the customer satisfaction items ranged from .63 to .74. These values were at recommended levels and also statistically significant at the $p \leq .05$ level (Dunlap, et al, 2003). After obtaining empirical support for aggregation, means of individual responses of customers of each unit were calculated to obtain the unit-level customer satisfaction scores.

Data Analysis

All three hypotheses were tested using structural equations modeling (SEM) implemented in AMOS 13.0 (Arbuckle, 2009). Following SEM conventions, we created a latent customer satisfaction variable with three item indicators, as well as four latent variables for voluntary turnover, involuntary turnover, NOP/EE, and unit size (the control variable) each fully loading on a manifest variable (i.e., with the factor loading set at 1.0). Two criteria need to be satisfied a priori in order to test for full mediation using the SEM approach: (a) the antecedent, X should be correlated with the mediator (M; and (b) M should be correlated with both X and the consequence Y (James & Brett, 1984; James, Mulaik, & Brett, 2006). An inspection of table 1 reveals that both these criteria were met in the current data. In addition, unlike tests for partial mediation (e.g., Barron & Kenney, 1986), a test of full-mediation does not require that X be correlated with Y. In other words, the non-significant relationship between turnover and financial performance does not preclude us from testing for full-mediation.

RESULTS

A review of Table 1 reveals moderate to high correlations between voluntary and involuntary turnover rates ($r = .47$; $p = .001$), both types of turnover and customer satisfaction (ranging from $r = -.40$ to $-.47$), and customer satisfaction and net operating profits per employee (ranging from $r = .44$ to .55). Unit-size was found to be significantly correlated with customer satisfaction (ranging from $r = -.40$ to $-.42$) and regional unemployment rate was found to have non-significant relationships with all variables in the study. Therefore, we controlled for the effect of unit-size on customer satisfaction, and dropped unemployment rate from our analyses.

TABLE 1
DESCRIPTIVE STATISTICS AND INTERCORRELATIONS
BETWEEN VARIABLES IN THE STUDY

		Mean	SD	1	2	3	4	5	6	7
1.	Regional Unemployment	4.49	.76							
2.	Unit Size	34.37	15.10	.17						
3.	Voluntary Turnover	.17	.07	-.21	-0.12					
4.	Involuntary Turnover	.07	.04	-.03	-0.14	.47**				
5.	Customer Sat (communication)	4.1698	.20	.02	-.40*	-.41**	-.47**			
6.	Customer Sat (innovation)	3.9194	.22	-.09	-.40*	-.42**	-.46**	.88**		
7.	Customer Sat (overall)	4.131143	.20	.04	-.42*	-.43**	-.43**	.90**	.91**	
8.	Profits per employee	53705.74	27843.73	.22	-.20	-.05	-.24	.44†	0.44†	0.55*

$**p \leq .01$; $*p \leq .05$; $^{\dagger}p \leq .10$

The unstandardized and standardized path coefficients for the hypothesized model are presented in Figure 1. Consistent with Hypothesis 1, after controlling for unit-size, voluntary ($\beta = -.35$, $B=-.96$; $SE = .36$; $p = .001$; $sr^2 = .05$) and involuntary ($\beta = -.39$, $B=-1.98$; $SE = .66$; $p = .001$; $sr^2 = .06$) turnover significantly predicted customer satisfaction. We also found support for Hypothesis 2 in that customer satisfaction significantly predicted NOP/EE ($\beta = .52$, $B=73,235$; $SE = 28,378$; $p = .001$; $R^2 = .27$).

FIGURE 1
PATH COEFFICIENTS FOR THE HYPOTHESIZED MODEL
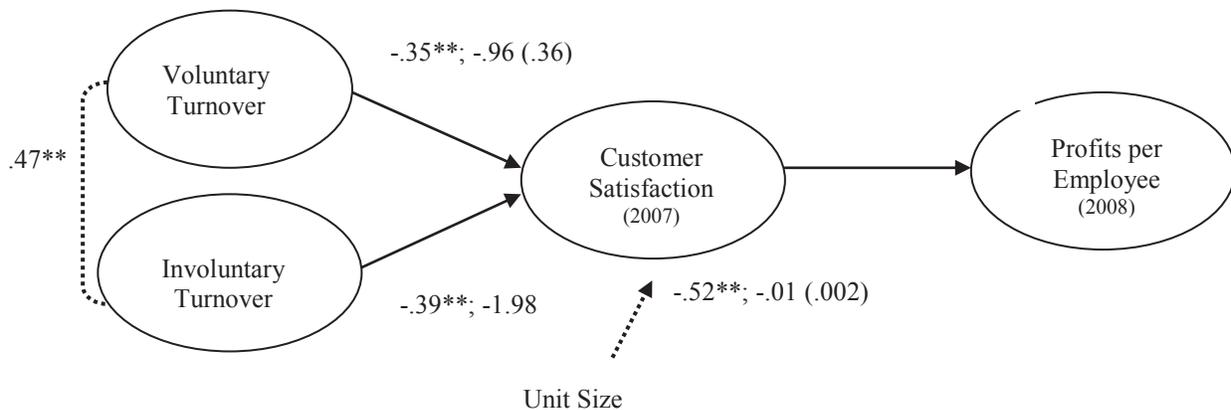
Notes:
1. Representation of Path Coefficients: Standardized; Unstandardized (Standard Error)
2. Manifest indicators and correlations between unit size and turnover omitted for clarity of presentation
3. Dashed lines represent not-hypothesized relationships
4. $**p \leq .01$; $*p \leq .05$;

We tested Hypothesis 3, by comparing the model-fit of the hypothesized full mediation model with (a) a partial mediation model where there were direct paths from voluntary and involuntary turnover to NOP/EE, and (b) an unmediated effects model where the paths from voluntary and involuntary turnover to customer satisfaction and the latter to NOP/EE were set to zero and direct paths from both types of turnover and NOP/EE were left unconstrained. We found that the hypothesized model ($\chi2$ [11] = 9, $p=.62$; $RMSEA = .01$; $CFI= .99$; $NFI = .95$; $PNFI = .37$) demonstrated a significantly better fit ($\Delta\chi2$ [1] =

30.9; *p*=.001) than the unmediated direct effects model (χ2 [12] = 39.9, *p*=.001; *RMSEA* = .23; *CFI*= .80; *NFI* = .76; *PNFI* = .33). Also, the partial mediation model (χ2 [9] = 11.9, *p*=.22; *RMSEA* = .08; *CFI*= .98; *NFI* = .93; *PNFI* = .30) demonstrated poorer fit than the mediated model and was discarded in favor of the latter. The significance level of these mediation effects was tested by utilizing the bootstrapping approach (Shrout & Bolger, 2002), recommended for detecting mediation effects in small and medium-size samples (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002; Wood, et al., 2008). Following Cheung and Lau (2008), we drew 500 random (with replacement) bootstrap samples of the observations in our study and created 90% confidence intervals for our mediation effects using these samples. We report the results of our analyses using the Bias Corrected (BC) percentile method (Mooney & Duval, 1993) in Table 2. We found that the 90% confidence intervals for the mediation effects for both, the voluntary turnover→customer satisfaction→NOP/EE (standardized indirect effect = -.21; 90% CI: -.35 to -.01) and the involuntary turnover→customer satisfaction→NOP/EE (standardized indirect effect = -.19; 90% CI: -.36 to -.08) relationships did not include zero. These analyses provide support for Hypotheses 3.

TABLE 2
BOOTSTRAPPED ESTIMATES FOR FULL MEDIATION (BIAS CORRECTED PERCENTILE METHOD)

	Unstandardized Estimate (Standard Error)	90% Confidence Intervals	Standardized Estimate (Standard Error)	90% Confidence Intervals
Mediated Effect of VT on NOP	-69033.55 (39941.64)	-140188.08 to -2869.17	-.21 (.10)	-.35 to -.01
Mediated Effect of IVT on NOP	-118996.34 (65513.63)	-260654.90 to -46900.93	-.19 (.09)	-.36 to -.08

Lastly, following the recommendation of Glebbeek and Bax (2004), we tested for a curvilinear relationship between voluntary turnover and our outcomes by entering an additional squared voluntary turnover term into a regression equation with NOP/EE and customer satisfaction as outcomes. This squared voluntary turnover term failed to add incremental variance in both NOP/EE (ΔR^2 = .08; *p*=.194) and customer satisfaction (ΔR^2 = .001; *p*=.978). Similarly, a squared involuntary turnover term failed to predict additional variance over and above involuntary turnover for both NOP/EE (ΔR^2 = .02; *p*=.510) and customer satisfaction (ΔR^2 = .001; *p*=.899). These results indicate the relationship between turnover and these outcomes can be considered linear in our sample.

DISCUSSION

The results of our analyses suggest that both voluntary and involuntary turnover rates have statistically and practically significant negative effects on customer satisfaction. Specifically, voluntary and involuntary turnover each accounted for approximately 5% (sr^2 = .26) and 6% (sr^2 = .11) of the variance in customer satisfaction. Examining the unstandardized path coefficients of these relationships, it is also possible to conclude that a 1 point increase in voluntary turnover is likely to decrease customer satisfaction by nearly 1 scale point (*B*=-.96; SE = .36) and a 1 point increase in involuntary turnover is likely to decrease customer satisfaction by nearly 2 scale points (*B*=-1.98; SE = .66). Moreover, customer satisfaction accounted for nearly 27% (R^2 = .27) of the variance in unit financial performance—a relationship that is practically significant such that a 1 point increase in customer satisfaction translates into an increase of $73,235 in net operating profits per employee (*B*=73,235; SE = 28,378). In addition to these direct effects, we also found that both voluntary and involuntary turnover had significant indirect

effects on unit-level financial performance. Specifically, a 1 point increase in voluntary turnover is likely to indirectly predict a decrease of $690 in NOP/EE (*B*= -69033.55, *SE*= 39941.64), and a 1 point increase in involuntary turnover can be linked to a decrease of $119 in NOP/EE (*B*= -118996.34; *SE*= 65513.63). In sum, the practical or financial impact is significant.

Our study contributes to the existing body of research by providing evidence for the deleterious effects of both, voluntary or involuntary turnover levels on unit-level performance in the relationship-based business context. In addition, by demonstrating that customer satisfaction fully mediates the relationship between turnover and unit-level financial performance, we have taken an initial step in clarifying the contents of the 'black box' between turnover and its performance-related consequences (Holtom et al., 2008). These findings and the underlying theoretical mechanisms are likely to generalize to a majority of contexts where customers interact with the same employee more than once, and where an understanding of a customer's idiosyncratic needs is critical in order to provide high-quality service. These contexts include many personal service settings (e.g., financial services, healthcare, childcare, hair dressers) as well business-to-business relationships (e.g., industrial suppliers, professional service firms).

Strengths, Limitations and Future Research Directions

One of the key strengths of this study is the use of a longitudinal dataset with time-lagged measures (Kenny, 1979). Recently, Roe (2008) found that less than 10% of all studies published in applied psychology journals incorporated time into their theoretical framework and that fewer than 6% actually tested the temporal aspects of theorized relationships. This study has additional methodological strengths including the control of common source variance through the use of multiple data sources (Podsakoff, et al., 2003) and the statistical control of extraneous variables (e.g., unit size) that could affect key relationships (Cook & Campbell, 1979).

However, it is important to acknowledge a few limitations as well. First among these is its generalizability—a concern in any single-company study. This research was conducted in the THS setting where employees and customers interacted frequently with each other and the customer had significant input into the provision of the service—a role that has been termed 'co-production' by service researchers (Bendapudi & Leone, 2003). In situations such as these, turnover is likely to affect customer evaluations much more strongly than in ones where employees and customers do not interact often or where the service transaction requires only limited employee involvement (e.g., convenience-store purchases). Future studies are needed in contexts where deep bonds between employees and customers are difficult to establish. Another limitation of this study is that we did not explore the differential effects of turnover for customers with varying expectations from the firm. It is possible that customers who require high levels of involvement with the THS firm (e.g., assistance in developing staffing plans, creating job descriptions, and serving as the primary staffing source) would be more dissatisfied with the depletion of relational assets than those who view the firm as an occasional source of contingent workers. Thus, there is a need to examine various moderators of the turnover-customer evaluations relationship including customer expectations and level of involvement with the firm. Further, we do not measure the specific factors that cause customer satisfaction to decrease (e.g., disrupted communication, delays in execution, time required to build new relationships) nor do we measure whether the impact of high customer satisfaction influences more increase in revenues or decrease in expenses. Future studies that drill down one more level would likely prove to be valuable for both researchers and practitioners.

While our findings highlight the importance of voluntary and involuntary turnover as predictors of unit-level performance, future research also should be focused on incorporating predictors of turnover into the model. Past research has demonstrated the role of attitudinal variables in predicting turnover levels at the individual level of analysis. We believe that unit-level variables such as the level and strength of high-commitment human resource management practices (Shaw, Gupta, & Delery, 2005; Trevor & Nyberg, 2008) or collective job embeddedness (Felps, Hekman, Mitchell, Lee, Holtom, & Harman, 2009) would similarly serve as predictors of turnover. Finally, it is possible that aggregate unit-level citizenship behaviors might restrict voluntary turnover levels as well as buffer the influence of turnover on key performance outcomes (Erhart & Naumann, 2004).

In conclusion, our study demonstrates that the effect of both, voluntary and involuntary turnover rates on unit-level business outcomes is mediated by the satisfaction levels of the firm's customers. While the importance of employee-customer relationships has often been noted in both applied psychology and marketing literatures, our study highlights the importance of retaining customer-contact staff in order to preserve the strategic advantage available to firms through the accumulation and use of this key relational asset.

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