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SURE EVERYONE CAN BE REPLACED . . . BUT AT WHAT COST? TURNOVER AS A PREDICTOR OF UNIT-LEVEL PERFORMANCE

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Most turnover research positions employee turnover as the dependent variable and focuses on identifying its antecedents. In this study, we viewed turnover as a key predictor in determining unit-level performance. Specifically, a structural model was developed and tested that links managerial and employee turnover with performance through efficiency. We tested the model using a sample of 262 BURGER KING® restaurants. Results demonstrate that efficiency, measured as customer "wait time," mediates the relationships of both management and crew turnover to both sales and profit, and efficiency, measured as food waste, does not mediate the relationship of turnover to sales or profit.

Over the past 50 years, organizational researchers have devoted a great deal of attention to the study of employee turnover (Allen, Shore, & Griffeth, 2003; March & Simon, 1958; Mobley, 1977). Much of this research has focused on turnover as an outcome of a sequential process that begins with job dissatisfaction (e.g., Hom & Griffeth, 1991; Mobley, 1977). Although a number of researchers have suggested that some turnover is healthy for an organization (Price, 1977; Shaw, Gupta, & Delery, 2005), the predominant view underlying turnover research is that the phenomenon is disruptive and expensive (Mueller & Price, 1989; Staw, 1980) and that understanding the causes of turnover is essential in order to reduce it.

Various attempts to measure the costs associated with turnover have demonstrated the importance of turnover research. Researchers have often estimated the costs to organizations of recruiting, selecting, and training new hires (Sagie, Birati, & Tziner, 2002). One industry plagued by exorbitant turnover is the food service industry, where turnover rates often exceed 100 percent annually (Zuber, 2001). Costs associated with turnover in the U.S. fast-food industry have been estimated at $500 to $3,600 per crew member[1] (White, 1995), with total industry costs of retraining exceeding $4.3

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BURGER KING® is a registered trademark of Burger King Brands, Inc. and is used with permission. The BURGER KING® Restaurant System consists of company-owned restaurants that are operated by Burger King Corporation and restaurants that are independently owned and operated by franchisees. All of the BURGER KING® restaurants used in the study were company-owned restaurants in the United States. The views expressed in this article are the views of the authors and do not necessarily reflect the views or policy of Burger King Corporation.

[1] "Crew member" refers to any nonmanagerial employee working in a fast-food restaurant.

billion per year. Reasons cited for leaving jobs in this industry include poor management, low compensation, and wanting to improve one's quality of life (White, 1995).

Recently, reduced turnover has been examined as one outcome of "high-involvement human resource systems," which can ultimately be linked with organizationally valued outcomes, including performance measures such as sales and profit (Batt, 2002; Huselid, 1995). However, this line of research fails to explain the mechanism by which reduced turnover leads to improved sales and profit. Although early researchers suggested turnover leads to inefficiencies, thereby reducing organizational performance (Price, 1977; Staw, 1980), little if any research has empirically linked turnover, efficiency, and performance (e.g., Shaw et al., 2005).

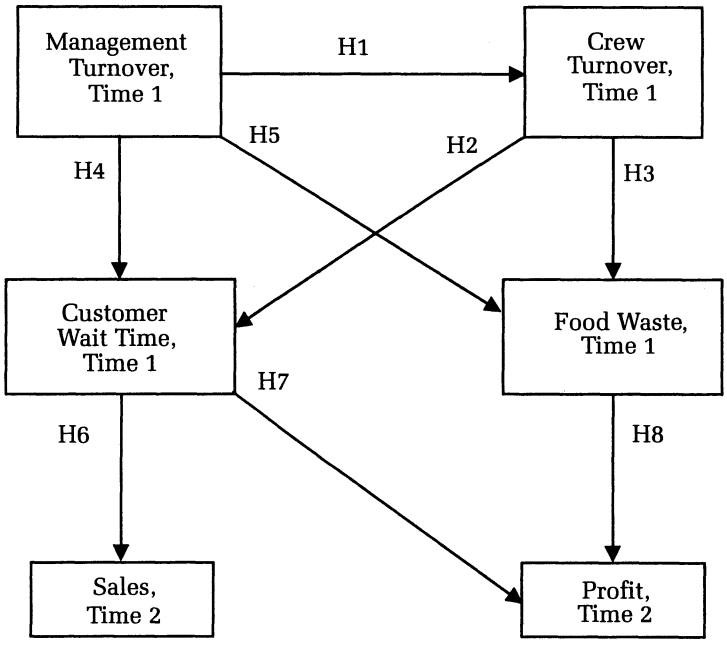
Therefore, the present study was designed to begin fleshing out the mediating links between turnover and unit-level performance. In doing so, we fill a gap in the literature by theoretically and empirically identifying efficiency as a mediator in the relationship between employee turnover and unit-level performance. For the purpose of the present study, we defined turnover as the number of employees who leave an organization annually. Efficiency refers to the ratio of output to input (Fabricant, 1969). More specifically, in the food service industry, measures of efficiency include customer wait time (i.e., how long customers wait for service) and food waste. Finally, unit-level performance is equated with effectiveness, or the degree to which stated goals are achieved (i.e., sales and profit).

A PROPOSED MODEL OF THE RELATIONSHIP BETWEEN TURNOVER AND UNIT-LEVEL PERFORMANCE

Three fundamental research questions motivated our study: (1) Does turnover affect unit-level performance? (2) If turnover does affect unit-level performance, are there any mediating mechanisms? (3) What is the value of a stable workforce? Utilizing a knowledge-based view of organizations as an underlying framework, we developed and tested a structural model of the relationship between management and employee turnover and performance through efficiency. Figure 1 depicts our proposed model.

As our model shows, we view the relationship between turnover and performance as fully mediated by efficiency. Further, in line with previous research (Glebbeek & Bax, 2004), and as our time lags show, we believe that the turnover-efficiency link is more immediate than the efficiency-performance link. In essence, we suggest that turnover results in immediate efficiency disruptions as there will be too few experienced staff members to serve customers. However, it is only after efficiency is poor for a sustained period of time that performance is affected. That is, we view performance as

FIGURE 1
Conceptual Model of the Impact of Turnover on Unit-Level Performance



a marathon rather than a sprint. For example, inefficient stores may have a good month or two owing to a special promotion that lets them close performance gaps. However, over time inefficient stores will post more poor than good months, creating significant performance differences between themselves and efficient stores. Thus, we argue that the immediate impact of turnover is felt through reduced efficiency and that this impact is eventually evident in performance.

We examined the relationships posited in Figure 1 using a sample of 262 BKC-owned BURGER KING restaurant locations. In addition to the knowledge-based view of organizations, we drew upon related literature in the areas of social exchange (Eisenberger, Huntington, Hutchinson, & Sowa, 1986) and strategic choice (Child, 1972). The rationale for each of the links in Figure 1 is explained below.

MANAGEMENT AND CREW TURNOVER

Theories of social exchange are often used to explain why employees express loyalty to their organizations or supervisors (Settoon, Bennett, & Liden, 1996; Shore & Barksdale, 1998). Social exchange theory is based on the norm of reciprocity that essentially suggests employees will feel obligated to reciprocate rewards received from a donor (Gouldner, 1960). In order to pay back their debt, they must remain with their organizations. Similarly, leader-member exchange (LMX) theory (Dansereau, Graen, & Haga, 1975) acknowledges the relationship between employees and their managers as an exchange relationship in which employees reciprocate fair treatment from their managers by working hard to fulfill their managers' requests (Settoon et al., 1996). Further, employees reciprocate with feelings of commitment toward their managers and organization (Liden, Wayne, & Sparrowe, 2000; Shore & Wayne, 1993), and these feelings produce a need or desire to remain with the organization (Gerstner & Day, 1997). However, if a manager with whom an employee has bonded leaves the organization, these feelings of commitment may be reduced. In this case, the psychological contract the employee has formed with the manager is broken (Rousseau, 1995), and the norm of reciprocity no longer exists. When the manager leaves the organization, the employee experiences a reduced sense of indebtedness and no longer feels compelled to remain with the organization. Thus, following social exchange theory, we predict:

Hypothesis 1. Management turnover is positively related to crew turnover.

TURNOVER AND EFFICIENCY

The relationship between turnover and efficiency can be explained in terms of Grant's (1996) knowledge-based theory of organizations. A key tenet of this theory is that firms that successfully create, maintain, and apply job-relevant knowledge will perform better in the marketplace than firms that do not. Two key aspects of this theory are knowledge transfer and coordination. Kim stated, "The mental models in individuals' heads are where a vast majority of an organization's knowledge (both know-how and know-why) lies" (1993: 44). Thus, knowledge transfer pertains to the knowledge that exists within individuals and how it is transferred between individuals. Explicit knowledge is that which is written, easily communicated, and often contained in policies, procedures, or rules within organizations (Grant, 1996). Explicit knowledge is common in the food service industry, in which employees follow detailed instructions for food preparation and customer service. Tacit knowledge is not easily articulated and is acquired through practice.

An example of tacit knowledge gained in the fast-food environment is the ability to anticipate when another batch of fries will be needed on the basis of the length of the customer line. Training manuals explain how to make fries, not when. After gaining experience behind the counter, crew members can anticipate the need to drop a basket of fries in the fryer by recognizing that nearly every customer orders fries and that one basket of fries serves three to five customers. Thus, when a queue forms, tacit rather than explicit knowledge tells the crew member when it is time to cook fries. Tacit knowledge also occurs in the grill area. For example, food preparation taught in training differs from how it is actually performed on the job. Training materials indicate that one must weigh ingredients to ensure consistency across product. However, with practice one can judge how much lettuce should be placed on a sandwich without weighing the lettuce, making a grill person more efficient over time. These are examples of procedures not learned in training, but rather as a result of experience and working with other experienced employees (Dobbs, 2000). As tacit knowledge increases, so does the speed component of efficiency.

While employees are learning their roles, it is likely that mistakes will be made. Filled orders that do not meet customer requests must be thrown away and replaced with the correct orders. This process increases waste and hence, raises food costs. As employees gain experience, their speed should improve, and the number of bad orders (i.e.,

those that do not meet customer specifications and must be thrown away) should diminish. The food service industry generally has standardized operations (strict operating policies and procedures), yet rampant turnover can prevent restaurants from operating at peak efficiency, as at any point in time someone on the floor is likely to be new to the job and lacks both explicit and tacit knowledge. Hence, efficiency is reduced as constant turnover increases waste and slows service time (Carbone, 1995).

Hypothesis 2. Crew turnover is related to longer customer wait time.

Hypothesis 3. Crew turnover is related to higher food waste.

Although knowledge transfer is important for training new employees, knowledge transfer in its purest form may lead to inefficiencies, since it is unnecessary for each individual to have a full working knowledge of every other organization member's tasks (Berman, Down, & Hill, 2002; Grant, 1996). Knowledge integration or coordination provides a better way to utilize the specialized talents of members of the work team. Such coordination is accomplished through rules and directives, sequencing, and routines (Grant, 1996). Routines are relatively automatic patterns of behavior that support team member interactions with little or no verbal communication (Winter, 1986). Establishing routines is critical for success in fast food restaurants (Leidner, 1993). Building and motivating smooth work teams may be especially challenging for new managers as they are less familiar with each individual's work habits and abilities. Creating schedules that satisfy current employees, as well as training new employees, may be difficult for managers who themselves are "learning the ropes." Frequent managerial turnover can limit the ability of a work team to function in a synchronized manner, as a new manager may be less adept at building and motivating a team (Berman et al., 2002). This notion is consistent with Staw's (1980) suggestion that the higher the level at which turnover occurs in the organizational hierarchy, the greater the possibility of operational disruptions. Thus, it is likely that changes in management can also reduce efficiency.

Hypothesis 4. Manager turnover is related to longer customer wait time.

Hypothesis 5. Manager turnover is related to higher food waste.

EFFICIENCY AND PERFORMANCE

Contingency theory suggests that organizational performance is a result of the fit between internal attributes of an organization and external demands of its environment (Lawrence & Lorsch, 1967). Past research has shown that organizations with good performance experience a closer fit with relevant parts of their environments than organizations with poor performance (Burton, Lauridson, & Obel, 2002; Lawrence & Lorsch, 1967). In the food service industry, consumers and competitors represent the environment (Lawrence & Lorsch, 1969). Internal attributes of these organizations include goal orientation, time horizon, reliance on formal rules and communication channels, and interpersonal style (Lawrence & Lorsch, 1969). In restaurants, it can be argued that consistency is crucial to meeting customer expectations, and heavy reliance on formal rules, policies, and procedures would be expected. The more an organization is structured to meet the demands of consumers, the better the organization will perform.

The coalignment of an organization and its environment is achieved through strategic choice (Miles & Snow, 1978). Child (1972) argued that a firm has an interactive relationship with its environment and does not necessarily react to it. Rather, managers of the firm in part create the environment through strategic choices (i.e., major decisions). In the food service industry, strategic choices may involve products, markets, and operations. For example, one goal of the fast-food industry is prompt service. Indeed, evidence suggests that a six-second reduction in transaction speed results in a 1 percent increase in revenue (Ankeny, 2001). Accordingly, many of the decisions made in the fast-food industry have the sole purpose of decreasing customer wait time. A decade ago, point-of-sale (POS) systems and touch screens were integrated into many restaurants. The introduction of these systems was vital in improving communication between the counter and the kitchen (Durocher, 1993). A more recent innovation undertaken by the major fast-food companies (Burger King, McDonald's, and Wendy's) was to install a credit card system that requires no signature or personal identification number (PIN). Their reluctance to accept credit cards in the past stemmed from concerns about slower service times and bottlenecks (Liddle, 2003).

The service quality literature suggests timely responsiveness to customer demands is an important aspect of perception of service quality (Hightower, Brady, & Baker, 2002; Houston, Bettencourt, & Wenger, 1998; Katz, Larson, & Larson, 1991). Both customer retention and profitability have been pos-

itively related to perceptions of service quality (Zeithaml, 2000). Speed of service often has been operationalized as customer wait time and has been empirically linked with perceptions of service quality (Houston et al., 1998).

Two primary determinants of efficiency in the fast-food industry are speed of service and food waste. Since production efficiencies stem from increased output relative to input or reduced input relative to output (Fabricant, 1969), organizations that can shorten wait times while holding down food waste will realize higher performance than those with longer wait times and higher levels of waste.

Hypothesis 6. Customer wait time is negatively related to sales.

Hypothesis 7. Customer wait time is negatively related to profit.

Hypothesis 8. Food waste is negatively related to profit.

METHODS

Sample and Data Collection Procedures

Our data were collected from 262 of the 583 (45%) corporately owned BURGER KING® restaurants over a two-year period representing the company's 2001 and 2002 fiscal years. Restaurants included in this study were located in the continental United States and had complete data over the two-year period. If a restaurant did not have data for all periods (if, for instance, a restaurant was closed for a one-month remodeling), it was excluded from the analyses. No other qualifiers were used for restaurant selection. Data were collected via the POS system installed in each restaurant. This system measures sales as they occur. In addition, it allows managers to record the employee entrances and departures (turnover actions) that occur in their restaurant. The POS system feeds all of the data to a central database that is routed to the BKC restaurant support center.

Measures

Turnover. *Crew turnover* was the monthly percentage of turnover of hourly employees in fiscal 2001. We obtained this value by dividing the number of terminations by the average hourly employee restaurant headcount during that same period. *Management turnover,* measured using the same formula as crew turnover, represented the monthly turnover of salaried employees. To create the specified time lags for the turnover rates, we split the fiscal year in half for both crew and management, measuring average turnover for the first six months of fiscal 2001. Crew turnover included only voluntary job departures (voluntary turnover) as preliminary results indicated that voluntary and involuntary turnover produced different results,[2] but only voluntary turnover was consistent with our theoretical arguments. However, we were unable to distinguish between voluntary and involuntary turnover for managers as the data were unavailable. Blending the two types of turnover, while not ideal, is not unprecedented (Glebbeek & Bax, 2004; Koys, 2001; McElroy, Morrow, & Rude, 2001; Simons & Roberson, 2003).

Efficiency. Efficiency was measured in two ways. The first measure was customer *wait time,* the period of time from when a customer ordered to the delivery of food. To assess wait time, we used scores assigned to each restaurant by mystery shoppers, who are employees of outside agencies retained by BKC. These shoppers clandestinely rate the restaurants on a number of relevant metrics determined by BKC. One of these metrics is wait time, which was timed and recorded by the mystery shoppers. Each restaurant received at least one mystery shopper per month. Thus, all restaurants received a minimum of 12 mystery shopper scores for the year, and we averaged these scores to obtain customer wait time for fiscal year 2001. The second measure of efficiency was the average *food waste* for fiscal 2001. We determined this value by comparing food inventory at the beginning of the month with monthly sales to determine the inventory carried over at the end of the month. For example, if a store had 100 WHOPPER® patties at the beginning of the month and sold 75 WHOPPERS® during that month, then 25 patties should have remained in inventory at the end of the month. If fewer than 25 remained, some WHOPPERS® had been prepared and wasted rather than sold. Thus, the more closely the depleted food inventory matched sales, the less waste and the more efficient the store.

Performance. Financial performance was measured in two ways. First, *gross monthly sales* were collected from each of the 262 stores via the POS system. We combined the monthly sales to obtain average sales for fiscal 2002. *Profit,* a second measure of performance, was measured using an index referred to as restaurant operating profit before occupancy (ROPO), calculated by adjusting gross sales for expenses such as utilities, advertising, re-

[2] These analyses are available from the first author.

pairs, maintenance, labor and fringe benefits, and cost of sales. ROPO was measured for the same period and averaged in the same fashion as sales. For the sake of clarity and consistency with other literature, we refer to this measure of operating profit before occupancy as profit.

Control variables. We included two control variables in our analyses. The first was *restaurant site quality.* BKC assigns each restaurant a value based on a formula that rates key issues associated with restaurant location. For example, restaurants with easy access, locations on busy corners, or locations with a high volume of foot traffic score higher than stores that do not have these attributes. We linked site quality to both management and crew turnover as well as both performance measures, as we suspected that stores with high site quality ratings are more attractive to both managers and crew and generate higher sales and profit. Our second control variable was size, measured as a store's number of employees. This measure was used as a control for both sales and profit.[3]

Analyses

We used structural equation modeling to test our hypotheses, employing the software AMOS 5.0 (Arbuckle, 2003) to estimate all models. We refer to several fit statistics to provide an accurate overall picture of model fit (Bollen & Long, 1993). These include the overall chi-square value, the comparative fit index (CFI), the normed fit index (NFI), and the root-mean-square error of approximation (RMSEA).

RESULTS

We began by transforming Figure 1 into the structural model shown in Figure 2. This model was estimated first and served as our baseline model for comparison purposes (model 1). To confirm that our hypothesized time lags were appropriate, we tested the model without lags (Glebbeek & Bax, 2004). Specifically, the model was estimated with values for all variables from fiscal 2001 (model 2) and then again with fiscal 2002 values (model 3). Table 1 shows results from these models. As the RMSEA shows, neither of these models fitted the data as well as the hypothesized model, indicating support for our use of a lagged model. We also tested our assumption that turnover had no immediate effect on efficiency by substituting fiscal 2001 efficiency in our baseline model with fiscal 2002 efficiency and reestimating the model (model 4). Again, results supported our contention, as the links between turnover and efficiency became insignificant. Finally, we explored the length of time it took for inefficiencies to appear in the financial performance indicators. After first demonstrating that measuring financial performance in the same fiscal year as turnover and efficiency was not appropriate, we tested two additional performance time frames for fiscal 2002: the first six months (model 5) and the last six months (model 6). Although the chi-square and RMSEA for model 6 were slightly lower than those for the other two models, we viewed the results for all three models as essentially interchangeable. To create the strongest measure of performance, one including all possible seasonal fluctuations in sales, we measured performance for the full year.

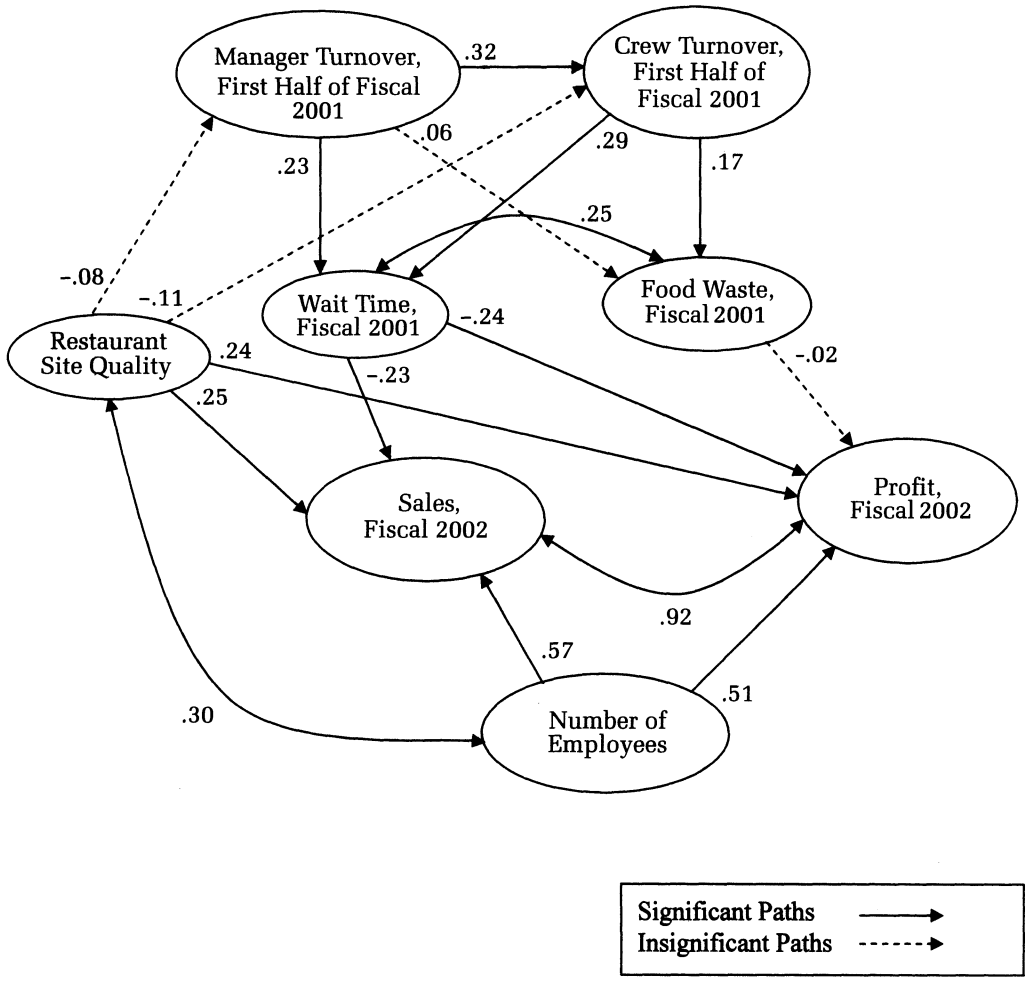
Having established that our time lags were appropriate, we then examined our assumption of a fully mediated model. To do this we estimated two partially mediated models for comparison purposes. In one model we added direct paths from management turnover to performance (model 7), and in the other we added direct links from crew turnover to performance (model 8). Results provided in Table 1 show that the difference in the chi-squares of the partially and fully mediated models was not significant and that none of the new paths were significant. Although the nonsignificant chi-square difference tests suggest that the models are interchangeable, the fact that the additional paths were not significant suggests that full rather than partial mediation is the most appropriate depiction of the relationships in the model. These analyses help answer the first two questions motivating our study in that they show turnover does affect unit-level performance and that efficiency mediates the relationship of performance to turnover.

Next we explored the specific links in the model to determine whether our hypotheses were supported. The correlations in Table 2 offered preliminary support for most of our hypotheses. As expected, management turnover was positively and significantly correlated with crew turnover (Hypothesis 1) and customer wait time (Hypothesis 4), but not food waste (Hypothesis 5). Crew turnover was positively and significantly related to both efficiency measures (Hypotheses 2 and 3). In addition, both efficiency measures were negatively and significantly correlated with both performance measures (Hypotheses 6–8). Next, we examined the links in Figure 2 to further test our hypotheses.

Of control variables, restaurant site quality was

[3] We explored including local unemployment rate as a control variable, but found it to have little explanatory power.

FIGURE 2
Standardized Path Loadings of the Impact of Turnover on Unit-Level Performance



not significantly related to either measure of turnover, but the paths from site quality to sales and performance were both significant. As expected, size (number of employees) was significantly related to sales and profit. As for the predicted relationships, management turnover was positively and significantly related to crew turnover, demonstrating support for Hypothesis 1. Crew turnover was significantly related to both wait time and food waste, indicating support for Hypotheses 2 and 3. On the other hand, management turnover was positively and significantly related to wait time but not to food waste. Thus, Hypothesis 4 was supported, but Hypothesis 5 was not.

Moving on to the efficiency-performance link, we found that customer wait time was significantly and negatively related to both sales and profit, findings lending support for Hypotheses 6 and 7. The second efficiency variable, food waste, was not significantly related to profit, so no support for Hypothesis 8 was provided.

Finally, we address the third question that motivated our study: What is the value of a stable workforce? This value can be estimated in multiple ways. One way is to examine the indirect effects shown in Figure 2. Specifically, one can multiply and then sum the path coefficients that represent the indirect effects on each of the ultimate dependent variables to determine what percentage change in the standard deviation of performance (i.e., sales or profit) corresponds to a one-standard-deviation change in turnover (Kenny, 1979). In our case, the indirect effect of turnover on sales is −.15, with crew turnover being responsible for −.07 and management turnover being responsible for −.08. This indirect effect represents 33 percent of the total effect of crew turnover. Examining the indirect effects for profit leads to similar results. The indirect effect of turnover on profit is −.16 (−.08 for crew and −.08 for management), which represents 23 percent of the total effect of management turnover.

TABLE 1
Fit Statistics for the Hypothesized and Alternative Models[a]

Model	χ^2	p	df	χ_{diff}^2	df_{diff}	NFI	CFI	RMSEA	Path Loading
1. Hypothesized model[b]	21.04	.05	11			.98	.99	.06	
2. All variables at time 1	40.54	.00	11			.96	.97	.10	
3. All variables at time 2	60.26	.00	11			.94	.95	.13	
4. Turnover at time 1, all other variables at time 2	36.82	.00	11			.96	.97	.10	
Crew turnover → Wait time									.01
Management turnover → Wait time									.10
Crew turnover → Food waste									.09
Management turnover → Food waste									.02
5. Performance as first six months of fiscal 2002	24.39	.05	11			.98	.99	.07	
6. Performance as last six months of fiscal 2002	17.53	.09	11			.98	.99	.05	
7. Direct effects from management turnover to performance	19.47	.02	9	1.57	2	.98	.99	.07	
Management turnover → Sales									−.05
Management turnover → Profit									−.06
8. Direct effects from crew turnover to performance	15.26	.08	9	5.78	2	.99	.99	.052	
Crew turnover → Sales									−.10
Crew turnover → Profit									−.09

[a] $n = 262$.
[b] Baseline model, depicted in Figure 2.

TABLE 2
Correlations among Variables[a]

Variable	1	2	3	4	5	6	7
1. Management turnover[b]							
2. Crew turnover[b]	.33***						
3. Wait time[c]	.33***	.37***					
4. Food waste[c]	.11	.19**	.30***				
5. Sales[d]	−.11	−.20***	−.24***	−.23***			
6. Profit[d]	−.13*	−.19**	−.25***	−.24***	.96***		
7. Site quality	−.08	−.13*	−.16*	−.15*	.46***	.43***	
8. Size[d]	.05	.02	.06	−.09	.64***	.57***	.30***

[a] $n = 262$ (two-tailed). Means and standard deviations are not reported as these values were proprietary.
[b] First six months of fiscal 2001.
[c] Fiscal 2001.
[d] Fiscal 2002.
* $p \leq .05$
** $p \leq .01$
*** $p \leq .001$

A second way in which the value of a stable workforce can be estimated is by determining the cost of hiring replacements for all of the employees who have left. According to White (1995), the industry-wide cost of hiring a replacement crew member is estimated to be at least $500. Coupling this cost with the industry average crew turnover rate of 123 percent and the average number of employees per store of 50 (Zuber, 2001), the average cost of crew turnover would be $30,500 a year (61 new hires multiplied by $500). We believe considering both the indirect and direct costs of crew turnover clearly demonstrates the value of a stable workforce.[4]

DISCUSSION

In the present study, we sought to answer three important research questions: (1) Does turnover affect unit-level performance? (2) If turnover does

[4] We would like to thank two of our reviewers for suggesting these approaches.

affect unit-level performance, are there any mediating mechanisms? (3) What is the value of a stable workforce? The answer to our first question is yes, as our study illustrated that turnover does indeed impact unit-level performance in terms of both sales and profit. Exactly how this happens is the focus of our second question, concerning mediation. We learned that efficiency, measured in terms of customer wait time, mediated the relationship of turnover with unit-level performance. A link between turnover and performance has often been inferred, but our results identify and operationalize efficiency to explain this link. Turning to our third question, we found that a stable workforce allowed units to be efficient, and that efficiency led to stronger performance. In food service, an industry characterized by relatively standardized operations, a stable workforce makes a firm more competitive. We believe three theories—social exchange theory, the knowledge-based view of organizations, and strategic choice—help explain our results.

Our results indicate managerial turnover is positively and immediately related to crew turnover. Given the level of attractiveness of working in food service and the often short duration of employment in the industry, employees are more likely to develop loyalty to their manager than to their organization. As social exchange theory suggests, if a manager leaves an organization, his or her employees no longer feel obligated to remain. This idea is also consistent with Mueller and Price's (1989) assertion that managerial turnover causes disruption and reduces behavioral commitment. Our results confirm their suggestion that "the greater this disruption in a work unit, the more likely members will question the viability of that work unit as the place they wish to work" (Mueller & Price, 1989: 393).

Crew turnover was related to reduced efficiency in the form of longer customer wait times and higher food waste. These links provide empirical support for the knowledge-based view of organizations, including its assumptions of knowledge transfer and coordination (Grant, 1996). Specifically, the observed negative relationship between crew turnover and efficiency suggests that employees are more likely to gain both the tacit and explicit knowledge required to efficiently perform their jobs as their organizational tenure increases. Practitioner accounts from the quick-service food industry echo this view, maintaining that a stable and well-trained workforce results in a better customer experience (Zuber, 2001). Interestingly, management turnover produced different results than crew turnover. Specifically, management turnover was positively and significantly related to customer wait time, but not food waste. It appears that the central and most important role of a manager is to provide an environment in which employees can perform quickly. Managers who have experience working with their crews are in a better position to accomplish this task.

Finally, our results support the contention that customer wait time has a significant and direct effect on performance measured in terms of sales in the fast-food industry. In keeping with theories of strategic choice (Miles & Snow, 1978), the industry has created consumer expectations of receiving quality food fast, and "fastness" continues to be a primary determinant of revenues (Ankeny, 2001). It is difficult for inexperienced crew members to work at the speed customers expect. Customer wait time was negatively and significantly related to profit, indicating that slow service resulting from high crew turnover rates can significantly reduce store profits.

Strengths and Weaknesses

We draw your attention to four strengths in the present study. First, our results demonstrate what quick-service food operators have asserted for years: that speed is an essential component of efficiency and a key factor in successful performance. Second, the data were longitudinal. This has been noted as an important feature in turnover research as the impact of turnover on outcomes may or may not be immediate (Glebbeek & Bax, 2004; Mueller & Price, 1989). Further, longitudinal data allowed us to more rigorously test the causality implied in our model. Third, by identifying and testing alternative models, we were able to dismiss several plausible alternative explanations of our data. Finally, all of the measures were based on actual data from 262 functioning BURGER KING® restaurants, a method that represents a departure from other studies that have relied on key informants' recollection of data or whose results were based on fewer units. Moreover, the standardization of product, marketing, facility, and procedures in these restaurants eliminated sources of extraneous variance, notably improving our ability to isolate the researched variables.

However, the study is not without limitations. Most importantly, the data were collected from one company doing business in one industry. Even though the company that supplied the data is clearly a leader in its industry, the industry may be considered unique. For instance, many of the restaurant employees work on a part-time basis. Accordingly, many of these individuals

may not view their job as a career, but more as a temporary stop along the way to their desired career path. Sentiments like these are evident in the extraordinarily high turnover rates that plague this industry. Although this feature made the data especially attractive for a study of turnover issues, the results may not generalize to organizations outside the food service industry. Additionally, there were two data-reporting constraints that we could not overcome because of lack of availability. First, although we segmented crew turnover into voluntary and involuntary, we were unable to do so with management turnover. Second, the efficiency measures were only available as average yearly values. However, we do not feel that these data constraints undermine the contribution of the study.

Managerial Implications

The results of the present study have several important implications for managers and human resource professionals. First, since crew stability is strongly linked to management stability, attention should be paid to improving the procedures for selecting restaurant managers. Once key attributes of successful career managers have been located, selection procedures can be developed that isolate these characteristics in management applicants. Effectively cloning long-term managers who run profitable restaurants should lower management turnover rates, which will ultimately increase performance through lower crew turnover and shorter wait times. However, hiring talent is just the first step. Food service organizations also need to find ways of improving the work environment in order to retain their talent. As the main reasons cited for leaving jobs in the food service industry include poor management, low compensation, and wanting to improve one's quality of life (White, 1995), action steps should be taken to improve each of these areas. Additionally, since customer wait time has been identified as a prominent precursor to sales and profit, it may be worthwhile for managers to improve and reward this aspect of work. For instance, spot rewards could be given to managers and crew at locations that consistently meet or exceed efficiency expectations. Another approach would be to conduct team-building exercises for new employees to help them quickly learn tacit knowledge and develop the skills required to provide efficient service. Creating a stable team may be as important in the fast-food industry as it is in sports. Teammates who have worked together for some time will be able to predict each others' moves, anticipate problems, cover and compensate for each other, and work seamlessly when things get busy, mitigating losses due to inefficiencies.

In summary, we believe that this study makes an important contribution to the organizational turnover literature. By positioning turnover as an antecedent rather than a final outcome in our model, we were able to answer three important research questions: (1) Does turnover affect unit-level performance? (2) If turnover does affect unit-level performance, are there any mediating mechanisms? and (3) What is the value of a stable workforce? As illustrated above, the answers to these questions have important implications for both research and practice. Our investigation is clearly only a first step in exploring the turnover-efficiency-performance relationship, but our hope is that these findings will motivate others to continue this promising line of inquiry.

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