

# Error Recovery Performance: The Impact of Leader Behavioral Integrity and Job Satisfaction

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## Abstract

This article introduces the concept of error recovery performance, followed by the development and validation of an instrument to measure it. The first objective of this article is to broaden the current concept of service recovery to be relevant to the back-of-house operations. The second objective is to examine the influence of leader behavioral integrity (BI) on error recovery performance. Moreover, the study examines the mediating effect of job satisfaction between BI and error recovery performance. Finally, the study links error management performance with work-unit effectiveness. Data for Study 1 were collected from 369 hotel employees in Turkey. The same relationships were tested again in Study 2 to validate the findings of Study 1 with a different sample. Data for Study 2 were collected from 33 departmental managers from the same hotels. Linear regression analysis was used to test the direct effects. The mediating effects were tested using the mediation test suggested by Preacher and Hayes. In addition, in Study 2, general managers of the hotels were asked to rate the effectiveness of each manager and their respective department. Results from Study 1 indicate that BI drives error recovery performance, and this impact is mediated by employee job satisfaction. Results of Study 2 confirm this model and finds further that managers' self-rated error recovery performance was associated with their general managers' assessment of their deliverables and of their department's overall performance.

## Keywords

error management; performance; job satisfaction; behavioral integrity; hospitality; service recovery performance

Errors are unintended deviations from goals, standards, a code of behavior, the truth, or from some true value (Webster, 1967). The current work focuses on action errors, which has been defined as “unintended deviations from plans, goals, or adequate feedback processing as well as an incorrect action that results from lack of knowledge” (Van Dyck, Frese, Baer, & Sonnentag, 2005, p. 1229). Van Dyck et al. (2005) further argued that the unintentional nature of the deviation is one way to differentiate between errors and violations, because violations are intentional deviations from standards, norms, practices, or recommendations.

Errors occur in every organization and can result in negative consequences such as loss of time, faulty products, production and quality losses, increased costs, loss of revenue, decreased employee performance and morale, loss of clients, and even physical injuries (Homsma, Van Dyck, Gilder, Koopman, & Elfring, 2009; Swanson & Hsu, 2011). Even after using sophisticated technologies, developing rigid systems, and enacting strict policies to control employee behavior, errors (especially human errors) will occasionally occur, leading to negative consequences (Guchait, Pasamehmetoglu, & Abbott, 2015). As such, managing or handling errors effectively is crucial for the success of any business.

One type of error that has been extensively studied in the service, hospitality, and tourism areas is service failure (service error). Service failure has been defined as service performance that falls below a customer's expectations (Hoffman & Bateson, 1997). Service recovery refers to the actions an organization takes to respond to a service failure (Gronroos, 1988). Managing service failures effectively is crucial as well-executed recoveries enhance customer satisfaction whereas poor recoveries lead to customer defections (Smith, Bolton, & Wagner, 1999). Thus, the majority of service failure/recovery research initially focused on customers. Then, hospitality scholars began to notice the importance of the role of frontline employees in service failure and recoveries. Since then, scholars have extensively focused on service recovery performance of frontline employees

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(Boshoff & Allen, 2000; Guchait, Pasamehmetoglu, & Dawson, 2014; Karatepe, 2012b). Service recovery performance refers to frontline employees' abilities and actions to resolve a service failure to the satisfaction of the customers (Babakus, Yavas, Karatepe, & Avci, 2003).

However, this line of research has not been applied to errors other than direct customer service failures. What about errors that do not directly involve and/or influence customers? For example, what about errors that an accountant in a hotel makes that may affect the firm performance? What about those error recoveries that do not directly involve/influence customers? What about an expeditor who notices that a wrong food order is about to be delivered or the food was not cooked properly and corrects it (quickly stops the delivery and ensures that the food was quickly recooked to perfection) even before the food reaches the customer? Scholars have mostly ignored such errors and error recoveries.

It is important to be able to evaluate how employees handle or manage errors in general rather than only focusing on errors where a customer is involved. There is a need to focus on these internal errors and recoveries as well, as they can have a long-term and indirect effect on service/product quality, customer satisfaction, and firm performance. A service recovery performance measure may not be applicable to employees who do not regularly interact with customers (e.g., accountants, auditors, cook, dishwasher), but that does not mean these individuals do not make errors/mistakes and do not engage in managing those errors. In addition, some errors and their recoveries may be noticeable only to employees, peers, and managers. Therefore, there is a need to develop an instrument to evaluate whether employees are effective in managing/resolving errors and failures. Currently, there is no existing measure of error recovery performance in the hospitality/service contexts. The current research developed an instrument for error recovery performance, which is broader in scope and includes both front-of-house and back-of-house errors and recoveries. In doing so, this study integrates literature on service failure/recovery and error management.

In addition to broadening the construct of service recovery, the current research makes a contribution to the existing service recovery research. Service recovery is generally acknowledged as a critical factor that drives service sector organizations' performance (Ashill, Rod, & Carruthers, 2008; Karatepe & Karadas, 2012; Lin, 2009a, 2009b, 2010a, 2010b), as it profoundly affects the company's ability to retain customers in the face of occasional service lapses. The majority of research on service recovery has emerged within the marketing literature and so focuses on customer responses and the effectiveness of different specific response strategies—and therefore not on the organizational and leadership factors that facilitate service recovery in general (Lin, 2009a). Service recovery, although

critical, is especially difficult for organizations that operate in cultures with high power distance and a preference for authoritarian leadership (Lin, 2009b), as employees within such cultures often mitigate their communication of problems with superiors and are especially resistant to leadership efforts at empowerment (Koc, 2013). Although substantial recent literature focuses on service recovery being driven by employee perceptions of management commitment to service quality (MCSQ; Ashill et al., 2008; Babakus et al., 2003; Karatepe & Karadas, 2012), results of this model's application in Turkish contexts have yielded inconsistent results (cf. Babakus et al., 2003, and Yavas, Karatepe, Avci, & Tekinkus, 2003). We consider that this inconsistency emerges from the MCSQ measurement instrument's focus on specific practices, which may be culture and context specific, rather than the credibility of management's espousal of service standards.

Other research has pointed toward transformational leadership as a key antecedent to service recovery (Lin, 2011) and authoritarian leadership as an inhibitor of it (Lin, 2010a). However, Liden (2012) cited substantial research that shows that the effectiveness of transformational leadership is moderated by the cultural elements of power distance and traditionalism. To address these inconsistent results and combine the two streams of research into MCSQ and leadership styles as drivers of service error recovery, the current research presents a more generalizable antecedent construct, behavioral integrity (BI; Simons, 2002), which is employees' sense that management enacts espoused values and otherwise lives by their word. BI may be considered as a critical antecedent to transformational leadership (Simons, 1999), because it affects the trust and credibility of leaders. BI has been shown to exert strong influence on employee attitudes and behaviors in general (Simons, Leroy, Collewaert, & Masschelein, 2014; Simons, Tomlinson, & Leroy, 2012) and on hotel employees' discretionary service levels in particular (Simons, 2008).

Ashill and colleagues (Ashill, Carruthers, & Krisjanous, 2006; Ashill et al., 2008) studied the impact of MCSQ on service recovery in New Zealand hospital employees (Ashill et al., 2006) and retail employees (Ashill et al., 2008). They conceived of MCSQ as a latent construct comprised of employee rewards for service, empowerment, service training, supportive management, servant leadership, and service technology. However, in the 2006 study, they found that the latter three did not load empirically on the latent construct, so they did not pursue them further. Instead, they found that the construct comprised of only the first three—employee rewards, empowerment, and service training—affected service recovery performance and that this impact was mediated by employee commitment to the company but not by employee job satisfaction. In the 2008 study of retail employees, Ashill and colleagues deleted empowerment as a subdimension of MCSQ, but found strong support

for the other five proposed elements, and found that it predicted service recovery in a way that was mediated by both employee job satisfaction and organizational commitment, but that satisfaction was a more powerful mediator than was commitment.

Karatepe and Karadas (2012) examined a similar mechanism among hotel employees in Romania. They found that training was not associated with service recovery performance, but that empowerment and rewards were, and that these associations were partially mediated by a construct they termed *embeddedness*, which resembles a combination of commitment and satisfaction. Yavas et al. (2003) studied Turkish bank employees and found that empowerment and job ambiguity were associated with service recovery performance, but that training, rewards, teamwork, and managers' customer service orientation were not. They found, further, that service recovery was associated with employee satisfaction, though they argued that this association was due to the fact that satisfied customers generally yield a more satisfying employee experience. Babakus et al. (2003), possibly using the same Turkish bank employee data set, used a simpler model of MCSQ, comprising training, empowerment, and rewards, and found that MCSQ is associated with service recovery performance, mediated by both satisfaction and commitment. The difference between these last two studies' findings may be due to different analytic approaches and control variables used.

In sum, research in this area appears to support the notion that employees' service recovery performance is enhanced by a clear employee perception of MCSQ. However, the particulars that go into this perceived management commitment seem to vary across samples, with different elements dominant in different samples and with their impact on service recovery mediated by commitment or satisfaction, or both.

We assert that the common theme to these arguments, across contexts, is the notion that management is truly committed to service and to making such service possible. We would expect the particulars of how best to demonstrate such commitment to vary across cultural and business contexts. Thus, we propose the use of a simpler construct to clarify a mechanism that may prove more durable and applicable across contexts.

## Purpose of Study

The purpose of this research is fourfold. First, this study develops and validates an instrument to measure error recovery performance. Second, the study examines leader BI as its predictor. Third, the study examines job satisfaction as the mediating variable between leader BI and error recovery performance. Although BI and service recovery performance concepts have been extensively studied independently, the relationship between the two constructs has not been tested. Therefore, examining the relationship

between leader BI and employees' error recovery performance is a significant contribution to the hospitality management literature. Finally, this study examines whether error recovery performance drives work-unit performance. These relationships have not been tested before.

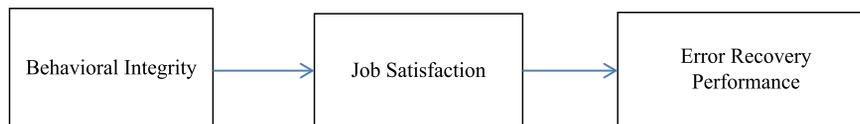
## Development of Hypotheses

### Error Recovery Performance

The definition of error recovery performance is derived by integrating the concepts of error management (Van Dyck et al., 2005) and service recovery performance (Babakus et al., 2003). Error management/recovery refers to dealing with errors and their consequences after an error has occurred (Van Dyck et al., 2005). Service recovery is conceptualized as employee abilities and actions to resolve a service failure to the satisfaction of the customer (Karatepe, 2006). Thus, service recovery focuses particularly on recoveries of service-related errors involving customers. However, error management/recovery incorporates recoveries of all errors, including external (involving customers) and internal (excluding customers, for example, errors made and recovered by employees handling back-of-house operations such as human resources or accountants). Moreover, error management/recovery incorporates proactive error trapping, that is, catching the error before its negative consequences can unfold. For example, a chef might notice that the food does not taste as it should and stop the delivery before it reaches the customer, thus preventing a service failure and a need for recovery. Thus, error management/recovery is broader than the construct of service recovery.

Based on previous research on errors, error management/recovery, and service recovery, the current research defines error recovery performance as the extent to which employees believe they are capable and willing to handle, manage, and resolve errors/mistakes/failures effectively after they have occurred. Thus, the concept of error recovery performance is broader in scope compared with service recovery performance, as it incorporates recoveries of all errors including service errors. Although service recovery performance is geared toward customers, error recovery performance may be geared toward coworkers, managers, departments, and organizations along with customers.

Investigating how employees manage errors is critical because effective error recovery/management has influence on important outcomes. Effective service recovery performance has been linked with customer satisfaction, employee satisfaction, and intention to leave (Boshoff & Allen, 2000; Chuang, Cheng, Chang, & Yang, 2012; Swanson & Hsu, 2011). Effective error management has been linked with firm performance (Van Dyck et al., 2005). On similar lines, effective error recovery performance is likely to influence

**Exhibit 1:****Conceptual model.**

not only customer satisfaction but also attitudes of employees and coworkers, and effectiveness of teams, departments, and overall firm. Given the importance of employee error recovery performance for firm effectiveness, it is essential to study the predictors.

The central premise of the study is that leader BI will have an impact on how employees perform error recoveries and how employees' job satisfaction mediates this relationship.

**BI**

BI was defined by Simons (2002) as the perceived pattern of alignment between an entity's words and actions. It comprises both perceptions of promise keeping and of enacting espoused values. In this context, it would represent the extent to which the employees believe their manager lives by his or her word. Simons (1999) described BI as a central antecedent to charismatic and transformational leadership styles, as it affects the trust employees are willing to place in their leaders and therefore the extent to which they will allow leaders to shape their behaviors and attitudes. This connection is important, as Lin (2011) found transformational leadership to be associated with superior service recovery performance. A study of U.S. hotels found that employees' perceptions of their managers' BI had strong influence over discretionary service behavior, a form of citizenship behavior that is focused on customer service (Simons, 2008). A recent meta-analysis found that assessments of managerial BI are reliably associated with employee satisfaction, commitment, trust, and performance (Simons et al., 2014).

One reason that scholars have provided to justify the relationship between leader BI and employee job performance is that leaders high in BI offer stability and consistency by promoting clear directions and values with which followers may identify (Leroy et al., 2012). This personal identification of the follower with the organization makes them more willing to promote a good image of the organization, and they are also more willing to adapt to changes and take initiative to improve the overall effectiveness of the organization. Thus, leader BI is likely to drive employees' error recovery performance. Good hospitality leaders set clear expectations that occasional errors may be inevitable, but the goal is to minimize their occurrence and to manage and recover errors efficiently and effectively,

instead of ignoring the problem or blaming others. Such clear expectations are likely to enhance employees' error recovery performance. Employees would be less likely to panic and freeze in these situations and more likely to know how to change/adapt their own behavior to resolve the error once they figure out that things did not go as planned. The focus will be on correcting the error instead of blaming. Thus, leader BI is likely to make employees believe that they have the capability to recover errors effectively and also increase their willingness and engagement in handling errors effectively. The following hypothesis is proposed:

**Hypothesis 1:** BI will be positively related to error recovery performance.

***The Mediating Role of Job Satisfaction***

Scholars have found more empirical evidence about the indirect effect of leader BI on employee job performance. Although Leroy et al. (2012) found the mediating effect of organizational commitment, Palanski and Yammarino (2011) found the mediating effect of follower trust in the leader and follower satisfaction with the leader. Although the mediating effect of job satisfaction has not been tested, the justification is similar to the one for organizational commitment. Leader BI leads to employees identifying with the leader and the organization; the goals and expectations are clear and give a sense of certainty to employees about what will or may happen (Palanski & Yammarino, 2009). Because followers identify with leader more, they become more intrinsically motivated for their work tasks and emotionally attached to their job. Thus, leader BI is likely to increase employee job satisfaction. In turn, this intrinsic work motivation and emotional attachment to the job drives employees' job performance. Accordingly, employees' job satisfaction is likely to result in increased job performance. The link between job satisfaction and job performance is well established (Judge, Thoresen, Bono, & Patton, 2001). Therefore, the study proposes that leader BI is more likely to make employees more satisfied with their job, and this higher job satisfaction is likely to drive employees to make the extra effort to manage/recover errors effectively. This set of relationships is shown in Figure 1. The following hypotheses are proposed:

**Hypothesis 2:** BI will be positively related to job satisfaction.

**Hypothesis 3:** Job satisfaction will be positively related to error management performance.

**Hypothesis 4:** Job satisfaction will mediate the relationship between BI and error management performance.

## Method

### Study 1

**Sample and data collection.** Data were collected from four hotels based on the contacts of the researchers. Two hotels were independently owned and managed and were of different brands. The other two hotels had same owner but different management and were of the same brand. Survey instruments were distributed to 376 hotel employees located in Istanbul and Antalya, Turkey. Usable data were collected from 369 employees. The response rate was 98%. Sixty-eight percent of the sample was male. Twenty-four percent of the sample was in the age range of 26 to 30 years, followed by 21% in the age range of 31 to 35 years, 19% in the age range of 21 to 25 years, 19% in the age range of 36 to 40 years, and 12.5% in the age range of 41 to 50 years. In terms of tenure in the hotel unit, 25.4% had worked 2 years, 23.6% had worked for more than 8 years, 17.7% had worked for 4 to 8 years, 15.3% had worked for 1 to 2 years, and 12% had worked for 6 months to 1 year. The majority of the respondents had a high school diploma (36.7%), followed by a 4-year university degree (28%), primary school degree (15.8%), middle school completion (10.2%), 2-year university degree (7.1%), and master's degree (2.3%). The respondents held both front-of-house (front-desk, bell person, and servers—46.2%) and back-of-house (cooks, human resources, accounts, maintenance, and housekeeper—53.8%) positions.

**Measures.** BI was measured with six items adopted from a Behavioral Integrity Scale developed by Simons (2002). A sample item is “My department manager delivers on promises.” The internal consistency reliability estimate was .95.

Three items from the Michigan Organizational Assessment Questionnaire (Cammann, Fichman, Jenkins, & Klesh, 1983) were used to measure job satisfaction. A sample item is “All in all, I am satisfied with my job.” The internal consistency reliability estimate was .81.

Error recovery performance was measured with six items adapted from Service Recovery Performance scales developed by Lin (2010a) and Boshoff and Allen (2000). The changes were made to make the questions relevant for back-of-house workers as well as those in direct contact with customers or guests. A sample item is “I can often manage errors well.” The internal consistency reliability estimate was .81 (see Appendix).

All items were rated on a 5-point Likert-type scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. Age, gender, and tenure were used as control variables.

**Content analysis.** The items to measure error recovery performance were adapted from Service Recovery Performance scales developed by Boshoff and Allen (2000) and Lin (2010a). Therefore, the scale had to be validated. The other two scales (Behavioral Integrity and Job Satisfaction) are already validated and extensively used. We followed the scale development procedures outlined by Hinkin (1998) to ensure construct validity. To begin, we used a deductive process in which the conceptual definition of the focal constructs in this study (i.e., error recovery performance, BI, and job satisfaction) was used as a guide for modifying existing items, and we included a mix of items to broadly and comprehensively reflect the construct domain. Next, we conducted a content adequacy assessment of the items using the analysis of variance (ANOVA) approach developed by Hinkin and Tracey (1999). First, a content adequacy survey was created in which the definition of the three constructs was presented separately at the top of the page (three pages total), followed by a random listing of all items ( $N = 15$ ; six items for error recovery performance, six items for behavioral integrity, and three items for job satisfaction) including the items for error recovery performance that were developed to assess the construct. Two versions of the survey were administered (i.e., construct definitions were presented in a different order for Version 2) to minimize concerns regarding bias that may stem from order effects. A sample of 25 staff members at a large university in the southern United States were then recruited by one of the research team members and asked to rate the extent to which the items are conceptually consistent with the scale definitions listed at the top of the page. It should be emphasized that such samples are quite appropriate for this type of assessment process (cf. Tracey & Tews, 2005)—it does not require respondents to be subject-matter experts, only that they are not biased and have the ability to read and complete the rating task. A series of ANOVAs and Duncan's Multiple Range Tests were completed in which the mean item ratings were compared across each of the three constructs. The results showed that all items had significantly higher mean ratings on the focal (i.e., purported) scale compared with the mean ratings for the other two construct definitions. These findings offer strong evidence that the scales are conceptually distinct and lend initial support for construct validity for all scales, including the Error Recovery Performance Scale.

## Results

**Preliminary analysis.** All scales demonstrated adequate reliability. Exploratory factor analysis (EFA) using principal components analysis with varimax rotation was initially

performed on the measures to find out whether they represented the distinct concepts of interest. According to the initial results of the EFA, one item from the Error Recovery Performance (“I do not panic or become helpless in handling errors”) measure had a low factor loading and was thus removed from further analysis. The final results of the EFA produced a three-factor solution with eigenvalues greater than 1.0, accounting for 71.47% of the variance. Factor loadings ranged from .73 to .91, which indicated that all items loaded heavily on their underlying factors.

To ensure construct validity, data were subject to confirmatory factor analyses (CFAs) for a more rigorous psychometric assessment. The results of the CFA demonstrated a reasonable fit of the three-factor model ( $\chi^2 = 195.43$ ; comparative fit index [CFI] = .96; root mean square error approximation [RMSEA] = .06). First, convergent validity was assessed. All average variance extracted (AVE) scores were above .5 (varied from .51 to .77), indicating convergence (Hair, Black, Babin, & Anderson, 2010). Second, discriminant validity was assessed. The AVE values for any two constructs were compared with the square of the correlation estimate between them (Hair et al., 2010). In all cases, the AVE was greater than the squared correlation estimates indicating discriminant validity. Therefore, results provided evidence of discriminant validity.

Because data on BI, job satisfaction, and error recovery performance were collected from a single source at the same time, common method bias could be an issue. Harman’s Single-Factor Test was used to address the issue of common method variance (Podsakoff, MacKenzie, & Podsakoff, 2012). Researchers have used CFA for the above test (Korsgaard & Roberson, 1995). The CFA results indicated that the three-factor model fits the data significantly better ( $\chi^2 = 195.43$ ; CFI = .96; RMSEA = .06) than the one-factor model in which all items were loaded onto one latent construct ( $\chi^2 = 939.71$ ; CFI = .74; RMSEA = .17;  $\Delta\chi^2 = 744.28$ ,  $p < .01$ ) providing support that common method bias was not an issue in this study (Podsakoff et al., 2012).

Because preliminary statistics demonstrated adequate data integrity, the hypothesis testing was conducted.

**Tests of hypotheses.** The means, standard deviations, and correlations among the study variables are presented in Table 1.

First, the three direct relationships were tested using linear regression analysis. Hypothesis 1 stated that BI will be positively related to error recovery performance. Results indicate that BI significantly predicts error management performance ( $\beta = .18$ ;  $p < .01$ ; Table 2). Therefore, Hypothesis 1 was supported.

Hypothesis 2 stated that BI will be positively related to job satisfaction. A significant positive relationship was found between BI and job satisfaction ( $\beta = .33$ ;  $p < .01$ ). Therefore, Hypothesis 2 was supported.

## Exhibit 2: Variable Correlations and Descriptive Statistics (Study 1).

	M	SD	1	2	3
1. Behavioral integrity	3.71	1.00			
2. Job satisfaction	3.81	0.96	.37**		
3. Error recovery performance	4.13	0.65	.17**	.15**	

\*\* $p < .01$ .

Hypothesis 3 stated that job satisfaction will be positively related to error recovery performance. Results indicate that job satisfaction significantly predicts error recovery performance ( $\beta = .15$ ;  $p < .01$ ). Therefore, Hypothesis 3 was supported.

The mediational model in the current study was tested using the mediation test suggested by Preacher and Hayes (2008). The results are presented based on the mediation test that was conducted.

The mediation test involved BI, job satisfaction, and error recovery performance. Hypothesis 4 stated that job satisfaction will mediate the relationship between BI and error recovery performance. The direct paths from BI to job satisfaction ( $\beta = .36$ ;  $p < .01$ ) and from job satisfaction to error recovery performance ( $\beta = .09$ ;  $p < .05$ ) were significant. In addition, the indirect effect from BI to error recovery performance through job satisfaction was significant ( $\beta = .04$ ;  $p < .05$ ; confidence interval [CI] = [.01 - .08]). The mediation was partial as expected because the direct effect ( $\beta = .08$ ;  $p < .05$ ) and total effect ( $\beta = .12$ ;  $p < .01$ ) of BI on error recovery performance were significant. Therefore, Hypothesis 4 was supported.

## Study 2

Study 2 was conducted with a separate analysis of surveys given to the department managers at the four Turkish hotels. These additional data provided the opportunity to validate the conclusions of Study 1 with a different sample (hotel managers), and, further, to link error recovery performance to work-unit effectiveness as rated by the senior executive at each hotel, the general manager. Although the first elements of our proposed chain of association, Hypotheses 1 to 4, are identical to those in Study 1, we hypothesize an additional link from self-rated error recovery performance to work-unit effectiveness.

**Error recovery performance and work-unit effectiveness.** Error recovery performance of employees is likely to lead to work-unit effectiveness. A study by Van Dyck et al. (2005) found that organizations’ effective management of errors drives firm performance. The findings were confirmed across two studies. Effective error management drives firm performance, as errors and their negative consequences are

**Exhibit 3:**  
**Regression Analysis (Study 1).**

	Error recovery performance		Job satisfaction		Error recovery performance	
Control						
Age	-.03	-.05	.28**	.23**	-.06	-.10
Tenure	-.03	-.02	-.06	-.05	.01	.01
Gender	-.04	-.05	.12*	.10	-.03	-.04
Independent variable						
Behavioral integrity		.18**		.33**		
Job satisfaction						.15**
$\Delta R^2$	.01	.03**	.06**	.11**	.01	.02**
$\Delta F$	0.25	9.50**	6.80**	38.97**	0.43	6.84**

\* $p < .05$ . \*\* $p < .01$ .

effectively handled and minimized (Frese, 1995). Error management also incorporates quick detection and catching the error before its negative consequences can unfold, often referred to as “error trapping” (Helmreich & Merritt, 2000). This proactive approach was also noted in a service recovery study by De Jong and De Ruyter (2004); they found that proactive recovery behavior (e.g., addressing service recovery issues before they become major problems) drives firm performance. Scholars have provided evidence that effective service recovery behavior drives customer satisfaction (Yavas et al., 2010). Researchers have also suggested that service recovery performance affects organization performance (Babakus et al., 2003; Karatepe, 2012b). However, few studies have empirically tested the impact of service recovery performance on organization performance. Overall, there is a lack of studies examining the outcomes of service recovery performance.

The current research argues that managers’ error recovery performance drives work-unit effectiveness. Because Study 2 included managers from all departments in the hotels, we decided to focus on department effectiveness as an outcome. Particularly, the study proposes that when hotel managers are effective in managing/handling/resolving errors, it will result in department effectiveness. The following hypothesis is proposed:

**Hypothesis 5:** Error recovery performance will be positively related to work-unit effectiveness.

**Sample and data collection.** Survey instruments were distributed to 33 departmental managers from the same hotels as in Study 1, located in Istanbul and Antalya, Turkey. Usable data were collected from 33 managers. The response rate was 100%. Sixty-one percent of the sample was male. The majority of the managers were in the age range of 41 to 50 years (36.4%), followed by 30.3% in the age range of 35 to 40 years, 18% in the age range of 31 to 35 years, 9% in the age range of 26 to 30 years, and 6% in the age range of 51

to 60 years. In terms of tenure in the hotel unit, 30.3% had worked for 4 to 8 years, 27.3% had worked for more than 8 years, 18.2% had worked for 2 to 4 years, 12% had worked for less than a year, 6% had worked for 1 to 2 years, and 6.1% had worked for 6 months to 1 year. The majority of the respondents had a 4-year university degree (59.4%), followed by a 2-year university degree (18.8%), a high school diploma (12.5%), and a master’s degree (9.4%).

**Measures.** BI was measured with six items adopted from a Behavioral Integrity Scale developed by (Simons, 2002). A sample item is “Members of this hotel’s management team deliver on promises.” The internal consistency reliability estimate was .92.

Three items from the Michigan Organizational Assessment Questionnaire (Cammann et al., 1983) were used to measure job satisfaction. A sample item is “All in all, I am satisfied with my job.” The internal consistency reliability estimate was .81.

Error recovery performance was measured with four items adapted from Service Recovery Performance scales developed by Lin (2010a) and Boshoff and Allen (2000). A sample item is “I can often manage errors well.” The internal consistency reliability estimate was .78 (see Appendix).

All items were rated on a 5-point Likert-type scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. Age, gender, tenure, and education were included as control variables.

In addition, the general manager of each hotel was asked to evaluate each manager and their respective department. Manager effectiveness was measured with a single item adopted from Lewis (2004; “This manager’s deliverables are of excellent quality”). This item was rated on a 5-point Likert-type scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. Often, work-unit (department) performance is evaluated based on the evaluation of the leader of that work-unit. Second, department effectiveness was measured on a scale of 1 (*fails to meet goals and expectations*) to 9

**Exhibit 4:**  
**Variable Correlations and Descriptive Statistics (Study 2).**

	M	SD	1	2	3
1. Behavioral integrity	4.05	0.74			
2. Job satisfaction	4.47	0.51	.48**		
3. Error recovery performance	4.56	0.43	.37*	.50**	

\*\* $p < .01$ .

(*exceeds goals and expectations*). Achieving goals has been considered as a measure of work-unit performance (Van Dyck et al., 2005).

## Results

**Preliminary analysis.** All scales demonstrated adequate reliability. To ensure construct validity, data were subject to CFAs. The results of the CFA demonstrated a reasonable fit ( $\chi^2 = 69.62$ ; CFI = .96; RMSEA = .08; Hair et al., 2010). First, convergent validity was assessed. All AVE scores were above .5 (varied from .54 to .68), indicating convergence (Hair et al., 2010). Second, discriminant validity was assessed. The AVE values for any two constructs were compared with the square of the correlation estimate between them (Hair et al., 2010). In all cases, the AVE was greater than the squared correlation estimates indicating discriminant validity. Therefore, results provided evidence of discriminant validity.

Because data on BI, job satisfaction, and error recovery performance were collected from a single source at the same time, common method bias could be an issue. Harman's Single-Factor Test was used to address the issue of common method variance (Podsakoff et al., 2012). Researchers have used CFA for the above test (Korsgaard & Roberson, 1995). The CFA results indicated that the three-factor model fits the data significantly better ( $\chi^2 = 69.62$ ; CFI = .96; RMSEA = .08) than the one-factor model in which all items were loaded onto one latent construct ( $\chi^2 = 133.65$ ; CFI = .75; RMSEA = .20;  $\Delta\chi^2 = 64.03$ ,  $p < .01$ ) providing support that common method bias was not an issue in this study (Podsakoff et al., 2012).

Because preliminary statistics demonstrated adequate data integrity, the hypothesis testing was conducted.

**Tests of hypotheses.** The means, standard deviations, and correlations among the study variables are presented in Table 3.

First, the three direct relationships were tested using linear regression analysis. Hypothesis 1 stated that BI will be positively related to error recovery performance. Results indicate that BI significantly predicts error recovery performance ( $\beta = .39$ ;  $p < .05$ ; Table 4). Therefore, Hypothesis 1 was supported.

Hypothesis 2 stated that BI will be positively related to job satisfaction. A significant positive relationship was

found between BI and job satisfaction ( $\beta = .49$ ;  $p < .01$ ). Therefore, Hypothesis 2 was supported.

Hypothesis 3 stated that job satisfaction will be positively related to error recovery performance. Results indicate that job satisfaction significantly predicts error recovery performance ( $\beta = .54$ ;  $p < .01$ ). Therefore, Hypothesis 3 was supported.

The mediational model in the current study was tested using the mediation test suggested by Preacher and Hayes (2008). The results are presented based on the mediation test that was conducted.

The mediation test involved BI, job satisfaction, and error recovery performance. Hypothesis 4 stated that job satisfaction will mediate the relationship between BI and error recovery performance. The direct paths from BI to job satisfaction ( $\beta = .33$ ;  $p < .01$ ) and from job satisfaction to error recovery performance ( $\beta = .36$ ;  $p < .05$ ) were significant. In addition, the indirect effect from BI to error recovery performance through job satisfaction was significant ( $\beta = .12$ ;  $p < .05$ ; CI = [.02, .28]). Therefore, Hypothesis 4 was supported.

Hypothesis 5 stated that error recovery performance will be positively related to work-unit performance. A significant positive relationship was found between error recovery performance and manager effectiveness ( $\beta = .22$ ;  $p < .01$ ). A significant positive relationship was also found between error recovery performance and department effectiveness ( $\beta = .11$ ;  $p < .01$ ). Therefore, Hypothesis 5 was supported.

## Discussion

In separate samples of Turkish hotel employees (Study 1) and managers (Study 2), we found support for the notion that BI is associated with error recovery performance and that these relationships are partially mediated by employee job satisfaction. Respondents in Study 2 reported higher job satisfaction and error recovery performance with little variance. This pattern would make significant results more difficult to attain. The fact that we found them in Study 2 increases the confidence with which our results may be generalized. Furthermore, we found in the sample of managers that error recovery performance is associated with work-unit effectiveness, both in the form of superiors' assessments of manager effectiveness and of departmental effectiveness.

This study builds upon the service recovery literature in two ways: The first contribution is the expansion of the service recovery construct into a larger construct of error recovery, which allows its application and measurement in contexts other than those of direct customer contact. Our findings suggest that this application is worthwhile, and is linked to performance, in more contexts than just those of direct customer contact and that it is useful to consider in back-of-house as well. We developed and validated a scale to measure error recovery performance, based on Lin's (2010a) and Boshoff and Allen's (2000) existing scales of service recovery performance.

**Exhibit 5:**  
**Regression Analysis (Study 2).**

	Error recovery performance		Job satisfaction		Error recovery performance	
Control						
Age	-.04	-.05	-.12	-.14	-.04	.03
Tenure	.02	.10	.18	.27	.03	-.07
Gender	-.11	-.01	-.33	-.21	-.12	.06
Independent variable						
Behavioral integrity		.39*		.49**		
Job satisfaction						.54**
$\Delta R^2$	.01	.13*	.13	.21**	.02	.25**
$\Delta F$	0.15	4.41**	1.53	8.94**	0.15	9.36**

\* $p < .05$ . \*\* $p < .01$ .

Second, it offers the construct of BI as a parsimonious means of addressing the inconsistent results achieved by the MCSQ model when it is applied in different cultural and work contexts. The current study offers only a single cultural and work context, and thus, any claim that the model we offer will work across multiple contexts is as yet unproven. However, we assert that use of the BI construct rather than a listing of specific policies and practices designed to convey that management “means” its service message is likely to enhance the generalizability of this valuable stream of research. Different cultural contexts create different service expectations (Reimann, Lünemann, & Chase, 2008), and it makes sense that different practices are needed to convey management commitment to these different expectations. BI sidesteps these differences by asking simply whether management appears to enact and enforce the standards they espouse. Although this approach is cleaner conceptually, it is true that the more detailed MCSQ model provides more detailed prescription. Our concern is that MCSQ’s specificity may render it inaccurate in some contexts.

### Limitations and Future Directions

This study, similar to any other, has several limitations: The data are cross-sectional, which limits the confidence with which we can assert causality. Common method bias could be an issue as data were collected from a single source in both studies, though the danger of this bias driving our results is substantially mitigated by our application of Harman’s Single-Factor Test and CFA—and, most importantly, by the fact that common method variance cannot drive a mediated chain as proposed here. This threat to validity is further mitigated by the second study’s final dependent variable, which was collected from a different source (a survey administered to the hotel general managers). The data in this study were gathered only in Turkey—Ideally we would like to see similar data collections in multiple countries, cultures, and industries so that we can

better comprehend the generalizability and the boundary conditions for this work.

Avenues for further empirical exploration include a direct test of the cross-cultural validity of our proposed model. It might be useful further to collect and analyze data on both BI and the full MCSQ model, as BI may serve as a mediator. In our sample, job satisfaction served as a mediator of the impact of BI on error recovery performance, and this mediation begs the question of what additional mechanisms are at play. Is the additional mechanism organizational commitment, as suggested by Ashill et al. (2006) and Ashill et al. (2008) or is it enhanced clarity of communication of service standards, as suggested by Simons (2008)? Of course, longitudinal study and applications in different work contexts would also greatly enhance this stream of research. Furthermore, the current research focused only on BI as a predictor of error recovery performance. Future research can investigate other leader characteristics that may drive error recovery performance such as leader-empowering behaviors, transformational leadership, or leader coaching. Scholars can also focus on organizational resources available to employees to manage errors effectively such as training (e.g., error management training), rewards (rewarding effective error management), information sharing (e.g., about errors/failures), and team culture (e.g., helping coworkers during error handling situations).

### Practical Implications

The practical recommendations this research might offer are similar to those of the MCSQ literature—reward, train, equip, and empower—but we offer the perspective that the most critical factor for all of these practices is that employees must see them as evincing a genuine commitment on the part of management. Half measures, economies, and compromises in the development and enforcement of service standards, therefore, are likely to fall flat and might have no effect or worse. Companies can focus on error recovery training. For example, simulations can be used to train employees on predicting

errors, or detecting errors quickly, and resolving errors before it results in a major problem. Companies may choose to reward and recognize individuals for effective error recovery. Error recoveries can be included as a criterion in employee performance appraisals. Managers need to encourage subordinates to engage in information sharing about errors and learning from failures. Errors and error resolution strategies need to be documented, and excellent recoveries need to be celebrated where possible. Managers can strive to create a comfortable working environment where employees feel comfortable sharing error information and seeking feedback about how to handle errors effectively. Hospitality organizations may also need to select individuals who maintain their composure in the face of errors and service failures and do not panic or freeze in crisis situations. Companies should consider using an emotional intelligence test in their selection process.

BI was found to drive error recovery performance and job satisfaction. Hospitality organizations can make efforts to make sure that employees and managers are high in BI. When employees see that their managers and coworkers are high in BI, and when managers see that their co-managers and general managers are high in BI, it creates a climate of trust in the organization. There is more transparency and less uncertainty. High BI of senior leaders also trickles down to promote high BI among middle managers, which directly affects subordinates (Simons, Friedman, Liu, & McLean Parks, 2007). Simons (2008) offered a number of individual and organizational practices aimed at enhancing BI, ranging from individual and institutional values clarification and discussion of practical trade-offs to examination and alignment of policies to communication training.

This study also found that job satisfaction drives error recovery performance. That is, when members are satisfied with their jobs, they are likely to make more efforts to engage in high error recovery performance. BI was found as a way to increase job satisfaction of organizational members. However, organizations can focus on several other ways to improve satisfaction levels of employees. Autonomy, meaningful work, empowerment, and recognition are also likely to improve job satisfaction levels.

## Appendix

### Error Recovery Performance.

1. I can often manage errors well	1	2	3	4	5
2. I am comfortable during an error or error resolution situation	1	2	3	4	5
3. I am able to properly handle errors	1	2	3	4	5
4. I do not panic or become helpless in handling errors	1	2	3	4	5
5. I do not mind dealing with errors	1	2	3	4	5
6. Resolving the error is my primary goal when it occurs	1	2	3	4	5

Note. Items 1 to 4 used for Study 2.

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