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Linking Error Management Practices with Call Center Employees' Helping Behaviors and Service Recovery Performance

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Abstract

Organizations wish to minimize the probability of service errors; however, complete elimination of service errors is not possible, especially in industries where human interactions are frequent. Particularly, the ways in which various sources of support may affect service recovery behaviors and related outcomes have yet to be fully articulated. Therefore, this study examined the direct and moderating effects of supervisor and coworker support for error management on the helping behavior and service recovery performance. Data were collected from 287 call center frontline employees in a large mobile network operator in Thailand. Results showed that both supervisor support and coworker support were significantly related to helping behaviors and service recovery performance. Similarly, the interaction between supervisor and coworker support for error management accounted for unique variance in each of the performance indices. The findings advance our understanding about the role of support in the service delivery and error management process, and provide prescriptive insights about means for driving continuous improvements to the service process. The implications for researchers and practitioners are discussed at the end.

Keywords: error management, service recovery performance, perceived coworker support, perceived supervisor support, helping behaviors.

1. Introduction

Mistakes and errors are a natural consequence of human activity and thus an inevitable part of complex systems such as organizations (Casey & Krauss, 2013). Every now and then, products and services fall short of customer's expectations. Michel (2001) refers to these inadequacies, shortfalls, or insufficiencies, as service failures or service errors. The development of individuals is intimately related to thinking about novel ways of doing things, making mistakes and errors, and then learning to improve. Errors can result in negative consequences such as increase in cost, customer dissatisfaction, loss of time, inefficiency, a drop in consumer confidence, and faulty products (Van Dyck et al., 2005; Homsma et al., 2009). Contrary to this, errors provide useful opportunities to learn and improve (Van Dyck et al., 2005). Even the smallest problems can have substantial negative consequences if the concerns are not resolved in a timely, effective manner. To address this challenge, many firms have begun to implement a variety of policies, procedures, and systems that are designed to reduce and minimize the impact of errors throughout the service exchange process.

Call centre frontline employees (FLEs) have to frequently interact with customers (Siong, Mellor et al., 2006). They are constantly answering to the queries of customers and have to ensure that customers are satisfied. They are responsible to not only deliver quality services but also to take care of customers during service recovery process which makes their jobs even more important for organizations (Soares et al., 2014). Karatepe (2012) suggested that they can also offer critical information about customer's complaints, experiences, and expectations. However, due to fear of retaliation, employees may be hesitant to communicate with the management about these errors. As such, managers try to deal with service errors by employing error management process.

Much of the research on error management has focused on customer-related outcomes, such as perceptions of service quality, satisfaction, loyalty, and related variables that result from the service recovery process (e.g., Harris et al., 2006; Smith & Bolton, 1998; Wang et al., 2011). And while the importance of front-line and management staff has been acknowledged and established in a general sense (e.g., Keiningham et al., 2006; Susskind, 2010), research that has examined the specific roles and means by which managers and employees may influence the error management process has been quite limited.

The current literature shows that the primary focus is on the links between individual characteristics, such as employee motivation and attitudes, and service recovery performance as well as on service recovery strategies at the organizational level (e.g., Ashill et al., 2009; Kim et al., 2012; Koc, 2013; McColl-Kennedy & Sparks, 2003). These findings, as well as the substantial evidence from numerous studies that have linked employee perceptions, attitudes, and behaviors to various customer outcomes (e.g., Boshoff & Allen, 2000; De Jong et al., 2008; Namasivayam et al., 2014; Susskind, Kacmar, & Borchgrevink, 2007) provide a compelling basis for additional inquiry and learning more about the means by which the incidence and impact of service-related errors can be minimized.

Service error refers to the perceptions of a customer that the experience of product/service has fallen short of the desires, needs, or wants of the customer (Michel, 2001). These errors are unavoidable due to intangible nature of service and unique

expectations of each consumer. The customer expectations from call centers vary considerably because the nature of complaint, ambiguous and disproportionate customer expectations, level of urgency, characteristics and demands of customers, levels of customer verbal aggression, are unique and thereby more difficult to handle and satisfy. The total elimination of errors is impossible despite rigorous employee training, total quality management procedures, and/or using advanced technology (Susskind, 2010).

In addition to individual characteristics, the work context can also have a marked impact on service recovery performance. One contextual variable that has been shown to influence a wide array of employee behaviors, including service-related performance, is a supportive work environment. A number of studies have shown that perceptions of support – in general (e.g., perceived organizational support, or POS), as well as specific types of support (e.g., support for high-commitment HR practices) – can have a significant impact on an employee's service performance (e.g., Bettencourt, Gwinner, & Meuter, 2001; Liao & Chuang, 2004; Michel et al., 2013; Nishii et al., 2008), specifically with reference to service recovery (Karatepe, 2012). However, the ways in which various sources of support may influence service performance have yet to be fully articulated. In particular, we contend that not all sources of support are equally relevant, especially for front-line staff in call centers of a mobile network operator. Thus, it is important to consider the unique effects that specific dimensions of support may have on various indices of service-related performance. In addition, it is likely that there are interactions among the specific support dimensions that may magnify or mitigate the impact of perceptions of support.

Error management practices are actually used to promote the positive consequences of errors and simultaneously reduce the negative consequences (Van Dyck et al., 2005). The error management approach strives to deal with errors and their consequences after an error has occurred (Guchait et al., 2012). An overall communication environment is offered by the error management whereby employees not only learn from others who share their bad experiences openly and freely but also from their own daily experiences where they commit mistakes and errors. Through this process, errors are quickly detected and reported to the management, negative consequences of an error are handled effectively and minimized, and learning and innovation is promoted (Michel et al., 2013). Van Dyck et al. (2005) further posit that the quality of existing products, services, and work procedures can be improved if organizations use error management process which emphasizes learning and innovativeness.

Prior research has studied the service failures and service recovery performances in the hospitality field from customers' and organizations' perspectives (Susskind, 2010). Conversely, service failures and recoveries from employee's perspective have been minimally researched (Guchait et al., 2016). Therefore, the purpose of this study is to examine the direct and interactive effects of two specific types or sources of support – supervisor and coworker support for effective error management – on service recovery performance and service-related helping behaviors among front-line call center employees.

2. Literature Review

2.1 Error Management

Employees at organizations commit mistakes and errors just like all humans err. Cannon and Edmondson (2001) define errors or failures as unintentional deviations from established goals, procedures, processes, codes of behavior, and standards. While a lot has been said about the negative consequences of errors or failures such as customer dissatisfaction (Van Dyck et al., 2005), less profits (Hoffman et al., 1995), aggravated customer complaints (Oentoro et al., 2016), and poor organizational performance (Wong, 2004), but recently, researches have started to investigate the positive aspects of service recovery process (Carmeli & Gittell, 2009). These researchers are of the view that errors keep on occurring in organizations in many forms such as a poorly designed product, less timely delivery of service, and lack of attention to customer complaints. However, organizations and employees should learn from their mistakes and if they can identify correctly as to what went wrong that made customers unhappy, future processes, procedures, systems, and services can avoid such failures from happening (Lin, 2010). Consequently, this improvement in current processes may help them to achieve better results in the form of enhanced customer satisfaction, better service quality, and increased profits.

Guchait et al. (2016) found that error management positively affected employees' helping behaviors and service recovery performance, and call for further exploration into the positive outcomes of service recover performance. This study intends to advance their findings by exploring how error management can help organizations to increase service recovery process. Error management approach deals with the errors and their consequences as they occur. Error management practices primarily focus on discovering how and why errors occur and understanding how to prevent errors from occurring in future by organizing systems, processes, and procedures (Choi et al., 2014; Guchait et al., 2012).

Employees in organizations practicing error management openly share when an procedural or service error occur, learn from their as well as others' mistakes and bad experiences, and think about new and novel ways of dealing with such errors so that they do not occur again (Mathieu et al., 2000). Error management emphasizes on learning from failures which according to Carmeli and Gittell (2009) is a valuable source of information about what and why something did went wrong? When this information is used to improve the areas due to which services failed, the resulting service processes improve considerably. Brown et al. (1996) postulate that if employees are not afraid to speak and share their mistakes in organizations, others get a chance to learn from these mistakes and hence they may not commit such mistakes or errors. However, literature shows that minimal attention has been given to employees' helping behaviors in case of service recovery process (Guchait et al., 2016), despite theoretical reasoning.

Error management processes include reporting realistic and accurate information about errors, sharing knowledge about how the error could be prevented, and devising a plan to detect such errors timely and accurately in future. Furthermore, in error situations, it is more likely that employees would quickly seek and receive help from their peers to rectify the situations (Choi et al., 2014; Helmreich & Merritt, 2000). Another added advantage is the improvement of employee performance, effective service recovery

performances, efficient handling of errors, challenging status quo and innovating, continual improvement of work procedures, and increasing service quality (Guchait et al., 2012).

As noted above, many firms have implemented formal policies and procedures that are designed to respond effectively to customer service problems, and take actions to avoid similar failures from happening in the near future. Most of the error management research has been framed in terms of service recovery (Hibbert et al., 2012), which is grounded primarily in justice theory as a basis for explaining customers' perceptions and behaviors associated with service recovery strategies. In general, the results have shown that a wide array of service recovery strategies, such as refunds, apologies, and upgrades (e.g., Mathieu et al., 2000), can have a positive influence on customer's perceptions of fairness (Carmeli & Gittell, 2009) and subsequent emotional and behavioral responses (e.g., DeWitt et al., 2008). For example, Wang et al. (2011) showed that customer perceptions about the severity of service failures were significantly (negatively) related to their perceptions of loyalty and the impact was significantly lower when firms engage in service recovery actions that enhance perceptions of justice (i.e., treated customers with politeness and respect). However, while continued attention on customer-specific factors associated with the service recovery process is certainly needed, recent research suggests consideration of a broader set of contextual factors may provide new insights regarding service recovery and error management processes.

One of the most salient and arguably important contextual factors that play a substantive role in the error management process is the front-line service staff. And although limited, there is some evidence regarding the positive impact that employees can have in the error management process. For example, van Dyck et al. (2005) study of Dutch and German firms showed that an organization's error management culture, characterized as the shared employee perceptions regarding "organizational practices related to communicating about errors, to sharing error knowledge, to helping in error situations, and to quickly determining and handling errors" (p. 1229), was positively related to several measures of firm performance. Moreover, another study conducted by Guchait et al. (2012) showed that multi-level error management approach which included front-line employee, managerial, and organizational responses (i.e., apologies) to service errors was positively associated with customer satisfaction. These studies, as well as those that have found significant relationships among various employee perceptions and behaviors and customer-related outcomes (Oentoro et al., 2016) reveal the importance of employees in the service recovery and broader error management processes.

If the efficacy of any service recovery or error management strategy relies, in part, on capability of front-line staff to demonstrate effective service recovery and error management behaviors, then it is critical to understand the key drivers of these performance outcomes (Guchait et al., 2014). As noted above, various forms of support have been shown to influence a wide-range of employee and firm-level outcomes, including those that are specific to service-related performance (e.g., Michel et al., 2013). However, to date, we could only identify one study that explicitly examined the influence of employee perceptions about support that may be relevant to the error management process.

Karatepe (2012) study was based on full-time, front-line call center employees and their immediate supervisors, and the results showed that both dimensions of support enhanced

service recovery performance. In another study by these authors, perceived organizational support was found to increase service recovery performance. They showed that when organizations support their employees psychologically and value their opinions and sharing mistakes, the service quality improves as a result of learning from service errors.

The results from Karatepe's (2012) study are noteworthy on two levels. First, the findings are consistent with those from numerous studies have shown that perceived organizational support has an impact on a wide-range of employee outcomes. For example, Rhoades and Eisenberger's (2002) meta-analysis of 73 empirical studies showed significant relationships between perceived organizational support and reduced strain, reduced withdrawal behavior, and high job involvement. More recently, Riggle et al. (2009) meta-analysis of 167 studies found significant positive relationships between perceived organizational support and task and contextual performance, as well as significant negative relationships with intentions to quit/leave.

Second, Karatepe's study extends previous research on error management and demonstrates the need to account for contextual factors, particularly those that may be key drivers of key error management behaviors (e.g., perceptions about various sources of support within the immediate work setting). However, while these findings are encouraging, we concur with Susskind, Kacmar, and Borchgrevink's (2003) contention that greater insights can be generated from research that examines more specific dimensions of the broader support construct. Indeed, the findings from Karatepe's study suggest that not all dimensions of support are equally relevant, and as such, consideration should be given to dimensions that are specific to the dependent variable(s) of interest.

According to Choi et al. (2014), the main purpose of service recovery is that if a service error occurs, the organization should take actions that can correct, rectify, or provide some kind of recovery so that customers do not become offended and remain retained. In today's highly competitive and technologically advanced scenario, customers are well-informed and they want superior quality and error-free services almost all the time. Employees work in highly stressful working environment where the pressure to perform better and achieve objectives is ever increasing, the chances of service error increase. But, if the post-service recovery processes are effectively implemented, customers become satisfied, and sometimes it can enhance repurchase intent and customer loyalty (Oentoro et al., 2016), and positive word of mouth and increased sales revenues (Michel, Kavanagh, & Tracey, 2013). It is the employee and not the organization that delivers quality service. Therefore, it is extremely important for organizations to make sure that their employees understand and deal with service failures efficiently as well as effectively (Liao & Chuang, 2004).

The perceptions of service employees to believe in their own abilities and act in ways that can resolve a service failure so that customers become satisfied is known as service recovery performance (DeWitt et al., 2008). Guchait et al. (2014) suggest that employees become stressed when customers feel displeased. In case of a service failure, the first point of contact is often the frontline service employee who can experience even greater level of stress, turnover intentions, and job satisfaction than other employees (Karatepe, 2006).

2.2 Supervisor and Coworker Support for Error Management

When organizations show concern and care about the employees' well-being, allow employees to express their opinions, protect employee's self- interests, and provide help when needed, rewards them, and make favorable job conditions such as pay, promotion, training and development, and job enrichment, employees perceive greater level of organizational support (Eisenberger et al., 2002). In context of error management, supervisors provide constructive feedback to employees, empower them psychologically, and help them to identify recovery solutions and participate in decision-making (Oentoro et al., 2016). Thus, supervisors encourage open communication and create an environment where subordinates do not feel embarrassed or fearful of the fact that they would be punished while reporting service errors (Eisenberger et al., 1990).

Due to the nature of many operational environments in the telecom industry, supervisors and coworkers play a vital, and many times direct and complementary, role in the service delivery/exchange process. Thus, Susskind et al. (2007) suggest that it is important to distinguish support from supervisors and coworkers, as each may have a distinct influence on the attitudes, behaviors, and customer service performance among front-line staff. By extension, and specific to error management, it is likely that support from these two sources will have a direct influence on two key facets of error management performance – service recovery performance, which encompass behaviors that are used to effectively respond to service errors; and helping behaviors, which focus on cooperative efforts that facilitate continuous improvements to customer service performance (Boshoff & Allen, 2000).

Susskind et al. (2003) defined supervisor support as an employee's belief that supervisors provide work-related assistance to help them perform their service-specific tasks, duties, and responsibilities. According to Eisenberger et al. (2002), perceived supervisor support includes individualized consideration that supervisors demonstrate toward their subordinates, and the extent to which they provide coaching and provide opportunities to their employees to carry out their tasks in an efficient and effective manner. For the current study, we adopted Susskind et al. (2003) conceptualization and contend that supervisor support for error management involves communicating about the nature and consequences of errors, sharing error management knowledge, encouraging employees to share information about errors and help subordinates in error situations.

Karatepe et al. (2007) found that employee's work stress is reduced when perceived managerial support is high. In the same vein, Liaw et al. (2010) proposed that self-efficacy and self-worth of employees enhance due to perceived supervisor support. When employees believe in their abilities and are confident that their inputs have worth and may help to improve the current systems, they feel an urge to contribute positively towards the organization and hence may lead to improvement in service recovery mechanism.

Paşamehmetoğlu et al. (2017) in a recent study on 243 employees and their immediate supervisors working in hospitality industry found that supporting environment characterized by supervisor as well as coworker support enhances the performance of service recoveries. The theoretical reasoning of the positive relationship of perceived supervisor support with an employee's helping behavior and service recovery can be found in social exchange and organizational support theories. According to these

theories, an individual feel obligated to return back the favor granted to him/her in any capacity.

When organizations and leaders support their employees by giving value to what they say, providing confidence to what they do, and encouraging ideas without fear, the employees may exchange in the form of positive behaviors such as increased organizational citizenship behaviors, helping others to solve problems, generating more creative ideas, talking positively about organization, and so on (Guchait et al., 2014). Applying this sense of obligation to reciprocate in service recovery context, if supervisors value and take care of their employees during service errors, the employees would feel confident and efficacious to speak openly about their mistakes. At the first place, they accept their mistakes and try to highlight the problems due to which errors occurred (Van Dyck et al., 2013). Then, a learning process is initiated with a purpose to improve the existing systems so that such service errors become unlikely to occur in future. Ultimately, this process of mutual sharing and learning would lead to enhancement in service recovery performance. On the basis of above arguments, we hypothesize:

- **H_1:** Supervisor support for error management will be positively related to call center employees' (a) helping behaviors, and (b) service recovery performance.

According to Susskind et al. (2003), supportive coworkers encourage an environment where mistakes, new ideas, and ineffective practices are shared freely, openly, and fearlessly. In addition to supervisors, support from coworkers can be quite influential in the customer-service process. Perceived coworker support in context of service recovery is the willingness of coworkers to support and offer guidance and assistance to others so that they can perform their service-based duties in an effective manner (Susskind et al., 2003). In addition to Karatepe's (2012) findings, there is some rather compelling evidence which shows that employee perceptions about coworker support are related to several important outcomes, such as the ability to cope with work-related stress, solve customers' problems, and achieve high levels of service performance (e.g., Oentoro et al., 2016; Tsai et al., 2009).

Similar to supervisor support, coworker support includes providing individual consideration, encouraging others to speak, building a culture where those who talk against status quo are not criticized, and useful customer information (Guchait et al., 2014). When a failure in service occurs, employees would usually turn up to their coworkers to discuss the problem as well as the potential solution of the problem. If employees are discouraged by their coworkers that they should not report such errors to their supervisors and higher authorities, they would stop sharing due to loss of support from coworkers and supervisors alike. So it is important for an employee to find support from the coworkers at the first instance (Maertz et al., 2007). When an employee shares his/her mistake, supportive coworkers would help him/her to get out of this situation and propose solutions to improve the existing systems collectively. By extension, we conceptualize coworker support for error management as the perceptions among front-line staff regarding coworkers' efforts to communicate about the nature and consequences of errors, share error management knowledge, encourage other coworkers to share information about errors and help them in error situations (Jong et al., 2004), and work together to improve the existing service delivery mechanisms by identifying and correcting the service errors. . Therefore, we hypothesize:

- **H_2:** Coworker support for error management will be positively related to call center employees' (a) helping behaviors, and (b) service recovery performance.

Finally, we contend that supervisor support and coworker support for error management will interact and account for unique variance in front-line employee helping behaviors and service recovery performance. As noted above, Susskind et al. (2003) showed that supervisors and coworkers have similar but distinct roles during customer service process. For example, both coworkers and supervisors can offer assistance to front-line employees when they are responding to errors during the service exchange process. In addition, coworkers and supervisors may also provide feedback and information that can enhance knowledge and skills that are essential to effective service performance (Guchait et al., 2014). Thus, when coworkers and supervisors work effectively with front-line staff and promote a work environment that supports effective error management practices, we can expect high levels of service performance and related behaviors among front-line staff.

There are also salient differences in the relative influence of these two important sources of support. Although employees do need support from their coworkers as they are easily accessible, but coworkers do not possess necessary authority to make employees feel secure and confident (Ng & Sorensen, 2008). When an individual shares knowledge about a service error with coworkers, the support he/she gets is informal such as coworkers propose solutions on the basis of their own experiences, they suggest ways to tackle such an error and may try to calm down the individual by sharing similar service errors occurred by them so that he/she does not feel the only one to commit such a mistake. So majority of the support that comes from coworkers is informal and moral in nature (Paşamehmetoğlu et al., 2017). This is absolutely essential source of support if the individuals are to openly share service error incidents and learn from them. If coworkers do not support positively or discourage happenings of service errors then individuals might not think it feasible to report the service error to the higher authorities (Guchait, Paşamehmetoğlu, & Dawson, 2014). Hence, coworker support is the initial source of support that employees need to feel to move on with this learning experience.

We may argue here that the effect of coworker support on the performance of service recovery as well as helping behaviors would be further strengthened if the leaders, managers, immediate bosses, and top management also support individuals through service error and recovery process. Since the formal authority and decision making power reside in supervisors, the support that individuals get from supervisors is critical to make them feel confident and free of any fear to report service errors and learn from bad experiences. In particular, supervisors have a greater span of influence on frontline employees compared to coworkers due to the legitimate authority that is embedded in their job position (Yukl, 2012). As such, supervisors can utilize a wider range of influence behaviors to support effective error management practices (e.g., offer rewards for improving responsiveness to service errors), and thus, amplify the support that stems from perceptions about coworker support for error management. Therefore, we expect that the relationship between coworker support and the focal dependent variables will be positively moderated by supervisory support for error management.

- **H_3:** Supervisor and coworker support for error management will positively interact related to call center employees' (a) helping behaviors, and (b) service recovery performance. Specifically, we expect supervisor support to positively moderate the

relationship between coworker support for error management and the focal dependent variables; the strength of the relationship between coworker support and both dependent variables will increase as supervisor support increases.

3. Methods

3.1 Sample

To examine the proposed hypotheses, a field study was conducted using data that were collected via surveys from 328 call center employees of a large mobile network operator company (Advanced Info Service Public Company Limited) in Thailand. AIS is the biggest network operator company in Thailand. We selected five different call centers of AIS located in Bangkok. . To carry out the research, we asked for the permission from the concerned authorities. Before distributing questionnaires, we informed the participants about the nature of research we were conducting. We also ensured them about the confidentiality so that they could record their opinions honestly. The HR department of these five call centers provided us with the addresses of all the frontline employees who were spending their time handling inquiries of customers. In total, a list of 589 frontline employees was provided to the researchers. We also requested the HR department to provide us with the names of their immediate supervisors because the data about employee's helping behavior was to be provided by the respective supervisors. In total, addresses of 67 supervisors were provided.

Data was collected from two resources with a three-month time lag. Data regarding supervisor and coworker support for error management were collected from the employees; employee helping behaviors data was collected from the supervisors. Employees completed the surveys on a voluntary basis, and were assured in writing and verbally that their individual responses would not be shared with anyone other than the research team, and that only aggregate-level data would be reported. To further ensure confidentiality, employees placed their completed surveys in an envelope that was provided, and then return the sealed envelope directly to the research team. After the line employees completed the surveys, supervisors were asked to evaluate the helping behaviors of their subordinates.

The surveys were distributed and collected directly from all respondents by members of the research team. We randomly selected 340 frontline employees and distributed among them the survey. The survey started with a cover letter describing in detail the nature of our research and a statement of confidentiality. Then, the respondents were asked about the demographic characteristics, followed by the items to measure their opinions about study variables. A total of 293 usable surveys were received (86% response rate). Three months after the initial survey, a separate rating survey was distributed to each of the 34 relevant supervisors, asking them to evaluate their subordinates' helping behaviors and service recovery performance. In total, 287 matching usable surveys (a supervisor rated an employee who had also turned in a survey) were returned. On average, each supervisor rated helping behaviors and service recovery performance of almost eight employees. The average age of employees was 31.9 years with a standard deviation of 3.07 whereas the average age of supervisor was 37.9 years. The average tenure was 5.2 years with a standard deviation of 2.7 years. Approximately, 73 percent of the sample consisted of females.

3.2 Measures

All items were measured on a five-point Likert scales ranging from 1 ‘‘strongly disagree’’ to 5 ‘‘strongly agree”. All scales demonstrated acceptable internal consistency reliability and construct validity (theoretically appropriate inter-correlations).

Boshoff and Allen’s (2000) five items scale to measure service recovery performance was adopted for this study. A sample item is, “No customer this employee deals with leaves with problems unresolved.” To measure perceived supervisor support for error management, Eisenberger et al. (2002) six items scale was used. A sample item from the scale is, “My supervisor is willing to extend himself/herself in order to help me handle errors to the best of my ability.” To measure perceived coworker support for error management, a six-item scale developed by Guchait et al. (2014) was used in this study. “My coworkers give useful advice on job problems (service errors and recoveries).” Guchait et al. (2016) used a scale to measure helping behavior and this study adapted the scale due to its well established validity. A sample item is as follows: “I will be willing to help my coworkers who make a service error.”

4. Results

Table 1 presents descriptive statistics, means, standard deviations, scale reliabilities, average variance extracted, and correlations among study variables. To examine the discriminant validity of our measures, confirmatory factor analyses was conducted. The test result of adaptability showed that the four-factor model fits the data well (χ^2 (211) = 550.71, $p<0.001$; $\chi^2/df= 2.61$; NNFI = 0.95; CFI = 0.94; and RMSEA = 0.059), as compared to other models. Alternative one- and two-factor models were also tested, but the results did not generate improved fit statistics (χ^2 (189) = 778.9, $p<0.001$; $\chi^2/df= 4.12$; NNFI = 0.88; CFI = 0.86; and RMSEA = 0.074 for alternative one-factor model and χ^2 (198) = 658.2, $p<0.001$; $\chi^2/df= 3.32$; NNFI = 0.89; CFI = 0.87; and RMSEA = 0.064 for alternative two-factor model).

Table 1: Descriptive Analyses

Variable	Mean	S.D	Cronbach’s alpha	AVE	Inter-correlations			
					1	2	3	4
1. Coworker Support	3.66	0.51	.82	.54	1			
2. Supervisor Support	3.91	0.34	.88	.62	0.28	1		
3. Helping Behavior	4.06	0.26	.91	.64	0.22*	0.26*	1	
4. Service Recovery Performance	3.77	0.42	.82	.54	0.46**	0.31*	0.11	1

** p< 0.01; ** p < 0.001*

We also computed the inter-class correlation coefficient (ICC) due to the fact that supervisors evaluated service helping behaviors and service recovery performance of more than one subordinates. There was no systematic difference in supervisors’ ratings ($F = 1.93$, $p > .10$; ICC (1) = 0.061). All standardized factor loadings in the CFA for the four-factor measurement model were over 0.50 and were significant (with all t values at $p <.01$ level; Hair et al., 2010), demonstrating convergent validity. In total, these results lend support for the construct validity of the measures.

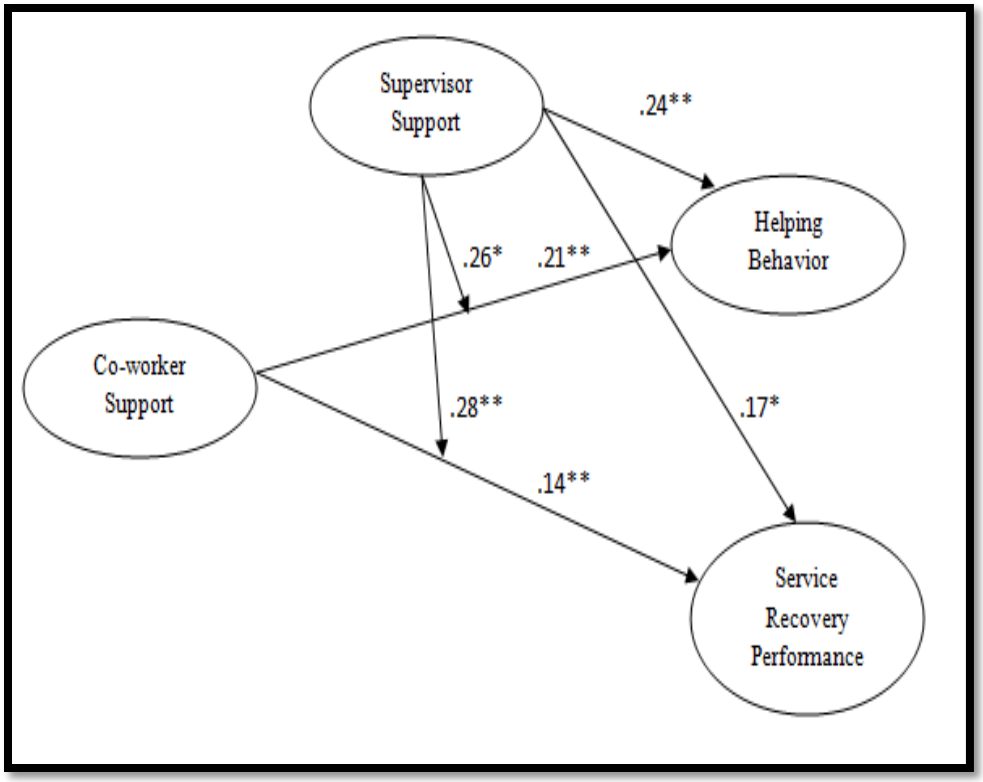
The standardized path coefficients of the proposed model were tested through structural equation modeling. A structural model was estimated with one key exception; the raw scale scores were mean-centered (i.e., transformed in z-scores) prior to creating the multiplicative terms. This procedure was followed to account for potential problems associated with multicollinearity. The specification of the full model, which included both interaction terms, had a perfect fit because the model had zero degrees of freedom.

Table 2: Standardized Path Coefficient Estimates for the Proposed Model

Relationship	Completely Standardized Coefficient	t-Value
H_1a: Supervisor support → Helping behavior	.24**	3.18
H_1b: Supervisor support → Service recovery performance	.17*	2.74
H_2a: Coworker support → Helping behavior	.21**	2.97
H_2b: Supervisor support → Service recovery performance	.14**	2.68
H_3a: Supervisor support X Coworker support X Helping behavior	.26*	3.26
H_3b: Supervisor support X Coworker support X Service recovery performance	.28**	3.55

* p< 0.01; ** p < 0.001

Similar to the correlation results, significant path coefficients were found between supervisor support for error management and helping behaviors (β=0.24, t = 3.18, p < .001) and service recovery performance (β=0.17, t = 2.74, p < .01). These results lend further support for Hypothesis 1. However, similar to the correlation results, the path coefficients between coworker support for error management and helping behaviors (β=0.21, t = 2.97, p < .001) and service recovery performance (β=0.14, t = 2.68, p < .001) were significant, supporting Hypothesis 2. And finally, as shown in Table 2, the interaction between supervisor support and coworker support for error management was statistically significant on both helping behaviors (β=0.26, t = 3.26, p < .01) and service recovery performance (β=0.28, t = 3.55, p < .001), supporting Hypothesis 3. The results of path coefficients are shown in Figure 1.



**p<0.05; **p<0.01*

Figure 1: Path Coefficients

Figures 2 and 3 present a graphical depiction of the interaction effects for helping behaviors and service recovery performance, respectively. The findings demonstrate that when coworker support is low, the effect of supervisor support for error management on helping behaviors decreases. However, when coworker support is high, the effect of supervisor support for error management on helping behaviors increases. Interestingly, when coworker support was high, and supervisor support was high, service recovery performance was markedly higher. In case of service recovery performance, when coworker support was low, increased supervisor support had a marginal effect on service recovery performance. However, when coworker support for error management was high, low supervisor support for error management had a substantively negative impact on service recovery performance; that is, low supervisor support had the most negative impact among those who perceived high levels of coworker support. But when coworker support was high, high supervisor support noticeably enhanced service recovery performance. Thus, these findings demonstrate that level of supervisor support appears to moderate the relationship between coworker support and focal dependent variables.

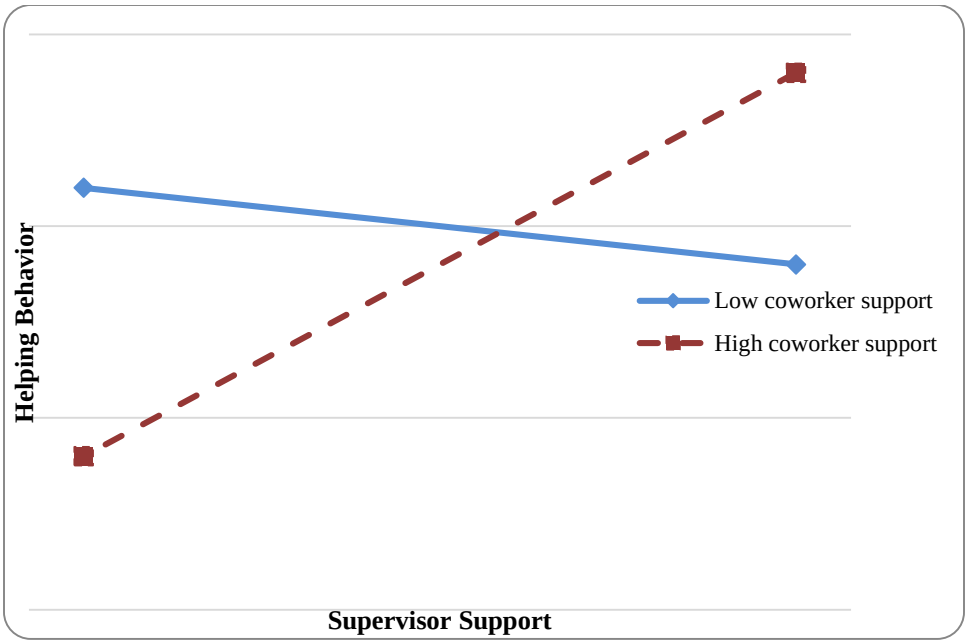


Figure 2: Supervisor Support X Coworker Support Interaction as Related to Helping Behaviors

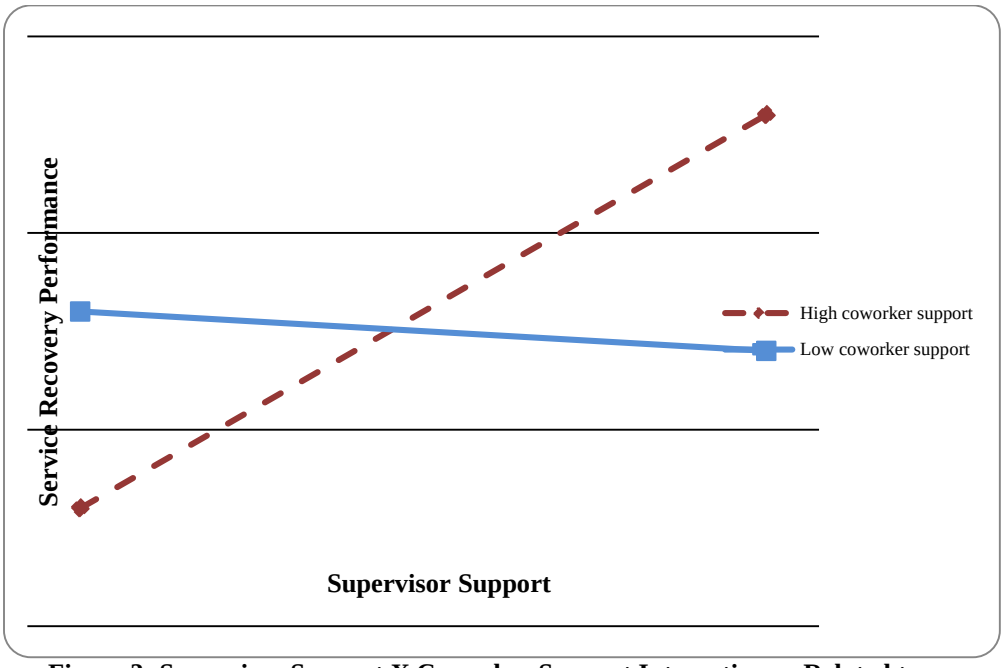


Figure 3: Supervisor Support X Coworker Support Interaction as Related to Service Recovery Performance

5. Discussion

The primary objective of this study was to extend the emerging research on error management and examine the nature and impact of perceptions among front-line service employees regarding support for their service recovery efforts and service-specific helping behaviors. The results advance our understanding about the error management process in two important and complementary ways. First, our results provide more details and concrete insights regarding the types of work-related factors that may be most salient to front-line call center employees in their error management efforts. Although Karatepe (2012) demonstrated that general perceptions about organizational support were significantly linked to service recovery performance, the utility of generic constructs such as perceived organizational support to explain the focal relationships is somewhat limited (Susskind et al., 2003).

This study found that the combination of both supervisor as well as coworker support plays an important role in enhancing service recovery performance and helping behaviors. Specifically, the results show that when employees perceived greater level of support from the supervisors and coworkers, they became better in improving the existing system of service recovery processes. We also found that when coworkers and supervisors support an individual, the helping behaviors (such as identifying service errors, encouraging those who commit service failures to take them easy, and proposing solutions to improve the system so that such errors do not happen in future), would also increase.

The second way in which the findings from the current study contribute to the extant literature stems from our examination of the interaction effects. As we reported above, the interaction between supervisor support and coworker support for error management was statistically significant for both dependent variables. Specifically, we found that when coworker support was low, increasing levels of supervisor support for error management had no noticeable effect on helping behaviors or service recovery performance. However, when coworker support was average or high, then low supervisor support had an increasing negative impact (i.e., lower for those who perceived high coworker support vs. average coworker support). In contrast, when coworker support was average or high, higher supervisor support had an increasingly positive impact (i.e., higher for those who perceived high coworker support vs. average coworker support). Thus, it appears that the effects of coworker support may be amplified – positively and negatively – by supervisor support. However, it also appears that a minimum level of coworker support is needed for promoting acceptable levels of error management performance. These findings suggests that there may be boundary conditions under which these two types of support may generate positive or negative effects on the error management process.

6. Theoretical Implications

The theoretical implications of our results are evident on two levels. On a more general level, it is apparent that models of the error management process must clearly account for the influence of front-line employees, particularly the drivers or antecedents of service performance (including, but not limited to, service recovery and helping behaviors), as well as the immediate outcomes of their error management and related efforts. This type of integration can offer a much more comprehensive, business-level explanation about

the ways in which error management fits within and enhances the broader service exchange process. This study has addressed the call of Oentoro et al. (2016) model who found that personality traits moderated the relationship between supervisor support and helping behaviors and they further suggested that other potential variables should be incorporated to enhance our understanding of the positive effects of error management processes.

On an individual and psycho-social level, error management explanations must not only acknowledge the impact that individual differences among front-line service staff may have on their error management performance (e.g., Casey & Krauss, 2013; Karatepe, 2006), but consideration should also be given to the influences that come from those who work directly with front-line staff. . The findings of this study were consistent with Paşamehmetoğlu et al. (2017) study findings and in a sense their model has been extended by incorporating the effect of perceived supervisor support in health care service delivery process. Integrating the research findings from studies that have utilized these interpretational frameworks offer several opportunities to further explain how with a supportive culture characterized by coworkers as well as supervisor encouragement may lead to service recovery and continuous service improvement, and the subsequent impact of these attitudes and behaviors on customer and related outcomes.

7. Practical Implications

The results from our study also have several practical implications. Findings highlight the need to account for employee perceptions about support for error management. Even if rigorous efforts are taken to hire front-line staff who are knowledgeable and experienced in effective error management practices, managers should take purposeful actions to ensure that employees understand their roles and responsibilities and the ways in which their efforts will be supported to reduce the magnitude and frequency of service-related errors. As such, both formal (e.g., employee opinion surveys) and informal (e.g., one-on-one meetings) data collection efforts can be taken to gather input regarding employee perceptions about support for error management.

Error management responsibilities should also be clearly specified in all job descriptions, and formal assessments of knowledge, skills, and behaviors that are associated with effective service recovery performance, helping behaviors, and related performance requirements should be incorporated into the recruitment and hiring process. Furthermore, effective error management behaviors should be integrated into performance evaluation protocol to promote accountability, and when gaps in support are found, formal or informal training programs may be designed and implemented to help individuals – particularly supervisors – develop skills and abilities that are required for effect error management.

Specifically, in context of mobile network operators, the diversity in nature of services requested by customers makes errors to occur more frequently than other service organizations. As such, frontline employees would start reporting errors regularly if they feel supervisors as well as coworkers' support while sharing mistakes. Generally, employees are afraid to speak about errors in organizations if the level of understanding and support is lacking. By giving confidence to the employees that whatever they report would not be taken personally against their careers rather dissemination of such errors,

mistakes, and incidents would contribute to the overall performance may motivate employees to improve service quality.

The management should understand the fact that in order to create an organizational culture where employees learn from each other's' mistakes and continuously think of improving ways to deliver superior services to customers, the organizations have to promote coworkers and supervisor support simultaneously. Coworker support can be enhanced by establishing socialization strategies such as frequent informal meetings, get together, annual dinners, and many such interaction opportunities that can help employees to better understand each other and hence a culture of trust can be promoted. In the same vein, to promote supervisor support, organizations have to train managers and leaders to establish strong bond of trust with their followers so that they do not feel fearful while reporting error situations.

8. Limitations and Future Research

As with any field study, there are a few limitations that should be acknowledged and provide direction for future research. First, data was collected from a single organization and hence cannot be generalized. In order to further confirm these findings and increase the generalizability, the future research should examine these relationships across other industries. Second, while the data for the independent and dependent variables were gathered from different sources, the cross-sectional design limits the extent to which we can make inferences about causality. As such, longitudinal studies would be quite useful for testing the causal assumptions. We should also emphasize that because the sample was reasonably homogenous, a number of individual differences that may moderate the focal relationships were not examined in the current study. Thus, future studies should account for the effects of age, gender, ethnicity, nationality, and related individual factors. And lastly, future research is needed to examine the mechanisms that explain how employee perceptions of supervisor and coworker support for error management may influence helping behaviors and service recovery performance. Although the current study clearly extends the limited number of studies that have examined the roles and impact of front-line employees in the error management process (Karatepe, 2006, 2012), as we noted above, integration of relevant strategic- and individual-level frameworks will provide a constructive approach for extending current conceptualizations and provide a more comprehensive explanation of the error management process.

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