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Exploring Organizational Resilience Asset and Its Antecedents for Effective Internal Crisis Communication

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EXPLORING ORGANIZATIONAL RESILIENCE ASSET AND ITS
ANTECEDENTS FOR EFFECTIVE INTERNAL CRISIS COMMUNICATION

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
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ABSTRACT

Nowadays crises are omnipresent with daily news headlines as reminders. The public continues to see or experience many different crises that affect numerous individuals and organizations as well as society in general. Against this backdrop, corporate communication professionals, for effective crisis management, are expected to help the organizations and their leaders make decisions, as well as communicate clearly when crises arise.

Considering a fast changing media environment, recent scholars have called for new approaches to crisis communication to enhance theoretical developments. They suggested that researchers should take a broader context beyond the dominant crisis communication research perspectives based on the symbolic approach, which focuses on image or reputation management through strategic messages. In response to their clarion call for new crisis communication theory development, some researchers suggested resilient-oriented crisis communication, adopting the resilience concept (e.g., capacity to bounce back) and highlighting its role in the crisis communication, management and rebuilding processes. Nevertheless, there is ample room for further research to improve their efforts because there remains a lack of empirical evidence.

Therefore, the purpose of this study was to explore effective internal crisis communication within the strategic management perspective, considering organizational resilience. By doings so, the study attempted to not only fill the research gaps regarding internal crisis communication but also respond to the calls for a new direction of theoretical development beyond symbolic approach. Considering the resilience concept,

the results in this study provide meaningful insight into how organizational resilience can be measured by employees' confidence and communicative actions for sensemaking and sensegiving, conceptualized as employee generated organizational resilience (EGORA).

In addition, the results of the current study highlighted how internal communication factors such as two-way symmetrical communication and transparent communication can be used strategically to communicate with employees for the organization resilience. The results also revealed the important mediating role of between the resilience and its antecedents, demonstrating that organization-employee relationships (OER) is a strong underlying factor in constructing why strategic internal communication and leadership can exert an impact on organizational resilience.

CHAPTER 1
INTRODUCTION

Nowadays crises[1] are omnipresent with daily news headlines as reminders (Lerbinger, 2012; Van Zoonen & Van der Meer, 2015). The public continues to see or experience many different crises that affect numerous individuals and organizations as well as society in general (Ulmer, Sellnow, & Seeger, 2015). In 2015, more than 212,000 crisis news stories were published, covering a wide range of crises such as data breaches at large retailers, automakers' recalls, government settlements related to the mortgage crisis of large banks, and domestic violence and hacking in the entertainment industry (ICM annual crisis report, 2016). In other words, the crises have become more numerous, visible, and calamitous than ever before (Lerbinger, 2012). The prevalence also indicates that no organization is immune to crises (Coombs, 2007b). As organizations become more complex and globalized, they are increasingly likely to encounter a multitude of crises that threaten organizations and their members (Lerbinger, 2012; Powley, 2009).

In practice, more than 70% of chief communication officers (CCOs) working for large organizations globally have gone through crises that threatened their organizations' reputations (The Rising CCO IV, 2013). Crises are an inescapable reality to organizations, but most are unpredictable occurrences with potentially negative outcomes, affecting the organizations as well as their publics (Coombs, 2012; Fearn-Banks, 2011; Fink, 1986). Such prevalence of crises has led to the need for and the growth in crisis management in the public relations practice (Coombs,

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[1] The term crisis means organizational crisis differentiating it from similar concepts, including disasters and emergencies. Although there is some overlap among concepts and characteristics of emergencies, (natural) disasters, and organizational crises, a distinction is needed for clarification of organizational crises as scholars (e.g., Coombs, 2015; Ulmer et al., 2015) suggested. Disasters, as social disruptions, are "large in scale and require response from multiple governmental units" (Coombs, 2015, p. 3), but there is no a single definition accepted (Perry & Quarantelli, 2005). Emergencies are small-scale crises that are "more contained and controlled than crises and disasters" (Ulmer et al., 2015, p. 9).

2015). Not surprisingly, 65% of global CCOs reported in an annual survey that crisis management experience is today's prerequisite for success, considered nearly twice as important in 2012 as it was in 2007 (33%) (The Rising CCO IV, 2013).

For effective crisis management, corporate communication professionals are expected to help the organizations and their leaders make decisions, as well as communicate clearly when crises arise (Doorley & Garcia, 2015). Thus, crisis communication is critical through the entire management process because the information needs to be "collected, processed into knowledge, and shared with others" (Coombs, 2012, p. 25). If organizations communicate poorly in the wake of crises, they are more likely to go through worse situations, thereby resulting in tangible (e.g., financial harm) and intangible (e.g., reputation damage) losses (Claeys & Cauberghe, 2015; Coombs, 2006, 2007c; Coombs & Schmidt, 2000; Doorley & Garcia, 2015).

In context of internal communication, the function and role of crisis communication become more important. Crisis produces negative consequences for employees such as uncertainty, low commitment, and dissatisfaction with communication (Seeger, Ulmer, & Sellnow, 2005; Vinten & Lane, 2002). Impact of the crisis can be exacerbated due to poor communications with internal publics (i.e., employees) because employees in crisis situations can frequently communicate internally and externally by interacting with other employees as well as external publics, including colleagues, families, friends, and media people (Frandsen & Johansen, 2010; Goodman & Hirsch, 2010). However, the internal aspect of crisis communication has been undervalued, and the need for its research has been recently growing (Frandsen & Johansen, 2011; Talyor, 2012). The background lent impetus to this study.

Statement of the Problem

In the extant literature, scholars have placed their efforts to find the most effective crisis communication by exploring a variety of crises, including political crises in the government (e.g. Kersten & Sidky, 2005), product recalls (e.g., Berger, 1999; Piotrowski & Guyette, 2010), food poisoning incidents (e.g., Kim, Kim, & Cameron, 2012; Wrigley, Ota, & Kikuchi, 2006), airlines crashes (e.g., Lee, 2004, 2005), racial conflicts (e.g., Coombs & Schmidt, 2000), an oil spill (e.g., Choi, 2011; Harlow, Brantley, & Harlow, 2011), and University scandals related to sex and alcohol (e.g., Park & Reber, 2011) (An & Cheng, 2012; Fediuk, Coombs, & Botero, 2012). Thus, many researchers have shed light on "how organizational messages can be used to repair and / or prevent the negative effects to organizations that result from crises" through the prolific developments theoretically and pragmatically (Avery, Lariscy, Kim, & Hocke, 2010; Fediuk et al., 2012, p. 635; Kim, Avery, Lariscy, 2011). Their studies have resonated with practitioners and crisis managers who are tasked with handling and solving crises to fend off the need for reputation management or image repair (Heide & Simonsson, 2014; Kim et al., 2011).

Considering a fast changing media environment, however, recent scholars have called for new approaches to crisis communication to enhance theoretical developments (Liu & Fraustino, 2014; Paquette, 2015). They suggested that researchers should take a broader context beyond the dominant crisis communication research perspectives based on the symbolic approach, which focuses on image or reputation management through strategic messages (Heath, 2012; Liu & Fraustino, 2014; Olsson, 2014; Paquette, 2015). In response to their clarion call for new crisis communication theory development, some researchers suggested resilient-oriented crisis communication, adopting the resilience concept (e.g., capacity to bounce back) and highlighting its role in the crisis communication, management and rebuilding processes (Olsson, 2014

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Paquette, 2015; Ulmer, 2001). Nevertheless, there is ample room for further research to improve

their efforts because there remains a lack of empirical evidence (Boin & Van Eeten, 2013).

To date, some researchers in the crisis communication and management literature have

explored the applicability of the resilience concept and suggested resilience-oriented crisis

communication (Fleming, 2012; Guenthner, 2012; Olsson, 2014; Tidball, Krasny, Svendsen,

Campbell, & Helphand, 2010; Veil, Sellnow, & Heald, 2011). However, they heavily rely on

their case studies such as September 11, 2011 (9/11), Hurricanes Katrina and Rita, and the

Oklahoma City bombing (e.g., Guenthner, 2012; Veil et al., 2011). Despite a holistic perspective

and depth of the results, case studies are descriptive and explanatory and caution should be

exercised when generalizing (Berg & Robb, 1992; Boin & Van Eeten, 2013; Hobbs, 1995;

Wimmer & Dominick, 2006). Moreover, the studies are still based on rhetorical strategies (e.g.,

discourse renewal theory), which focus on one sender or one actor and only interested in verbal

messages (i.e., symbolic perspective) (Frandsen & Johansen, 2012). Some researchers point out

that such rhetorical strategies based on discourse of renewal theory are limited to studies about

single crises in the specific contexts that fit with the ability to engage in renewal (Austin, Liu, &

Jin, 2014; Coombs, 2012; Liu & Pompper, 2012; Seeger & Padgett, 2010). Furthermore, the

rhetorical case studies provide little evidence-based guidance supported by scientific empirical

research for organizations in a crisis (Coombs, 2007a; Rousseau, 2005). Therefore, the extant

research leaves room for additional work to fill a dearth of new theoretical development in crisis

communication.

Moreover, to date, the scholars predominantly have relied on the symbolic perspective to

demonstrate how communication can be used as a symbolic resource in attempts to protect the

organization's image (An & Cheng, 2012; Avery et al., 2010; Fediuk et al., 2012; Paquette,

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2015; Ravazzani, 2016). The symbolic perspective in crisis communication, that utilizes "a variety of rhetorical, impression management, and account-giving concepts," aims to sustain and restore image as well as preserve an organization's reputation through strategic messages (Allen & Caillouet, 1994; Benoit, 1995; Coombs, 1998, 177; Frandseon & Johansen, 2012; Olsson, 2014). Thus, the researchers in the symbolic perspective believe that messages, publicity, media relations, and media effects "create an impression in the minds of publics" (i.e., impression management) which can allow the organization to buffer itself from its environment (Allen & Caillouet, 1994; Grunig, 2011, p. 13; Kim & Ni, 2010; Scott, 1987a; van den Bosch & van Riel, 1998). As the dominant stream in the literature, crisis communication theories based on the symbolic perspectives, including Coombs's (2007b) situational crisis communication theory and Benoit's (1997) image repair theory, have made contributions to important findings and improving crisis communication (Avery et al., 2010; Frandseon & Johansen, 2012; Liu, Austin, & Jin, 2011; Paquette, 2015).

Despite prolific contributions in the practice and research, recent scholars have pointed out the limitations of the symbolic perspective such as focusing on "blame avoidance strategies" and assuming "universal impact with multiple publics" which could benefit from further development (Frandseon & Johansen, 2012; Health, 2012, p. 7; Olsson, 2014, p. 113; Waymer & Heath, 2007). To move the study of crisis communication forward, the scholars have called for elaboration on new approaches to understand crisis communication in a broader context beyond the image or reputation management perspectives (Heath, 2012; Liu & Fraustino, 2014; Olsson, 2014; Paquette, 2015).

Relatedly, the scholars suggest changes to the focal point of current research to internal crisis communication because crisis communication is characterized by multiple voices from

external (e.g., customers and investors) as well as internal publics (e.g., corporate managers and employees) (Mazzei, Kim, & Dell'Oro, 2012; McDonald, Sparks, & Glendon, 2010; Strandberg & Vigsø, 2016; Taylor, 2012; Van Zoonen & Van der Meer, 2015). Previous research, however, has primarily examined the external dimension that uses crisis response strategies to protect or restore organizational image and reputation among external publics (Coombs, 2012; Frandsen & Johansen, 2012; Mazzei & Ravazzani, 2014; Ravazzani, 2016). This research gave rise to treating publics as "a monolithic entity," not considering different categories of publics (e.g., internal or external), and led to the remarkable neglect of the internal aspect of crisis communication and management (Heide & Simonsson, 2014; Frandsen & Johansen, 2011, p. 358; Mazzei et al., 2012). For this reason, the current crisis communication research scarcely provides meaningful insight into how internal publics interpret, communicate, and react to organizational crises inside an organization (Frandsen & Johansen, 2011; Johansen et al., 2012).

There has been an increased interest in the internal crisis communication (e.g., Gilpin & Murphy, 2008; Johansen, Aggerholm, & Frandsen, 2012; Frandsen & Johansen, 2011; Mazzei, 2010; Pincus & Acharya, 1988; Ravazzani, 2016). However, the internal crisis communication considering various organizational contexts (e.g., leadership and resilience) remains unexplored, and more research has been called for (Heide & Simonsson, 2014; Taylor, 2012).

For this reason, this study takes the strategic management paradigm from public relations literature in a response to the researchers' clarion call for a new paradigm or approach beyond the symbolic perspective. The strategic management approach allows public relations to "provide organizations with a way to give voice to and empower publics in organizational decision-making" (Grunig, 1992, 2011, p. 15). The approach focuses on the role of communication more as dialogue and interaction than messaging in the public relations literature (Kim & Ni, 2010).

The purpose of strategic management is to bridge the gap between organizations and publics by emphasizing the participation of public relations executives in strategic decision-making, thereby helping manage the behaviors of organizations (Grunig, 2009, 2011). In particular, the strategic management focuses on the function of public relations designed to building relationship with stakeholders and publics through interactive and proactive communication (i.e., two-way communication) with balancing efforts for distinctive interests (i.e., symmetrical communication management) (Grunig, 2009; Ni & Kim, 2010). In turn, the public relations practitioners can provide management decisions with valuable information collected from stakeholders and publics, as well as facilitate dialogue between the management and its stakeholders and publics both before and after decisions are made (Grunig, 2009; Grunig & Hung, 2002; Kim & Ni, 2010; Scott, 1987a, b; Van de Bosch & van Riel, 1998). Hence, strategic management can play a critical role in bridging the organization from its environment rather than buffering. Further, the organization can make more responsible decisions and choose better organizational behaviors, thereby enhancing the quality of relationships with stakeholders and publics (Grunig, 2011; Kim et al., 2013; Kim & Ni, 2010). Thus, taking the strategic management perspective from public relations reflects the scholars' calls for new crisis communication theory development.

In this regard, this study contends that the new theoretical framework should be based on a behavioral or strategic management perspective, applying resilience to crisis management beyond the symbolic perspective (Grunig, 2011; Kim & Ni, 2010; Liu & Fraustino, 2014). In terms of strategic management, the scholars who have called for the new crisis communication theory development increasingly suggest the adoption of resilience and highlight its role in crisis communication and management (Health, 2004; Olsson, 2014; Paquette, 2015; Ulmer, 2012).

Resilience is conceptualized in a number of ways from a vast amount of literature but most often defined as "a capacity for successful adaption in the face of disturbance, stress, or adversity" (Norris et al., 2008, p. 129). In the crisis management literature, Norris and colleagues (2008) provided a comprehensive definition based on general consensus across diverse definitions as "a process linking a set of adaptive capacities to a positive trajectory of function and adaptation after a disturbance" (p. 130). Thus, crisis management scholars emphasize resilience as positive, long-term social processes for coping after the crisis, rather than underlying causes and processes that might help prevent potential crises (Pauchant & Mitroff, 1990; Powley, 2009; Rosenthal, Charles, & Hart, 1989; Shrivastva, 1987; Tidball, Krasny, Svendsen, Campbell, & Helphand, 2010).

The positive process perspective of resilience led recent crisis communication researchers to put more efforts into the role of communication to improve resilience by "supporting people and communities in the crisis management process as well as in the rebuilding and recovery process" (Buzzanell, 2010; Chamlee-Wright & Storr, 2011; Olsson, 2014, p. 117; Ulmer, Seeger, & Sellnow, 2007; Ulmer et al., 2015). Since their studies are, nonetheless, limited to certain public crisis situations such as 9/11, Hurricane Katrina, and other natural disasters, applying the perspectives to a wide range of crises of private corporations has been needed (Fleming, 2012; Guenthner, 2012; Olsson, 2014). More importantly, empirical evidence of resilience in crisis communication and management is scant because much of the literature is prescriptive and normative (Boin & Van Eeten, 2013). Due to reliance on case studies, the extant research also has inherent limitations, rarely illuminating "generalizable and parsimonious rules that explain and predict situations to advance the field" (An & Cheng, 2012, p. 81). Thus, the resilience

literature in crisis communication and management hardly explains how resilience can be built into an organization and its member (i.e., employees) (Boin & Van Eeten, 2013; Ducheck, 2014).

Therefore, the aforementioned two research gaps are the primary rationale for this study in response to the researchers' clarion call for new theoretical frameworks in crisis communication. The first gap stems from current crisis communication research based on the symbolic perspective in the external context, stressing image or reputation management with external publics and ignoring different types of publics – i.e., employees, (Frandseon & Johansen, 2012; Health, 2012; Liu & Fraustino, 2014; Olsson, 2014; Taylor, 2012). The other gap comes from a dearth of empirical resilience research in the crisis communication literature (Boin & Van Eeten, 2013; Ducheck, 2014).

The research gaps leads to the need to examine organizational resilience and its antecedent factors in context of internal crisis communication, not external dimension. To explore effective the internal crisis communication, specifically, this study takes strategic management perspective that emphasizes employees as one of the most important constituencies.

Purpose of the Study

The purpose of this study is to explore effective internal crisis communication within the strategic management perspective, considering organizational resilience. To fill the research gaps and heed the call for a new direction, this study will provide empirical evidence of the need for internal crisis communication through managerial efforts to better understand the dynamic nature of crisis (Taylor, 2012).

To fill the research dearth, this study will examine the resilience concept, especially the crisis management process (e.g., by facilitating coordination, information sharing, and collective sense making) (Olsson, 2014; Ulmer et al., 2007). In doing so, the current study will

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operationally define resilience in terms of employees' perceived ability (i.e., competence) and

belief (i.e., efficacy) and their communicative actions (i.e., sensemaking and sensegiving

actions), considering crisis communication as strategic management based on more dialogue and

interaction than messaging (Grunig, 2009. 2011; Grunig & Repper, 1992; Kim & Ni, 2010).

Since the strategic management plays an important role in bridging the gap between

organizations and publics (Scott, 1987a; Van den Bosch & Van Riel, 1998), it will be in line with

as well as substantiate a resilience-generating theoretical framework in the crisis management

process (Liu & Fraustino, 2014; Olsson, 2014).

By taking the strategic management approach, the current study demonstrates the

importance of internal crisis communication that emphasizes employees' resilient characteristics

as an organizational resilience asset. The literature indicates the resilience in organizational

settings is engendered when individuals have a sense of efficacy and competence (i.e., capacity

for recovery) (Garmezy, 1991; Sutcliff & Vogus, 2003). Also, the resilience can be explained or

enhanced by individuals' active communicative behaviors (e.g., facilitating the ability to quickly

process feedback, flexibly rearrange, and transfer knowledge and resources), strengthening or

reinforcing feeling of positive competence and self-image (i.e., self-efficacy) (Olsson, 2014;

Wieck, Sutcliffe, & Ostfeld, 2005). That is, resilience is an outcome of the self-reinforcing

nature of the cycle (Sutcliff & Vogus, 2003). Since the resilient characteristics and resilience

outcomes remain as conceptual propositions, this study will test the factors empirically in a

resilience variable and then substantiate how antecedents (i.e., leadership and internal

communication) can be positively associated with the resilience in terms of strategic

management.

Public relations programs build stable, open, and trusting relationships with strategic

constituencies in order to achieve organizational effectiveness (Grunig, 2011; Grunig et al.,

1992). As internal publics, employees are one of the most strategic constituencies of the publics

(Jo & Shim, 2005; Grunig, 1997, 2009, 2011; Grunig & Repper, 1992; Kim & Grunig, 2011;

Kim & Ni, 2010). In a crisis situation, employees play a critical role (Mazzei et al., 2012; Mazzei

& Ravazzani, 2014). However, employees are often excluded from target publics, and their roles

are underestimated in the extant crisis communication research (Frandsen & Johansen, 2011;

Heide & Simonsson, 2014; Strandberg & Vigsø, 2016). Employees have a contractual

relationship with their organization (company) that influences how they behave and what they

are allowed to do during a crisis (Mazzei et al., 2012). Based on the contractual relationship,

employees often constitute an integrated part of the personal identity and, in turn, feel the

immediate sense of obligation to defend the organization from outside attacks (Ashforth & Mael,

1989; Pratt, 1998). That is, employees can be some of the most effective advocates of a

company's reputation and its communication strategies (Mazzei et al., 2012; Strandberg &

Vigsø, 2016).

Employees' negative communication reactions can also affect their company reputation

negatively via media or word-of-mouth that flow through informal networks (Kim & Rhee,

2011). Specifically, employees not only talk about their negative feelings and attitudes toward a

crisis their organization is facing with their colleagues, families, and friends, but some also give

interviews or statements to the press in the times of crisis (Frandsen & Johansen, 2011).

Employees can also choose to express their own opinion through social media (Mazzei et al.,

2012; Mazzei & Ravazzani, 2011; Strandberg & Visgø, 2016). Thus, employees can act as the

most believable "negative and positive ambassadors" for their organization in a crisis situation

(Fearn-Banks, 2007; Frandsen & Johansen, 2011, p. 353; Johansen et al., 2012). As information receivers and senders, therefore, employees and their communicative behaviors become more important internally and externally in times of crisis (Mazzei & Ravazzani, 2014).

As an effort to treat internal publics (i.e., employees) more strategically, the employee communication behaviors (ECB) are conceptualized by megaphoning (i.e., positive external communication behaviors), scouting (i.e., positive internal communication behaviors), and microboundary spanning (i.e., an integration of megaphoning and scouting) in the domains of information acquisition (processing) and transmission (Kim & Rhee, 2011; Mazzei et al., 2012; Park, Kim, & Krishna, 2014). This study will use the concepts of ECB in public relations, especially microboundary spanning as employees' voluntary communicative efforts (i.e., active information acquisition and transmission internally and externally), to investigate employees' communicative actions facilitating resilience in crisis situations. This study then redefines ECB as more resilient communicative actions named sensemaking (i.e., information seeking) and sensegiving communicative (i.e., information forwarding) actions. In addition to two communicative actions, this study explores employees' cognitive beliefs in their capabilities employees' competence and self-efficacy, increasing the likelihood of resilience. This study then proposes a new framework of organization resilience asset named employee generated organization resilience asset (EGORA) that reflects employees' competence and self-efficacy sensemaking and sensegiving communicative actions.

The concept of resilience in this study will be delimited to organizational resilience based on constituencies' (employees') characteristics. Organizational resilience involves collective awareness and learning as well as change of organizational structure in response to change in environment (Appelbaum & Gallagher, 2000; Pal, Torstensson, & Mattila, 2014). Also,

organizational resilience refers to "the power of organizational units to resume, rebound, and bounce back, or positively adjust to untoward events" (Powley, 2009, p. 1292). Organizational resilience helps an organization "spring back" from unexpected crisis to go on the organization's "pilgrimage to the desired state articulated in its mission statement and strategic goal" (Fleming, 2012, p. 33). In this regard, this study will focus on the organization resilience asset through a new framework called "employee generated organization resilience asset (EGORA)" because the organization asset in this study will be assessed by measuring individuals' resilience characteristics. In addition, this study will propose and a theoretical model based on the new framework (i.e., *EGORA*) to encompass the measurable resilience asset and its antecedents, providing the empirical evidence of how organizational resilience can be fostered for effective internal crisis communication.

In sum, this study 1) makes an attempt to develop a reliable and valid measure of the organizational resilience concept and 2) proposes and tests a conceptual model emphasizing antecedents of the organizational resilience asset in the context of internal crisis communication. To suggest a reliable and valid measure of the organizational resilience concept, this study proposes the new framework, *EGORA* encompassing self-efficacy, employee competence, and sensemaking and sensegiving communicative actions. The study then proposes a conceptual model examining the antecedents of resilience such as leadership and internal communication factors in the internal crisis communication arena. By doing so, this study will demonstrate applicability of resilience to effective crisis communication by providing empirical evidence of how the organizational resilience can be fostered within the behavioral and strategic management perspective (e.g., focusing on interaction and dialogue). The empirical evidence will make a step

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in the right direction for effective crisis communication, meeting the need for new theoretical

development beyond a symbolic perspective (e.g., relying on message strategies).

Significance of the Study

This study will benefit both crisis communication practice and research through the

following implications.

First, this study can contribute to a theoretical body of knowledge in crisis

communication to better understand effective crisis communication in terms of strategic

management. By taking the strategic management perspective beyond the symbolic one in crisis

communication, the results of this study will show the need for new theoretical development in

crisis communication research (Grunig, 2009, 2011; Kim & Ni, 2010). The current theoretical

efforts based on the symbolic perspective (e.g., SCCT and image restoration theory) have not

provided managerial strategies which can help understand "why and how" crisis occur. The

previous studies dominantly have focused on "post hoc nature of crisis response" (Taylor, 2012,

p. 698). To date, there has been scant effort to investigate how management communicates with

strategic publics (i.e., strategic management) even though many crisis cases focus on manmade

crises such as poor decision making or management-created crises rather than natural disasters or

accidents (e.g., product recall, organizational scandals, and bankruptcies) (Grunig, 2011; Taylor,

2012).

By examining the resilience concept in crisis situations, especially proposing a theoretical

model which consists of antecedents of organizational resilience asset, this study attempts to

provide a theoretical framework for the right answers for the why and how questions. Through

the theoretical model, this study indicates how internal publics (e.g., employees) and

organizations can deal with an issue before it evolves into a full-blown crisis (i.e., high

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resilience) (Grunig, 2011; Grunig & Repper, 1992). In terms of strategic management, marginal

positive adjustments under challenging conditions (i.e., low resilience) are likely to develop into

a crisis as the issues not handled well spiral out of control (French & Holden, 2012; Grunig &

Repper, 1992; Kim & Ni, 2010). By enhancing and fostering the organizational resilience asset

through managing the resilience antecedent variables such as authentic leadership, transparent

communication, and two-way symmetrical communication, crisis communication managers can

perhaps prevent a crisis, as well as cope with it better.

Also, specifying the resilient process in crisis situations will result in some managerial

implications in the practice. The uncertainty and ambiguity caused by a crisis results in multiple

interpretations from internal publics (e.g., employees) in an organization (Ulmer et al., 2007),

specifically, the missing link between what crisis managers or communicators intended to

communicate and what employees actually perceived (Mazzei & Ravazzani, 2011; Strandberg &

Vigsø, 2016). Since employees' communication behaviors, i.e., boundary spanning, can cause

effects internally and externally through various kinds of social networks, the misinterpretation

of organizational messages can make a crisis worse and endanger the organization (Mazzei &

Ravazzani, 2011; Tushman & Scanlan, 1981). Crisis managers or public relations practitioners

can prevent not only employees from practicing negative communicative behaviors based on

misinterpretation, but also an organization from being less resilient by strategically concentrating

on two-way symmetrical communication. In addition to public relations efforts in internal

communication, this study extended the literature to management and organizational theories to

find other internal communication factors (e.g., leadership factor) as antecedents of employees'

resilience in crisis communication (Men, 2014b). Consequently, the study empirically found that

the antecedents such as strategic internal communication (i.e., transparent and two-way

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symmetrical communication) and authentic leadership can facilitate organizational resilience, making possible a full recovery from the crisis.

More importantly, this study paves the theoretical foundation for the resilience concept. The current study develops and proposes the measurable concept assessing the organizational resilience asset, employee generated organizational resilience asset (EGORA), by considering four dimensions, including employees' change-specific self-efficacy, employees' competence, and sensemaking and sensegiving communicative actions, suggested by the literature. Since there is no measure to evaluate the organizational resilience asset, the measurable concept (i.e., *EGORA*) will be applicable for effective crisis communication. The extant current crisis communication research emphasizing resilience provides limited systematic guidelines for practitioners because the research has been conducted only in certain types of crisis, natural disaster, or at the community levels (e.g., Guenthner, 2012; Norris, Stevens, Pfefferbaum, Wyche, & Pfefferbaum, 2008; Olsson, 2014). The existing studies still remain a conceptual starting point for future research due to their findings based on reviews of literature or case studies rather than empirical evidence (e.g., Sutcliffe & Vogus, 2003; Powley, 2009). For this reason, through their studies, it is difficult to systematically identify and model the key variables and guide managerial decision-making facilitating organizational resilience in the practice. (Coombs, 2007c; Rousseau, 2005).

Thus, this study, as an effort for changing the focal point of effective crisis communication, will demonstrate the effectiveness of strategic management in terms of internal crisis communication by providing empirical evidence of the organizational resilience asset (Taylor, 2012). The researchers and practitioners will benefit from the findings that will show how the organizational resilience asset can be fostered through effective managerial efforts (i.e.,

authentic leadership) as well as strategic internal communication (i.e., transparent and two-way symmetrical). Such positive effects of strategic management have been tested to provide a theoretical foundation and practical applications for public relations for the past decades (e.g., Contingency Theory and Excellence Theory) (Kim & Ni, 2010; Pang, Jin, & Cameron, 2010).

Specifically, the attempt of the current study lies at the root of the International Association of Business Communications (IABC) excellence project based on a 20-year-long studies conducted from 1985 to 2002 (Grunig, 1992, 2015; Kim & Ni, 2010). The IABC project led to the Excellence Theory built on the role of public relations based on strategic management, spawning prolific research relevant to that theory and applied theories which help public relations practitioners make organizations more effective (e.g., Grunig, 1992; Grunig, 2011; Grunig et al., 2002; Kim & Ni, 2010). In this sense, this study will demonstrate the need and importance of internal communication approach in terms of the strategic management perspective and contribute to providing a new theoretical research stream in crisis communication that will be useful in practice.

Historical Overview: Symbolic Approach to Crisis Communication

Crisis and Crisis Communication

Crisis. The term crisis is extensively used in the practice and academia (Coombs, 2015; Miller & Horsely, 2009). Crisis originated from the Greek krisis, referring to "tensions that call for critical judgment, exercising critique, reflexivity, which would inform decisions reached and actions taken" (Antonacopoulou & Sheaffer, 2014, p. 8; Doorley & Garcia, 2015). Several decades ago, the concept of crisis for crisis communication and management research was initiated by the efforts to separate it from the usage of different disciplines, including anxiety, threat, and stress in psychology, panic in sociology and political science, and disaster in interdisciplinary area (Herman, 1963; Olsson, 2014).

Especially, Herman (1963), as the earliest scholar conceptualizing crisis, stressed the distinction and provided a working definition of crisis as a theoretical variable in the early 1960s. In his class study frequently cited in in the crisis communication and management literature (e.g., Olsson, 2014; Ulmer et al., 2015), Herman (1963) identified three characteristics; an organizational crisis "1) threatens high-priority values of the organization, 2) presents a restricted amount of time in which a response can be made, and 3) is unexpected or unanticipated by the organization" (p. 64). He also proposed that a crisis can be denoted with a specific meaning applicable to organization behavior because it led to "behavior which destructive to the organization and seriously limits its viability" (Herman, 1963, p. 62). Herman's (1963) theoretical foundation with three characteristics, surprise, threat, and short response time, inspired subsequent scholars to identify common characteristics of crisis (Antonacopoulou &

Sheaffer, 2014; Olsson, 2014). Specifically, crisis has been characterized by a low probability and high consequences of occurrence but a potentially significant impact on an organization and its most fundamental goals (Pearson & Clair, 1998; Weick, 1988) and a threat to institutional values, a short response time, and increased pressure by stakeholders for information (Fishman, 1999).

However, there is no a universally accepted definition of crisis in public relations, as well as other relevant disciplines such as management and organizational communication (Coombs, 2012, 2015; Ulmer et al., 2015). A crisis can be defined as a major, unpredictable event that may harm an organization and its stakeholders (Massey, 2001), a threat that can have a negative outcome or effect on an organization and its reputation (Barton, 2001; Doorley & Garcia, 2015; Fearn-Banks, 2012; Lerbinger, 2012; Pearson & Clair, 1998), and an unplanned event caused by a failure of communication management and calls for high-level strategic decisions (Davies, 2005; Grunig, 2011). The crisis can also be a dangerous moment or "turning point" in the organization's life for better or worse (Fink, 1986, p. 15; Regester, 1989, p. 38), "a time of ambiguity, uncertainty, and struggle to regain control" (Miller & Heath, 2004, p. 247), and a radical change for good as well as bad (Friedman, 2002).

More specifically, organizational crisis is a situation precipitated by people, organizational structures, economics, and/or technology that cause extensive damage and debilitate both the financial structure and the reputation of the organization (Mitroff, Shrivastava, & Udwadia, 1987). Thus, organizational crisis upsets and challenges organizations' basic assumptions and decision-making processes (Kovoor-Misra, Zammuto, & Mitroff, 2000; Pauchant & Douville, 1993; Weick, 1988), ultimately threatening organizational legitimacy and

seriously impacting an organization's performance (Anheier, 1999; Allen & Caillouet, 1994; Coombs, 2015).

Despite a lack of consensus of what is a crisis, a number of scholars and experts recently agrees that the definition should reflect "the perceptual nature of crisis" (Coombs, 2012, p 19)[2]. Highlighting the perceptual nature, Coombs (2007) offers a definition synthesizing various perspectives as "the perception of an unpredictable event that threatens important expectancies of stakeholders and can seriously impact an organization's performance and generate negative outcomes" (pp. 2-3). This definition has been prominently used and applied as a theoretical concept in crisis communication literature (e.g., Coombs, 2015; Choi & Chung, 2013; Claeys & Cauberghe, 2015; Coombs & Holladay, 2011; Kim & Lee, 2015; Van deer Zoonen & Van der Toni, 2015).

As such, perception is a key component of crisis and becomes more important than reality when studying crises (Benoit, 1997; Choi & Chung, 2013; Mazzei & Ravazzani, 2011). Crisis does not exist if the publics or stakeholders do not perceive it (Rosenthal, Boin, & Comfort, 2001). A crisis does exist when the public's confidence in an organization is threatened or publics believe an organization is in crisis, and publics will react to the organization as if it is in crisis (Myers & Holusha, 1986). Hence, publics' perception of a crisis is of critical concern for an organization, affecting responses and outcomes (Choi & Chung, 2013). By concentrating on the perceptual nature of crisis, the crisis communication research has developed the scientific approach (i.e., symbolic approach) (Coombs & Holladay, 2011).

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[2] At the 2005 National Communication Association (NCA) Pre-Conference on Integrating Research and Outreach in Crisis and Risk Communication, one of key agenda was how to define crisis, and a significant point in that discussion was "the perceptual nature of crisis" (Coombs, 2012, p. 19).

Crisis Communication. Crisis communication is the dialog between the organization and its publics taking place in a crisis (Fearn-Banks, 2011). The dialog can be "verbal, visual, and/or written interaction" and includes "strategies and tactics to minimize damage to the image of the organization" (Fearn-Banks, 2002, p. 680, 2011, p. 2). To put it in another way stressing characteristics of crisis, crisis communication is an activity - the actual words (verbal) and actions (nonverbal) - the organization uses to reduce and contain harm caused by significant threats, unpredictability and urgency (Coombs, 1999; Reynolds & Seeger, 2005; Seeger, 2006). The crisis communication involves the sending and receiving of messages "to prevent or lessen the negative outcomes of a crisis and thereby protect the organization, stakeholders, and/ or industry from damage" (Coombs, 1999, p. 4). Such crisis communication seeks to explain the specific event, identify likely consequences and outcomes and provide specific harm-reducing information to affected organizations (Reynolds & Seeger, 2005; Seeger, Sellnow, & Ulmer, 1998). Thus, crisis communication can be defined as "the collection, processing, and dissemination of information required to address a crisis situation" (Coombs, 2012, p. 20).

To fully explore crisis communication, it is necessary to review crisis management and risk communication, which frequently appear in association with crisis communication in relevant practices and academic areas. Crisis management involves either "a systematic effort by an organization to avert crisis and/or attempts to effectively manage those that do occur" (Miller & Horsely, 2009, p. 299; Pearson & Clair, 1998). Crisis management aims to prevent or lessen the negative outcomes of a crisis, thereby protects the organization, stakeholders, and/or industry from damage (Coombs, 1999, 2015). Specifically, the crisis management entails an effort to manage all technical aspects of a crisis such as planning for crisis response, reducing

technological failure, and developing a formal communication system to respond to the event (Barton, 2001).

Since a crisis has an identifiable life cycle, identifying different phases and actions are suggested for effective crisis management (Fink, 1986; González-Herrero & Pratt, 1995; Mitroff, 1994). The three-stage model that organizes the crisis management process in three distinct phases pre-crisis, crisis, and post-crisis, as an ongoing process, has been recommended by a variety of crisis management experts (Birch, 1994, Coombs, 2015; Guth, 1995; Mitchell, 1986; Seeger, Sellnow, & Ulmer, 2003).[3] For the structural aspects of crisis management to be well-developed, precise guidelines on how to plan for a crisis as well as "whom to communicate with during a crisis" are essential (Barton, 1983; Coombs, 1995, p. 447; Pearson & Mitroff, 1993, Regester, 1989). Throughout the entire crisis communication management, each phase requires an organization collect information, process it into knowledge, and share it with others through ongoing communication (Fearn-Banks, 2011; Coombs, 2012). The organization in a crisis situation implements crisis communication by collecting, processing, and disseminating crisis information to reduce publics' uncertainty and minimize reputational damage to the organization (Coombs, 2012). Thus, crisis communication is the essence of crisis management as a critical element for its effectiveness (Coombs, 2012). Fearn-Banks (2011) stressed that effective crisis management includes crisis communication that "not only alleviate or eliminate the crisis but also can sometimes bring the organization a more positive reputation than it had before the crisis" (p. 2).

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[3] Many crisis managements suggested different stage models; Fink's (1986) four-stage model (prodromal, crisis breakout, chronic, and resolution), Mitroff's (1994) four model (signal detection, damage containment, recover, and learning), and Fearn-Banks's (2011) five stages (detection, prevention/preparation, containment, recovery, and learning). However, the three-stage model has been recommended for as a crisis management framework although it has no clearly identifiable creator (Coombs, 2015).

Crisis communication must be distinguished from risk communication although both forms of communication have much in common and intersect at a variety of points (Seeger, 2006). Both crisis and risk communication involve the production of public messages designed to create a specific public response, rely on credibility as a fundamental persuasive attribute and share an essential purpose of seeking to limit, contain, mitigate and reduce public harm (Reynolds & Seeger, 2005). However, risk communication has typically been associated with health communication, such as efforts to warn the public about health risks and environmental hazard through sense and assessment of threat (Reynolds & Seeger, 2005; Seeger, 2006). In this regard, risk crisis communication is "a dialog between the organization creating the risk and the stakeholders who are asked to bear the risk" (Coombs, 2015, p. 40). In contrast, crisis communication is associated with the field of public relations as its goal is to inform practice and limit or alleviate damage to the organization its stakeholders or publics (Coombs, 2015; Reynolds & Seeger, 2005; Seeger et al., 1998).

Crisis communication has been a burgeoning field of study in public relations as well as other academic disciplines for the past two decades (Avery et al., 2010; Coombs, 2010; Seeger & Padgett, 2010). In fact, a body of crisis communication research has become fruitful by taking the symbolic approach, empirically providing a foundation for theoretical development of crisis management emphasizing the role of communication (Avery et al., 2010). In terms of crisis communication focusing on the importance of message strategies, scholars have paid substantial attention to crisis communication research stressing image or reputation management (i.e., symbolic approach) (Avery et al., 2010; Heath, 2012; Paquett, 2015; Ulmer, Seeger, & Sellnow, 2007).

Symbolic Approach to Crisis Communication

The researchers initially focused on identification and analysis of the crisis response strategies used during a negative event, including "apologies, excuses, accounts, responses to embarrassment, image restoration, and impression management" (Allen & Caillouet, 1994; Benoit, 1995; Coombs & Schmidt, 2000; Hearit, 1996; Hobbs, 1995; Lee, 2004, p. 600). In the late 1980s and early 1990s when crisis communication became a popular topic, scholars acknowledged that crisis communication had received sparse scholarly attention and effectiveness of different communication strategies was still in its infancy (Benson, 1988; Hobbs, 1995). To identify appropriate communication strategies for use in crisis situations, their studies were grounded on the rhetorical concept of apologia (Allen & Caillouet, 1994; Hobbs, 1995; Coombs, 1998). Such a rhetorical framework, i.e., apologia, provided a theoretical roots for the symbolic approach to crisis communication, especially crisis response strategies (Coombs, 1995, 1998; Coombs & Holladay, 1996).

Apologia is defined as a public speech of self-defense in response to "an attack upon a person's character and upon his worth as a human being" (Ware & Linkugel, 1973, p. 274). Based on Abelson's (1959) work on the resolution of belief dilemmas, Ware and Linkugel (1973) identified four factors used in apologetic speaking: denial, bolstering, differentiation, and transcendence. Denial is that "one denies alleged facts, sentiments, objects, or relationships (Ware & Linkugel, 1973, p. 275). Bolstering refers to "any rhetorical strategy with reinforces the existence of a fact, sentiment, object, or relationship" (Ware & Linkugel, 1973, p. 277). Differentiation serves "the purpose of separating some fact, sentiment, object, or relationship from some larger context within which the audience presently views that attribute" (Ware & Linkugel, 1973, p. 278). Transcendence "cognitively joins some fact, sentiment, object or

relationship with some larger context within which the audience does not presently view that attribute" (Ware & Linkugel, 1973, p. 280). Since denial and bolstering simply revise or amend the cognition of the audience, not changing the audience's meaning or affect, they are known as "reformative strategies" (Ware & Linkugel, 1973, p. 276). Differentiation and transcendence are "transformative strategies" that involve a change in meaning (Ware & Linkugel, 1973, p. 280).

However, there had been other strategies found in the case studies other than apologia (Coombs, 2015), as well as the need of the empirical evidence-based crisis communication research had been growingly suggested through quantitative research (i.e., experiment methods) (Braford & Garrett, 1995; Coombs & Holladay, 1996). Moreover, the apologia research depended upon simple lists of crisis response strategies based on case study methods (Coombs, 2006). This traditional perspective in crisis communication did not provide precise recommendations for the utilization of crisis response strategies because case studies are not a method for building causal relationships (Stewart, 2002). That is, the research approach was limited to fully understanding why publics perceive a crisis situation and how they respond to the crisis and the organization's response strategies (Coombs, 2006). This critical limitation led scholars to shift their attention to theory-based research using empirical evidence to better understand publics' perceptions of crisis organizations that select effective crisis response strategies (Coombs, 1995, 2006, 2007b; Coombs & Holladay, 2002; Kim, Kim, & Cameron, 2012a; Lee, 2004).

As a result, the symbolic approach emerged as a new perspective on crisis management in the mid-1990's, integrating two theoretical backgrounds: neoinstitutionalism and attribution theory (Coombs, 1998; Coombs & Holladay, 1996). Merging two theories, the term of *symbolic*

was formed to examine how organizations use communication strategies as symbolic resources to protect their images during crises (Coombs & Holladay, 1996; Huang, 2006).

In organizational theory and public relations literature, the term symbolic is similarly used as "symbolic-interpretive paradigm." (Hatch, 1997; Grunig, 2009, p. 8; Kim & Ni, 2010). The symbolic-interpretive paradigm views reality as subjective. For those who embrace the paradigm, organizational concepts such as organizations themselves, their environments, and the behavior of managers are subjective enactments of reality rather than observable and measurable reality-enactments whose meanings "can be negotiated through communication" (Grunig, 2009, p. 9). In this regard, crisis managers should strive to influence "how publics interpret the behaviors of organizations" after a crisis by using messages and publicity that can create an impression in the publics' mind (Grunig, 2011, p. 13).

The symbolic approach rests on two fundamental assumptions, 1) crisis threatens an organization's image (organizational reputation) and 2) crisis managers employ crisis communication strategies as symbolic resources to protect or repair the organizational image (Allen & Caillouet, 1994; Benoit, 1995; Coombs, 1998; Huang, 2006). The two theories, neoinstutionalism and attribution theory, help the initial crisis communication scholars to identify and organize appropriate crisis response strategies according to crisis situations (Coombs & Holladay, 1996; Hobbs, 1995).

Neoinstutionalism. Neoinstitutionalism is grounded in institutionalism or institution theory that focuses on the importance of organizations' institutional environment (Scott, 1987b; Allen & Caillouet, 1994). The theory initially suggested by Selznick (1949) posits that "organizational structure as an adaptive vehicle shaped in reaction to the characteristics and commitments of participants as well as to influences and constraints from the external

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environment" (Scott, 1987b, p. 494). Organizational theorists define institutionalization as "a process that occurs when actions are repeated and are given similar meanings both by oneself and by others" (Hatch & Cunliffe, 2006, p. 86). According to institutionalism, organizations and individuals "repeat actions and share meanings to reduce uncertainty by conforming to what they believe are the expectations of others" (Grunig, 2011, p. 12). In the theory, this adaptive process is institutionalization, and an organization seeks to gain power, control, and legitimacy through mechanisms of institutionalization and particular institutional orders, norms, and requirements (Fligstein, 1991; Friedland & Alford, 1991; Scott, 1991).

As a newer institutionalism, neoinstitutionalism emerged to focus on the key premise that "conformity to social rules within the external institutional environment potentially enhances an organization's legitimacy" (Allen & Caillouet, 1994, p. 45; DiMaggio & Powell, 1991; Scott & Meyer, 1991). Thus, an associated change with neoinstitutionalism was the renewed emphasis on the concept of legitimacy (Scott, 1991). An organization's legitimacy is largely interpreted as pertaining to societal evaluations of organizational goals (Parsons, 1960). The organization researchers define it as "the degree of cultural support for an organization - the extent to which the array of established cultural accounts provide explanations for its existence" (Meyer & Scott, 1983, p. 201) or "a global or summary belief among stakeholders or publics[4] that an organization is good or has a right to continue operating" (Allen & Caillouet, 1994, p. 45; Bedeian, 1989). An organization can achieve its legitimacy by conforming to the social rules or the values of the

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[4] Stakeholder(s) and public(s) are used synonymously in the public relations practice and research (Grunig & Repper, 1992). To understand strategic planning of public relations, the terms should be distinctive. Stakeholders are passive because they are in a category affected by decisions of an organization or their decisions affect the organization. Publics are more active than stakeholders because they "organize around issues and seek out organizations that create those issues – to gain information, seek redress of grievances, pressure the organizations, or ask governments to regulate them" (Grunig & Repper, 1992, p. 128). If the stakeholders become more aware and active, they can be described as publics (Grunig & Repper, 1992; Kim & Ni, 2010).

social system in which it operates and expectations established by its stakeholders and publics (Dowling & Pfeffer, 1975). Moreover, the neoinstitutionalism researchers indicate that legitimacy is essential for the successful operation of an organization (DiMaggio & Powell, 1991; Orru, Biggart, & Hamilton, 1991).

In the times of crisis, an organization's legitimacy is threatened and challenged because accountability pressures can emerge from multiple publics[5] negatively affected by the event that makes the legitimacy problematic (Coleman, 1990; Scott & Meyer, 1991). The pressures require the organization to convince its internal and external publics who cast doubt on their normative expectations toward the organization (Boulding, 1978; Connolly, Conlon, & Deutsch, 1980; Coombs & Holladay, 1996, p. 281). According to neoinstituionalism, the organization uses communication strategically as mechanisms to convince others of its legitimacy, making its actions understandable and acceptable to others (Elsbach & Sutton, 1992; Scott & Meyer, 1991). As a response to the legitimacy threats, specifically, the organization offers accounts (i.e., explanatory statements for organizational behavior) such as announcing reforms, changing procedures, and opening or closing communication channels to shape how publics view the organization (Coombs & Holladay, 1996; Marcus & Goodman, 1991).

In doing so, neoinstitutionalism adopts organizational-level impression management strategies to emphasize communication activities for successful accounts convincing the

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[5] Some scholars use the term of stakeholders as the group to be communicated in the crisis situations. This study suggests to use the term of publics in line with Grunig and Repper's (1992) three-staged model for strategic management of publics relations; stakeholder, public, and issue. An organization has a relationship with stakeholders when the behavior of the organization or of a stakeholder has consequences on the other (i.e., stakeholder stage). When stakeholders recognize one or more of the consequences as a problem and organize to do something about it or them, publics form; that is, public stage. In this stage, the organization should identify and segment publics for effective communication (Grunig & Repper, 1992). In the issue stage, publics creates "issues" out of the problems they perceive (Kim & Ni, 2010, p. 41). As the fourth stage, the crisis stage was added later (Kim & Ni, 2010). In this regard, the organization needs to communicate with the publics in the crisis stage. Hence, the term of public(s), rather than the term of stakeholders, should be used in the crisis stage.

reproacher of the inappropriateness of the challenge (i.e., "the challenge is invalid") or influencing publics to "mildly judge the failure and more positively evaluate the organization" (Allen & Caillouet, 1994, p. 47; Coombs & Holladay, 1996; p. 281; Schönbach, 1990). Impression management, as "vocabularies of motive," refers to people actively managing others' impressions of them by using communication (Allen & Caillouet, 1994, p. 47; Goffman, 1959; Mills, 1940). The individuals use the impression management strategies based on rhetorical strategies, including denial, bolstering, differentiation, and transcendence, when responding to explicit or implicit questions stemming from others' normative expectations (Braford & Garrett, 1995; Garrett, Braford, Meyers, & Becker, 1989; Schönbach, 1990). The organizational-level impression management strategies, as crisis response strategies, are communication accounts or rhetorical strategies the organization uses to admit its fault (e.g., excuses, justifications, and apologies) and convince its stakeholders or publics of its legitimacy (e.g., ingratiation) (Allen & Caillouet, 1994; Cheney & McMillan, 1990; Elsbach & Sutton, 1992).

As the impression management strategies based on organizational accounts and rhetorical strategies, scholars identified different typologies of accounts (e.g., Goffman, 1971; Scott & Lyman, 1968; Schönbach, 1990) (Benoit, 1995). Specifically, Garrrett et al. (1989) provided four distinctive communication responses, denials, excuse, justification, and concessions (apologies), taken from Schlenker's (1980) account types concerning the legitimacy of the accusations. Later, Allen and Caillouet (1994) developed a list of 20 impression management strategies and sample statements that an organization can use. Such impression management strategies were based on the fundamental idea that an organization can use communication to strategically shape its public reputation, as well as repair reputational damage from the crisis (Coombs, 2015; Marcus & Goodman, 1991).

Applying the neoinstitutionalism and management impression to crisis communication, it is reasonable that organizations should favor the use of crisis response strategies that reflect efforts to re-establish legitimacy because the organizational mechanisms and procedures to convey conformity with its institutional environment enhance legitimacy and survival chances (Allen & Caillouet, 1994; Coombs & Holladay, 1996). Furthermore, crisis managers should put forth more efforts to repair the violation of social norms (i.e., crisis) and demonstrate how the organization has returned to the norms held by its stakeholder and publics when a crisis cannot be shown to be invalid (Braford & Garrett, 1995; Coombs & Holladay, 1996).

Taking neoinstitutionalism and impression management strategies helped the scholars to examine the variety and effectiveness of different crisis communication strategies (e.g., Allen & Caillouet, 1994; Benoit, 1992; Coombs, 1995; Hobbs, 1995; Ice, 1991; Marcus & Goodman, 1991). However, much of the extant research focuses on the list of crisis response strategies addressing what crisis managers should do and not do during the crises drawn from case studies (Coombs, 2007a; Dean, 2004). Their results offer limited generalization and theoretical understanding of crisis communication because of the reliance on case studies (Berg & Robb, 1992; Dean, 2004). Few theory-based study were designed to systematically identify and model the key variables in crisis communication. In other words, the researchers provided little empirical evidence of how people react to crises or crisis response strategies due to the lack of experimental studies of particular crisis situations (Ahluwalia, Burnkrant, & Unnava, 2000; Bradford & Garrett, 1995; Coombs, 2007a; Dawar & Pillutla, 2000; Seeger, Sellnow, & Ulmer, 1998). As a guide for crisis communication research using scientific evidence, adopting attribution theory was suggested (Braford & Garrett, 1995; Coombs, 2007a).

Attribution theory. The efforts to find effective crisis response strategies led the researchers to consistently find and suggest that different situations influence the strategies (Braford & Garrett, 1995; Hobbs, 1995; Marcus & Goodman, 1991; Metts & Cupach, 1989; Wilson, Cruz, Marshall, & Rao, 1993). Specifically, apologia tradition studies focused on the situational variables that lead to differing apologia postures (e.g., Hobbs, 1995; Ice, 1991; Ware & Linkugel, 1973). To explain the relationship between a situation and the selection of communication strategies, attribution theory was frequently adopted as a useful framework for crisis management (Abelson, 1959; Bradford & Garrett, 1995; Coombs, 1995; Garrett et al., 1989; Mowen, 1980; Ware & Linkugel, 1973). Subsequently, attribution theory had been grounded in crisis response strategies based on the rhetorical approach, especially apologia studies, as well as impression management studies (Abelson 1959; Garrett, 1989; Hastie, 1984; Schlenker, 1980; Ware & Linkugel, 1973).

In fact, crisis communication scholars have used the name attribution theory without the distinction from attritbutional theories. However, psychologists argue that there should be a distinction between attribution theory and attributional theories (Fiske & Taylor, 1991). Attribution theory is a collection of diverse theoretical and empirical contributions that share common concerns that deal with "how the social perceiver uses information to arrive at causal explanations for events" (Fiske & Taylor, 1991, p. 23). The theory examines what information is gathered and how it is combined to form a causal judgment (Harvey & Weary, 1981; Kelley & Michela, 1980). Thus, the attribution theory conceptualizes the generic causal principles used in a wide variety of domains (Fiske & Taylor, 1991). Drawing on the principles of attribution theory, attributional theories (e.g., Weiner, 1986) explain about particular content domains such as achievement behavior, helping, coping with threatening events, and so on (Fiske & Taylor,

1991). Compared to attribution theory, the attributional theories concern more specific causal attribution processes that people employ in a particular life domain (Fiske & Taylor, 1991).

One early theoretical tradition forming the backbone of attribution theory, Heider's balance theory (1944, 1958), offered a theoretical foundation for apologia and rhetorical crisis response strategies (Abelson, 1959). Heider (1944, 1958) maintained that one function of causal attribution is to maintain affective and perceptual consistency because attributions are cognitions that create a unit relationship. According to Heider (1944, 1958), attitudes toward persons and causal unit formations influence each other. In this regard, people make attributions to preserve balance within units, and they feel a pressure or tension to bring the elements into harmony (Crandall, Silvia, N'Gbala, Tsang, & Dawson, 2007). That is, a balanced configuration exists when attitudes toward the parts of a causal unit are similar (Heider, 1944, 1946).

The balance theory, especially the motivation to reduce imbalance, was applied to a seminal rhetoric study identifying conflicts between one belief and another or conflicts within a belief structure named "belief dilemma" (Abelson, 1959, p. 343). Taking Heider's (1944, 1946) theoretical concepts of balance theory, Abelson (1959) developed four possible modes of resolution of belief dilemmas labeled as denial, bolstering, differentiation, and transcendence that help to make imbalanced belief structures that contain inconsistencies balanced. To examine crisis response strategies as apologia, Ware and Linkugel (1973) borrowed the four modes from Abelson's (1959) work for identification of four factors used in apologetic speaking, i.e., denial, bolstering, differentiation, and transcendence.

As one attributional theory, Weiner (1972, 1985) suggested a model of achievement motivation and emotion, integrating three, important and common properties of causality; locus (internal or external), stability (stable or unstable), and controllability (controllable or

uncontrollable). Based on the concepts of three causal properties, researchers had paid special attention to measuring attribution (e.g., how individual perceive causes) (e.g., Russell, 1982; Russell, McAuley, & Tarico, 1987). Specifically, McAuley, Duncan, & Russell (1992) pointed out the limitations of three dimensions based on Weiner's (1985) model and provided more precise measurement scales using four dimensions for causal attributions; stability, external control, personal control, and locus. Stability assess "whether the cause for an event always is present (stable) or varies over time and context (unstable)" (Weiner, 1985; Wilson, Cruz, Linda, Marshall, & Rao, 1993, p. 353). External control is "whether or not the event's cause is controllable" (Coombs & Holladay, 1996, p. 281; McAuley et al., 1992). Personal control assesses "whether or not the event's cause is controllable by the actor" (Coombs & Holladay, 1996, p. 281; McAuley et al., 1992). Locus reflects "if the event's cause is something about in the actor or something in the situation" (Wilson et al., 1993, p. 353).

However, other scholars (e.g., Anderson, 1983; Wilson et al., 1993) suggested a more parsimonious dimensional framework. Wilson et al. (1993) found the evidence for collapsing locus and controllability dimensions from the communication context (e.g., compliance-gaining interactions). In this regard, the three dimensions, including stability, external control, and locus, based on Weiner's (1985) attributional theory, were suggested for understanding how publics seek causes and make attributions in crisis situations (Coombs, 1995; Coombs & Holladay, 1996). Subsequent crisis communication research has adopted the concepts of three dimensions, as well as the attribution theory (e.g., Ahluwalia, Burnkrant, & Unnava, 2000; Dawar & Pillutla, 2000; Dean, 2004; Claeys, Cauberghe, & Vyncke, 2010; Coombs & Hollady, 2002; Kim, Kim, & Cameron, 2012; Lee, 2004; Moon & Rhee, 2012; Park & Reber, 2011).

Such perspective of crisis communication has helped researchers redefine crisis academically based on the perceptual nature, identifying and understanding how publics perceive and respond to crisis, and using that information to determine an appropriate crisis communication response strategy (Coombs, 2012; Kim et al., 2012a). Researchers maintain that crisis communication research should be based on a public-based approach, providing valuable insights into how publics understand and react to a crisis (Lee, 2004). In this sense, crisis communication scholars have provided theoretical approaches to guide and help crisis managers understand how to effectively communicate with publics in response to a crisis (Choi & Chung, 2013; Frandsen & Johansen, 2012; Seeger, 2006).

As a culmination of the above, situational crisis communication theory (SCCT) was developed (Coombs, 2006, 2007a, 2007b; Coombs & Holladay, 2002) and now accounts for one of the primary streams of crisis communication research (Avery, Lariscy, Kim, & Hocke, 2010). Drawing on attribution theory, especially Weiner's (1979, 1985) three dimensions for causality ideas such as locus, stability, and controllability, Coombs (1998; 2007a) advocated the need for attribution theory and suggested it as a guide for scientific-based crisis communication research. Coombs (2006; 2007b) proposed situational crisis communication theory (SCCT) that recommends appropriate crisis response strategies to crisis managers.

Symbolic Approach and SCCT. Integrating neoinstitutionalism and attribution theory, as aforementioned, the new approach was dubbed the symbolic approach for crisis management that emphasized the role of communication (Coombs, 1998; Coombs & Holladay, 1996). Both perspectives provided explanation for how communication strategies, as symbolic resources, can be used to shape and protect an organization's image during a crisis (Coombs & Holladay, 1996). Following the symbolic approach, scholars have developed and empirically tested theory-

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based crisis communication research. Grounded in the attribution theory, specifically, SCCT was developed to provide an evidence-based theoretical framework for understanding how to maximize the reputational protection (Coombs, 2006; Coombs & Holladay, 2002). In SCCT, crisis is defined as "a reputational threat" (Coombs, 2007b, p. 164). When a crisis occurs, crisis managers assess the level of reputational threat of a crisis in terms of three factors, initial crisis responsibility, crisis history, and relationship history/prior reputation (Coombs, 2007a, 2007b). The initial assessment of crisis responsibility is based on the crisis type. Since "a crisis event is framed as being a specific crisis type" (Coombs, 2007b, p. 171), a crisis is a frame that indicates "how people should interpret the crisis event" (Coombs, 2007a, p. 137). Different crisis types[6] can be clustered according to level of responsibility (Coombs, 1998; Coombs & Holladay, 2002). First, victim cluster, including natural disaster and rumors, has very little attribution of crisis responsibility because the events makes the organization viewed as the victim. The second cluster is accident and has low attribution of crisis responsibility because the events in this cluster (e.g., challenges and technical-error accidents) are uncontrollable or unintentional in terms of organization. The third one is preventable cluster (e.g., human-error accidents and organizational misdeeds) with strong attribution of crisis responsibility. By identifying the crisis type, crisis managers can predict how much crisis responsibility will be attributed to their organization by their publics (Coombs, 1998, 2015).

In assessing the initial crisis responsibility, two intensifying factors, consistency and distinctiveness originated from Kelley's (1967, 1972) covariation model of the attribution theory (Coombs, 2004, 2007a; Coombs & Holladay, 1996). Kelley (1972) argued that people assess

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[6] Coombs (1998) developed a master list of crisis types based on the extant lists from Lerbinger (1997), Marcus & Goodman (1991), and Pauchant and Mitroff (1992), and Coombs and Holladay (2002) later culminated them into three clusters.

covariation – the observed co-occurrence of two events - information across three dimensions such as distinctiveness, consistency over time, and consensus. In his model, individuals can make confident entity attribution with the combination of high distinctiveness and high consistency (Fiske & Taylor, 1991; Kelley, 1972). In the same vein, consistency and distinctiveness can intensify the level of crisis responsibility because having a similar crisis history (i.e., ongoing problem - consistency) and poor prior relationship (i.e., treating publics badly - low distinctiveness) can increase the threat from the crisis (Coombs, 2007a, 2007b).

Based on the assessment of the level of crisis responsibility, crisis managers then choose a crisis response strategy appropriate to the responsibility level attributed to their organization (Coombs & Holladay, 2002). To develop crisis response strategies, SCCT[7] integrated the repertoire of crisis-response strategies that had been identified and discussed in the literature drawn on impression management and rhetorical strategies, including apologia traditions (Coombs, 1995). Among numerous studies, the centerpieces of the repertoire for SCCT strategies were Allen and Caillouet's (1994) list of 20 impression management strategies and Benoit's (1992, 1995) image restoration strategies consisting of five categories with 14 strategies based on account and apologia studies (Coombs, 1995). SCCT offers the most common strategies from the literature and organizes them into four areas of public's perceptions; 1) denial (attacking the accuser, denial, scapegoating), 2) diminishment (excusing, justification), 3) rebuilding (compensation, apology), and 4) bolstering (reminding, ingratiation, victimage) (Coombs, 2007b, 2015, p. 145).

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[7] Coombs (1995) integrated the initial strategies for SCCT after reviewing the literature, including Allen and Caillouet (1994), Barton, (1983), Benoit, (1992), Berg and Robb (1992), Dionisopolous and Vibbert (1988), Ice (1991), Marconi (1992), Marcus and Goodman (1991), Metts and Cupach (1989), Mitroff and Pearson (1993), Newsom et al. (1992), Regester (1989), Russ (1991), and Ware and Linkugel (1973).

SCCT posits that crisis managers should use appropriate crisis response strategies with the requisite level of the accepting of crisis responsibility. When publics perceive an organization to have strong crisis responsibility for the crisis (i.e., preventable cluster crises), its crisis managers should utilize more accommodative strategies for publics such as compensation and apology (Benoit, 1997; Coombs, 1998, Coombs & Holladay, 2004; Lee, 2005; Marcus & Goodman, 1991). If publics perceive a low level of crisis responsibility attributed to the organization (i.e., victim cluster crises), more defensive strategies, including denial, attacking accusers, and scapegoating, can be used (Cho & Gower, 2006; Coombs, 1995, 2007b, Claeys et al., 2010; Van der Meer, 2014). Selecting appropriate response strategy depends on how publics perceive the crisis or the organization in crisis (Claeys et al., 2010; Coombs, 2015). The applicability of SCCT and its concepts for crisis communication has been empirically supported in a variety of crisis scenarios such as an airline crash (e.g., Lee, 2005), product recalls (e.g., Choi & Lin, 2009), organizational misdeeds, and other accidents (e.g., Cho & Gower, 2006; Claeys et al., 2010; Kim et al., 2012) as well as different organizational contexts, such as non-profit (e.g., Sisco, 2012) and government organizations (e.g., Kim & Liu, 2014). The SCCT literature to date has demonstrated how crisis response strategies can restore an organization's image and reputation (e.g., Choi & Chung, 2013; Coombs & Holladay, 2002; Claeys, Cauberghe, & Vyncke, 2010) as well as improve positive behavioral intentions toward the organization (e.g., Coombs & Holladay, 2007; 2008; Laufer & Jung, 2010).

Thus, the symbolic approach, especially SCCT, has provided the well-established concepts and theoretical foundation for the enrichment of crisis communication research both theoretically and pragmatically (Avery et al., 2010). Beyond public relations, the approach has drawn special attention from interdisciplinary crisis research, including communication (e.g.,

advertising and telecommunication) as well as business (e.g., marketing and management) for more than two decades (Ha & Boynton, 2014; Ha & Riffe, 2015).

Beyond Symbolic Approach

Considering a fast changing media environment, recent scholars have called for new approaches to enhance theoretical developments beyond the symbolic approach (Liu & Fraustino, 2014; Paquette, 2015). Rather than focusing on image or reputation management through strategic messages, the researchers suggest to move the study of crisis communication forward by taking a broader context (Heath, 2012; Liu & Fraustino, 2014; Olsson, 2014; Paquette, 2015). As one emerging framework, the discourse of renewal theory has been considered as a potential starting point for understanding crisis beyond symbolic approach (Liu & Pompper, 2012; Olsson, 2014; Paquette, 2015).

Discourse of Renewal Theory

Discourse renewal is public discourse that follows a crisis, addressing the communication exigencies associated with "rebuilding, recovery, and revitalization" (Seeger & Padgett, 2010, p. 133). Seeger and Ulmer (2001) initially proposed a renewal framework based on positive discourse in postcrisis situations that emphasize "the opportunities inherent to crises" (Ulmer et al., 2015). The theory is grounded in the large value dimensions of organizations (e.g., stakeholder relationships) as well as the needs that develop after a crisis (Seeger & Padgett, 2010). The theory and its theoretical framework have been used in a wide variety of crisis cases (e.g., the fires at Malden Mills and Cole Hardwoods and the destruction that followed 9/11 attacks) (Littlefield et al., 2009; Ulmer et al., 2015; Ulmer, Sellnow, & Seeger, 2007; Wastell, McMaster, & Kawalek, 2007).

The theory points out that most crisis response strategies retrospectively seeks to explain, justify or interpret what happened in the past or look back in an effort to strategically manage the impression of a crisis including its cause (i.e., symbolic approach) (Seeger & Padgett, 2010). The discourse of renewal theory, in contrast, has a future-oriented vision of beyond the crisis and highlights ways to move forward in constructing or reconstructing new, and better organizational forms (Seeger & Padgett, 2010; Ulmer et al., 2015). Since the theory focuses on the rebuilding and recovery process, it has provided a theoretical concept for the role of communication in improving resilience (i.e., capacity to bounce back after crises) and sensemaking (Heath, 2004; Olsson, 2014; Ulmer, 2012).

Specifically, discourse of renewal focuses on the potential for positive discourse following a crisis, characterized by "prospective focus; the opportunities inherent in the crises; provisional rather than strategic responses; and ethical communication grounded in core values" (Paquette, 2015; Seeger & Ulmer, 2002, p. 136; Ulmer & Sellnow, 2002). A prospective focus refers to a future-oriented rebuilding and recovery effort such as an organization's commitment to immediate corrective action and support for victims and affected employees (Reierson, Sellnow, & Ulmer, 2009; Seeger & Ulmer, 2002; Ulmer & Sellnow, 2002). Opportunities inherent in a crisis include "establishing new beneficial relationships, learning, introducing new products, and establishing new procedures" (Littelfield, Reierson, Cowden, Stowman, & Long Feather, 2009; Paquette, 2015, p. 340; Veil, Sellnow, & Heald, 2011). A provisional or organic response is rooted in "a more natural instinct to rebuild or reconstitute order following loss" because organizational leaders are often expected to "construct a coherent organizational discourse that contributes to the development of a new, shared understanding" (Grant, Keenoy, & Oswick, 1998; Seeger & Padgett, 2010, p. 137). Lastly, ethical communication grounded in

core values means a commitment or recommitment to community, workers (employees), and customers as a focal point for crisis communication with an emphasis on core defining values such as honest, responsibility, and self-control (Bostdorff, 2003; Seeger & Padgett, 2010; Veil et al., 2011)

Thus, the discourse of renewal scholars see crisis in a different way from symbolic approach. They maintain that crises can have positive outcomes because crises can be opportunities for organizational learning and improvement (Fink, 1986; Friedman, 2002; Regester, 1989; Ulmer et al., 2015). The researchers emphasize that crises are not intrinsically negative by defining a crisis as "a specific, unexpected, and nonroutine event or series of events that create high levels of uncertainty and simultaneously present an organization with both opportunities for and threats to its high-priority goals" (Ulmer et al., 2015, p. 8). To support such a positive perspective of crisis, Ulmer et al. (2015) adopts the Chinese culture that views crises as opportunities for learning, where the Chinese symbol for crisis can be interpreted as dangerous opportunity[8].

However, the discourse of renewal theory is not without limitations. Discourse renewal remains in the rhetorical strategies (Seeger & Padgett, 2010). Some researchers point out that the rhetorical strategies based on discourse of renewal theory are limited to studies about single crises in the specific contexts that fit with the ability to engage in renewal (Austin, Liu, & Jin, 2014; Coombs, 2012; Liu & Pompper, 2012; Seeger & Padgett, 2010). Coombs (2012) suggested the discourse of renewal is limited in terms of the kinds of crises and disasters because they may be extreme cases where only a crisis can save the organization (Coombs, 2012). Moreover, the

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[8] Other researchers argue that opportunities are "a function of the outcomes of crisis management" rather than "a defining characteristics of crisis" and interpreting the Chinese symbol as the opportunity is "very idiosyncratic translation and is overstated" (Coombs, 2012, p. 19).

theory is grounded in the case studies that are limited to provide empirical evidence that helps

systematically identify and model the key variables in crisis communication, hardly guiding

managerial decision-making and evidence-based management (Berg & Robb, 1992; Coombs,

2007b; Rousseau, 2005).

In addition, the discourse renewal theory has the same limitations as the symbolic

approach (e.g., SCCT and image restoration theory). It focuses on the impression of verbal

messages using a top-down strategic transmission of information rather than as an active and

critical sensemaking process aimed at engaging stakeholders (Falkheimer & Heide, 2012;

Frandsen & Johansen, 2012). Like other symbolic approach theories, the discourse renewal

theory overlooks crisis communication before and after a crisis because it still focuses on one

sender or one actor and tends to be only interested in verbal messages (Frandsen & Johansen,

2012). The sender-centric perspective has recently been challenged by scholars who aim to

understand crisis communication as a multivocal process (Heath, 2012; Falkheimer & Heide,

2012; Frandsen & Johansen, 2012).

In fact, what constitutes a crisis can be different in accordance with stakeholders' or

publics' perceptions (Conte, Myer, Miller, & D'Andrea, 2007). In other words, multiple

interpretations of a crisis exist because different stakeholders or publics can understand a crisis

within their own perceptions (Heide & Simonsson, 2014; Ulmer et al., 2015). Crisis based on

multiple interpretations can create various responses from stakeholders and publics (e.g.,

multiple voices) (Ice, 1991; Frandsen & Johnasen, 2009). However, the current crisis

communication literature, especially drawing on the symbolic approach, has almost exclusively

emphasized "external dimensions" by responding to external publics through response strategies,

external publics or stakeholder relations, and media choices (Heide & Simonsson, 2014, p. 131).

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Moreover, the sender-centric perspectives, symbolic perspective (e.g., SCCT and image restoration theory) and the discourse renewal, have not provided managerial strategies which can help understand why and how crisis occur (Grunig, 2011; Olsson, 2014; Taylor, 2012). The studies dominantly have focused on "post hoc nature of crisis response" (Taylor, 2012, p. 698). To date, there have been scant efforts to investigate how management communicates with strategic publics (i.e., strategic management), even though many crisis cases focus on manmade crises, especially managerial failure, such as poor decision making or management-created crises rather than natural disasters or accidents (e.g., product recall, organizational scandals, and bankruptcies) (Grunig, 2011; González-Herrero & Pratt, 1996; Mitroff et al., 1987; Taylor, 2012).

In sum, discourse renewal theory has been suggested as an alternative to the symbolic approach. However, limitations remain; the lack of empirical evidence, neglect of multiple publics' voices, an emphasis on verbal strategies, and focus on post-hoc nature of crisis response without managerial strategies. For this reason, the researchers suggest the need for managerial efforts to better understand the dynamic nature of crisis (Grunig, 2009, 2011; Kim, Back, & Clelland, 2007; Kim, Hung-Baesecke, Yang, & Grunig, 2013; Liu & Pompper, 2012; Taylor, 2012).

Strategic Management Perspective

Strategic management is defined as "the process of managing the pursuit of the accomplishment of organizational mission coincident with managing the relationship of the organization to its environment" (Higgins, 1979, p. 1). Strategic management is distinguished from "operational management" because it refers to "the growing significance of environmental impacts on organizations and the need for top managers to react appropriately to them" (Grunig

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& Repper, 1992; Steiner, Miner, & Gray, 1982, p. 6). Strategic management is a critical

component for the success of companies (Fleisher, 1998). In strategic management, a balance

between internal activities and external factors in an organization is emphasized (Pearce &

Robinseon, 1982). The managers can manage their organizations strategically by "balancing the

mission of the organization – what it is, what it wants to be, and what it wants to do – with what

the environment will allow or encourage it to do" (Grunig & Repper, 1992, p. 119; Kim et al.,

2013).

Strategic management originates from organizational research and has been widely used

in the public relations literature (Grunig, 2009; Hatch, 1997; Kim et al., 2013). Organizational

theorists identified three perspectives on organizations – the modernist (i.e., objective and

measurable management), symbolic interpretive (i.e., management as subjective enactments),

and postmodernist perspectives (i.e., focus on challenges to power) (Hatch, 2007; Hatch &

Cunliffe, 2006). Taking the three perspectives, Grunig (2009) identified two competing

paradigms of public relations approaches to emphasize buffering and bridging[9] functions;

symbolic or interpretive paradigm (i.e., buffering function) and the strategic management or

behavioral paradigm (i.e., bridging function) (Kim et al., 2013; Kim & Ni, 2010).

As aforementioned, the symbolic or interpretive paradigm stresses cognitive

interpretations embodied in such concepts as image, reputation, brand, impression, and identity.

In the paradigm, publics' impressions can be created by the messages (Grunig, 2009. 2011; Kim

& Ni, 2010). The paradigm believes that communication activities, especially public relations,

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[9] The terms buffering and bridging were originally conceptualized as organization's generic strategies for
dealing with the issues (Kim & Kim, 2015). Buffering refers to "an activity aimed at preventing external
stakeholders from interfering in an organization's operations, and at reducing uncertainty" (Kim & Kim, 2015, p.
Scott, 1987a). The bridging is an adaptive organizational activity that an organization conforms to its expectations of
external stakeholders (Kim & Kim, 2015; Van den Bosch & van Riel, 1998).

can make favorable impressions in stakeholders' and publics' minds, leading the managers to behave in the way they intend (Grunig, 2011). For this reason, the paradigm highlights important use of messages, publicity, media relations, and media effects that allow the organization to buffer itself from its environment (Van den Bosch & van Riel, 1998; Grunig, 2011). In the same vein, the symbolic approach to crisis communication assumes that communication strategies, especially crisis response strategies, can be used as symbolic resources to shape or change organizational image (Coombs & Holladay, 1996).

On the contrary, strategic management emphasizes public relations as a bridging activity (Grunig, 2009; Grunig, Grunig, & Dozier, 2002; Grunig & Repper, 1992; Van den Bosch & van Riel, 1998). The paradigm focuses on "the participation of public relations executives in strategic decision-making so that they can help manage the behavior of organizations rather than only interpret it to publics" (Grunig, 2011, p. 13; Kim & Ni, 2010). In this sense, public relations should be designed to build relationships with stakeholders and publics rather than designed to buffer the organization from them through a set of messaging activities (Grunig, 2009; Kim et al., 2013).

Thus, the scholars who examine the value of public relations study have paid much attention to strategic management (Grunig, 2006; Men & Hung, 2012). Excellence study[10], specifically, found that one essential element of excellent public relations is participation in strategic management, as well as strategic management of public relations (Men & Hung, 2012). Such participation of public relations in strategic management can help "organizations achieve

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[10] Excellence study funded by the International Association of Business Commnuicators (IABC) Research Foundation was conducted by James Grunig and his colleagues, Larrisa A. Grunig, David M. Dozier, William P. Ehling, Fred C. Repper, and Jon White, between 1985 and 2002 to explain and document the value of public relations to organizations, publics, and society (Grunig, 2015). The excellence study is regarded as "an integration of strategic management theories of public relations into a greater whole," resulting in excellence theory as a general theory of public relations (Kim & Ni, 2010; Rhee, 2004, p. 16).

sustainable competitive advantage, organizational goals, and effectiveness" (Grunig et al., 2002; Men & Hung, 2012, p. 151). For the participation of public relations in strategic management, more specifically, the function of public relations should play an important role in bridging "gaps of interests and stances on problems between an organization and its environment by communicating interactively and proactively (i.e., two-way) and with balancing efforts for distinctive interests (i.e., symmetrical communication management)" (Kim & Ni, 2010, p. 49). As a result, communication programs of public relations manage the short-term problem-solving process, and such communicative efforts and outcomes can also generate and enhance the quality of relationships with stakeholders or publics (Grunig et al., 2002; Kim et al., 2013; Kim & Ni, 2010). Figure 1 shows such communication programs based on the bridging functions of public relations called "the roles of excellent public relations." (Grunig, 2009; Grunig et al., 2002; Kim et al., 2013, p. 202).

In terms of the strategic management perspective, as Figure 1 shows, crises occur when the bridging role of public relations does not work well (Grunig et al., 2002). As the right side of Figure 1 shows, the role of public relations in strategic management of an organization can be explained by the three stages; stakeholder, public[11], and issues (Grunig & Repper, 1992). As the first step, public relations practitioners should scan the environment of their organizational stakeholders such as employees, consumers, investors, or community residents (i.e., stakeholder stage) (Grunig et al., 2002; Kim et al., 2013). Through the scanning environment, public relations practitioners can help management identify potential publics "who might be affected by the consequences (i.e., mutual impact of management and the publics on each other) or who

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[11] Drawing on Dewey's (1927) and Blumer's (1966), Grunig and Hunt (1984) suggested a definition of *public* as "publics consist of individuals who detect the same problems and plan similar behaviors to deal with those problems" (p. 144). The definition was refined, improved, and formalized by Grunig's (1968, 1997) situational theory of publics (Kim & Grunig, 2011).

might be attempting to set agenda for an organizational decision by seeking consequences from

an organization" (Grunig et al., 2002, p. 143).
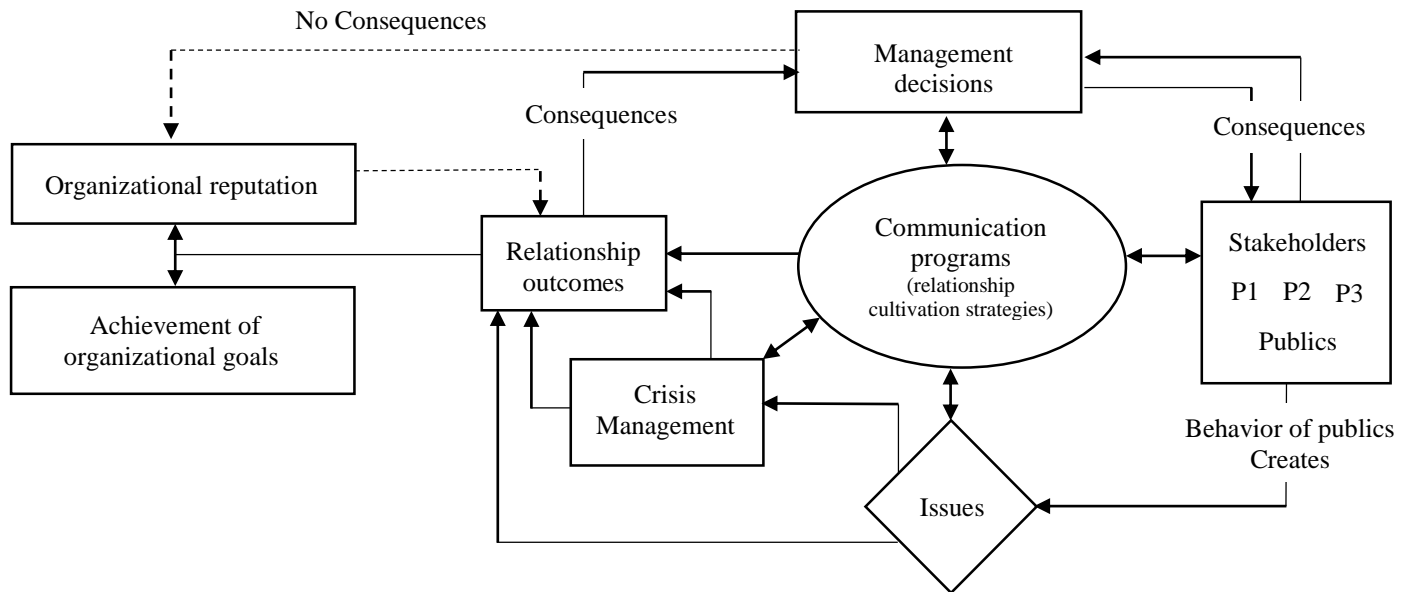
Figure 1. Model of strategic management of public relations (Grunig et al., 2002). Adapted from "Excellence public relations and effective organizations: A study of communication management in three countries," by L. A. Grunig, J. E. Grunig, and D. M. Dozier, 2002, p. 145. Copyright 2002 by Lawrence Erlbum Associations, Inc.

In this step, the practitioners should use the theoretical framework (e.g., Grunig's (1968,

1997) situational theory of publics or Kim and Grunig's (2011) situational theory of problem

solving (STOPS)[12]) to identify and segment different types of publics, including active, aware,

inactive, and nonpublics (i.e., public stage) (Grunig, 1989; Grunig et al., 2002; Grunig & Hunt,

1984). The publics, especially more active - aware or active - publics cannot stop the

consequences that harm them because they organized and created issues out of the consequences

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[12] Situational theory of problem solving (STOPS) (Kim & Grunig, 2011) is an extended and generalized version of Grunig's (1968, 1997) situational theory of publics. Both theories explain why and how individuals become active in communication behaviors (Kim & Krishna, 2014). Taking the theories, the scholars suggested the quantitative methods for public segmentation (Aldoory, 2001; Aldoory & Sha, 2007; Grunig & Hunt, 1984; Grunig, 1997; Kim, 2011).

(i.e., issue stage) (Grunig et al., 2002; Grunig & Repper, 1992; Kim et al., 2013). The issues, in turn, can become crises if they are not handled well (See Figure 1) (Grunig, 2009, 2011; Kim & Ni, 2010).

In this sense, the strategic management approach can help understand "why and how" a crisis occurs (Grunig, 2011; Taylor, 2012, p. 698). The strategic management perspective stresses effective communication with strategic publics about potential issues before the publics create an issue and eventually a crisis (González-Herrero & Pratt, 1996; Grunig, 2011, p. 22). More specifically, communication with publics, especially relationship cultivation strategies for publics, that precedes the management decision, can be the most effective crisis communication because it helps managers to make decisions that are less likely to produce consequences that publics make into issues and crises (Kim et al., 2013). During crises, organizations that have established good, long-term relationships with publics can withstand crises better than others[13] (Grunig, 2011). Thus, crisis managers' activities focus on "the organization's relations with its strategic publics" for effective crisis management in terms of strategic management perspective (González-Herrero & Pratt, 1996, p. 83).

For this reason, crisis communication literature in strategic management has explored the effects of relationship on effective crisis management (e.g., Hung-Baesecke & Chen, 2013; Marra, 1998; Kang, Garciaruano, & Lin, 2008; Ki & Brown, 2013). The researchers have consistently demonstrated that good relationships with publics affect positive outcomes in crisis communication, including less blaming (Brown & Ki, 2011; Brown & White, 2011), positive attitudes (Park & Reber, 2011), as well as positive behavioral intentions toward an organization

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[13] Grunig (2011) called this "the relationship principle" as one of crisis communication principles that can be used in most crisis situations (p. 22). The four principles of crisis communication include relationship, accountability, disclosure, and symmetrical communication.

(Kang et al., 2008; Kim & Rhee, 2011; Ni, 2006), regardless of crisis response strategies (Hung-Baesecke & Chen, 2013; Ki & Brown, 2013). Their findings indicate that the cultivating of relationships with publics is "an essential part of successful crisis management" (Park & Reber, 2011, p. 240). However, the studies of the strategic management approach have chiefly examined the external communication in a crisis and its impact on external stakeholders and publics (Frandsen & Johansen, 2011; Mazzei et al., 2012; Mazzei & Ravazzani, 2015).

Moreover, most crisis communication scholars have overlooked that the impact of the crisis can be exacerbated due to poor communications with internal publics (i.e., employees) although crisis produces negative consequences for employees such as uncertainty, low commitment, and dissatisfaction with communication (Aggerholm, Anderson, Asmusβ, & Thomsen, 2009; Goodman & Hirsch, 2010; Seeger, Ulmer, & Sellnow, 2005; Vinten & Lane, 2002). Heath (2012) pointed out that ignoring different publics, especially internal publics, in a crisis situation weakens "the quality of research and the development of best practices" (p. 7). For effective crisis communication, it is imperative for organizations in crisis to understand the different publics' perception, interpretation, and evaluation as they ultimately influence the fate of the organization (Austin et al., 2012; Olsson, 2014). However, the internal aspect of crisis communication has been undervalued and the need for its research has been recently growing (Frandsen & Johansen, 2011; Mazzei et al., 2012; Talyor, 2012).

Internal Crisis Communication

Internal Communication and Employees as Strategic Publics

Internal communication, as one of the most dominant and important activities, takes place constantly within organizations and it includes informal chat as well as managed communication (Welch & Jackson, 2007). Internal communication is essential for organization success and for

its day-to-day existence (Burger, 2008; Kitchen & Daly, 2002; Welch & Jackson, 2007). In other words, organizations cannot exist without communication (Grunig, 1992), and poor internal communication is closely associated with workplace inefficiency (Profile, 2006). Scholars often used the term internal communication interchangeably with other alternatives; internal relations (Cutlip, Center, & Broom, 2006; Grunig & Hunt, 1984), employee communication (Argenti, 1996), internal communications (Berger, 2008; Cornelisen, 2004), employee relations (Grunig & Hunt, 1984; Quirke, 2000), internal public relations (Jefkins, 1988; Kennan & Hazleton, 2006; Kresp, 1989; Wright, 1995; p. 182), organizational communications (Berger, 2008), and staff communication (Stone, 1995).

Regardless of the different terms, internal communication has been emphasized as "the strategic management of interactions and relationships" between stakeholders or publics at all levels within organizations (Welch & Jackson, 2007, p. 183). Put it in another way, internal communication is "communication between the organization's leaders and one of its key publics: the employees" (Dolphin, 2005; Mishra, Boynton, & Mishra, 2014, p. 185). In fact, employees, as one of the most important strategic constituencies, are critical for organization as well as in the context of internal communication (Grunig & Hunt, 1984; Mishra et al., 2014; Waters, Bortree, & Tindall, 2013). If employees are unproductive, the organization will be unproductive (Grunig & Hunt, 1984). Employees also function as input linkages[14] by providing necessary labor and expertise for organizations (Grunig & Hunt, 1984; Ice, 1991).

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[14] Esman (1972) listed four types of linkages that are critical for an organization to survive. Following Esman's (1972) concepts, Grunig and Hunt (1984) suggested to apply the four kinds of linkages to pubic relations management such as enabling (e.g., government regulatory, stockholders, and Congress), functional (e.g., input: employees, unions, and supplies, output: consumers, industrial purchasers, and users of services), diffused (e.g., environmentalists, students, voters, and minorities), and normative (e.g., associations, political groups, and professional societies) linkages.

In this regard, the scholars have demonstrated how organizations can benefit from effective internal communication with their employees (Burger, 2008; Kennan & Hazleton, 2006; Kim & Rhee, 2011; Men, 2014a, b; Mishra et al., 2014; Welch & Jackson, 2007). Through internal communication, employees can obtain, understand, and share the information they need to do their job, as well as create readerships, make meaning, and construct organizational cultures and values (Burger, 2008; Men, 2014b; Quirke, 2008). Internal communication plays a critical role in engaging employees intellectual and creative assets to produce value (Quirke, 2008). More specifically, effective internal communication leads employees to have positive attitudes toward their organizations such as job satisfaction (Gray & Laidlaw, 2004), identification with the organization (Smidts, Pruyn, & van Riel, 2001), trust and organizational commitment (Jo & Shim, 2005). Also, internal communication helps individuals and groups coordinate activities within an organization, facilitating "socialization, decision-making, problem-solving, and change-management processes" (Berger, 2008, p. 2). In turn, the employees can improve their job performance, resulting in organizational productivity and profitability (Berger, 2008; Gallup, 2012; Men, 2014b).

As intangible assets of effective internal communication, organizations attempt to build and maintain the quality of organization-employee relationships, leading to innovative and adaptive to the organizational environment and enhancing organizational reputation (Gronstedt, 2000; Park et al., 2014). Furthermore, internal communication is suggested as an appropriate role of the corporate communication function to "inform employees about corporate changes during times of change or crisis" (Argenti, 1996; Mishra, 2014, p. 186).

In this sense, understanding communication with employees is crucial to fully explore effective internal crisis communication and management. In the terms of strategic management,

employees become internal publics[15] when they "recognize one or more of consequences as a problem and organize to do something about it or them" (i.e., public stage) (Grunig & Hunt, 1984; Grunig & Repper, 1992, p. 124). They are arisen inside of an organization while external publics are "formed outside of management control" and typically arise when a group unities around a common issue or concern (Waters et al., 2013, p. 616). Since employees tend to work at different tasks and face different issues or problems, multiple internal publics are possible (Grunig & Hunt, 1984; Waters et al., 2013). In turn, each employee requires a different communication strategy (Grunig & Hunt, 1984).

Despite being considered strategic internal publics in the context of internal communication, employees have not drawn much attention from public relations researchers and professionals, especially in crisis communication (Chong, 2007; Frandsen & Johansen, 2011; Mazzei & Ravazzani, 2014; Wright, 1995). Some public relations researchers have emphasized to recognize employees as a distinct public worthy of individualized attention through internal public relations (Kennan & Hazleton, 2006; Park et al., 2014; Mazzei & Ravazzani, 2014; Ni, 2006). As one of valuable characteristics, employees engage in boundary-spanning activities[16] frequently interacting with an organization's environment (e.g., external publics) to gather, select, and relay information from the environment to decision makers or internal members in the organization (Grunig & Repper, 1992; Dean, 2008; Leifer & Delbecq, 1978; Tushman & Scanlan, 1981). Their boundary-spanning activities, regardless of whether employees act as

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[15] Grunig and Hunt (1984) argue that employees are not homogeneous groups and can be categorized by different pubilics' conceptions defined by Grunig's (1968) situational theory of publics. In terms of that, employees are internal publics.

[16] Leifer and Delbecq (1978) defined boundary spanners as employees who "operate at the periphery or boundary of an organization, performing organizationally relevant tasks, relating the organization with elements outside of it" (pp. 40-41).

negative or positive ambassadors, can be very important to an organization in crisis situations[17] (Frandsen & Johansen, 2011; Kim et al., 2013; Kim & Rhee, 2011; Rhee, 2008). Specifically, employees can become the most effective advocates of a company's reputation and its communication strategies internally and externally (Kim & Rhee, 2011; Mazzei et al., 2012). On the other hand, the employees can be dangerous triggers and cause negative communication outcomes that affect their company reputation negatively via informal networks (Kim et al., 2013; Kim & Rhee, 2011). Accordingly, understanding employees, as the important boundary spanners (i.e., strategic publics) during a crisis, is essential for effective internal crisis communication (Gonzálex-Herrero & Pratt, 1996; Mazzei et al., 2012).

Internal Crisis Communication in Strategic Management Perspective

As aforementioned, crises are unpredictable events characterized by low probability and uncertainty (Coombs, 2015; Herman, 1963; Olsson, 2014; Ulmer et al., 2015). The characteristics of crises "defy interpretation and impose severe demands on sensemaking" (i.e., searching for meaning) (Weick, 1988, p. 305; Weick, 2011; Weick, Sutcliffe, & Obstfeld, 2005). Employees become eager to find out what is going on and have high expectations to receive accurate, adequate, and timely information provided by their organization (Czarnecki, 2007; David, 2011). The scarcity of consistent information, characterized by confusion from a lack of information, may cause employees to become more open to rumors as well as to spreading defeatist declarations (David, 2011; Falkheimer & Heide, 2015; Strandberg & Vigsø, 2016; Weick, 1995). In this regard, Weick (1988) noted that "the less adequate the sensemaking process directed at a crisis, the more likely it is that crisis will get out of control" (p. 305). Thus, it often happens that organization's communication activities during a crisis are often

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[17] Kim and Rhee (2011) called this the "megaphoning" (i.e., external communication behaviors) and "scouting" (i.e., internal communication behaviors) effects as employees' communication behaviors (pp. 246-248).

misinterpreted, resisted, or rejected by employees (Daymon, 2000; Mazzei et al., 2012). In addition, organizations can sometimes exacerbate the impact of the crisis, including delusion and cynicism from employees, through poor communications (Goodman & Hirsch, 2010; Mazzei & Ravazzani, 2011).

In this sense, the role of internal communication is vital in crisis situations where there is "a high level of communication ambiguity and a strong need for sensemaking" (Mazzei & Ravazzani, 2014, p. 332; Strandberg & Vigsø, 2016; Ulmer et al., 2007; Weick, 1988). For effective internal crisis communication, organizations should understand employees as strategic internal publics to be communicated with, not focused on external publics' image or reputation management through strategic messages (i.e., symbolic approach) (Heath, 2012; Paquette, 2015). In fact, employees in an organization would respond differently, even with the best of intentions, to crises, and their reactions could compromise the overall effectiveness of crisis management (Gonzálex-Herrero & Pratt, 1996). For this reason, not recognizing employees as strategic internal public can lead to a communication failure in crisis situation (Xu & Li, 2013; Ravazzani, 2016). However, the extant research based on symbolic approach erroneously assumes that internal publics, especially employees, would become involved in the crisis communication without hesitation, doing everything they are told or required to (David, 2011).

Recent studies mainly based on cases studies found that there was a misalignment, including employees' misinterpretation and resistance, between management's intentions and employees' interpretation during crisis situations (Frandsen & Johansen, 2011; Johansen et al., 2012; Mazzei & Ravazzani, 2011, 2015; Ravazzani, 2016; Strandberg & Vigsø, 2016). Since employees are considered senders as well as receivers (i.e., boundary spanners), they play a critical role in impact of crisis communication through their voices meeting and competing,

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collaborating or negotiating with other organizational voices (Frandsen & Johansen, 2007, 2011; Heide & Simonsson, 2014). In crisis situations, for instance, employees can talk about their feelings and attitudes toward their organizations with colleagues, families, and friends, as well as give interviews or statements to the press and express their own opinion through social media (Frandsen & Johansen, 2010). Thus, internal crisis communication comprises situations where the employees interpret and make sense of the organization's external crisis communication (Frandsen & Johansen, 2011, p. 357; Strandberg & Vigsø, 2016).

This is why the strategic management perspective is needed for internal crisis communication that aims to maintain employees' motivation by giving them information "right from the source" (David, 2011, p. 75; Heide & Simonsson, 2014; Libaert, 2008; Mazzei & Ravazzani, 2015). The scholars in the strategic management perspective maintain the importance of employees' role for effective internal crisis communication, particularly employees' communication behavior (ECB) in crisis situations (Kim & Rhee, 2011; Matilis & Sonenshein, 2010; Mazzei et al., 2012; Mazzei & Ravazzani, 2015; Weick, 1988).

More specifically, Weick (1988) applied his "enactment"[18] concept to ECB to explain how employees create "their own environments by paying attention to some information from out there while ignoring other information" (Matilis & Sonenshein, 2010; White & Dozier, 1992, p. 92). Through case studies (e.g., the 1984 Union Carbide gas leak in Bhopal), Weick (1988) and Smircich and Stubbart (1985) underpin the importance of ECB in terms of the enactment concept that "employees generate the environment through actions and through their attempts to

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[18] Weick (1969, 1979), an organizational theorist, considered organizations psychological creations of their members. For the organization, the environment can be thought of as a construction built from the flow of information into the organization (Duncan, 1972). "The organization cannot be responsive to the tidal wave of information potentially available to it. Rather, parts of the information flow from the environment are marked off and saved for further scrutiny, a process Weick (1969, 1979) called *enactment*" (White & Dozier, 1992, p 92).

makes sense of these actions" (Matilis & Sonenshein, 2010, p. 553). Weick (1988) highlighted that employees' understanding about a crisis situation is facilitated by action, but action affects the crisis and can make the situation worse. In other words, sensemaking in crisis situations is made more difficult because "action that is instrumental to understanding the crisis often intensifies the crisis" (Weick, 1988, p. 305). Furthermore, he suggested that the application of the enactment perspective to crisis situations, i.e., enacted sensemaking, can manage crises more effectively (Matilis & Sonenshein, 2010; Weick, 1988).

In the crisis communication and management literature, the enacted sensemaking emphasizing ECB has been closely connected to employees' resilience (e.g., capacity to bounce back) (Olsson, 2014; Ulmer et al., 2014). The studies attempted to not only use the sensemaking perspective to understand resilience as a content of process of sensemaking (Hutter & Kuhlicke, 2013), but also emphasize collective sensemaking through communication to support employees in the crisis management, rebuilding and recovery processes (Bussanell, 2010; Johansen et al., 2012; Maitlis & Sonenshein, 2010; Ulmer et al., 2006). Consequently, they suggested resilient-oriented crisis communication, adopting the resilience concept (e.g., capacity to bounce back) and highlighting its role in the crisis communication, management and rebuilding processes (Olsson, 2014 Paquette, 2015; Ulmer, 2001).

Following their suggestions, this study utilizes a strategic management perspective in crisis communication, focusing on the function of public relations in bridging gaps of interests and stances on problems between an organization and its environment through interactive and balanced efforts (Kim & Ni, 2010). Furthermore, this study focuses on the resilience concept, in particular sensemaking among managers and employees in crisis preparedness, anticipation, and learning within an organization, as well as other factors (i.e., antecedents of resilience) in the

context of internal communication that the strategic management studies have found, including two-way symmetrical and transparent communication, and organization-employee relationship (e.g., Albu & Wehmeier, 2014; Hiede & Simonsson, 2014; Johansen, Aggerholm, & Frandsen, 2012; Men, 2014a, 2014b; Rhee, 2004; Weick & Sutclife, 2007). In doing so, this study can be in response to their clarion call for new crisis communication theory development.

Organizational Resilience and Its Antecedents

Resilience: Employee Generated Organization Resilience Asset (EGORA)

Resilience. Resilience generally refers to "recover from or adjust easily to misfortune or change," "the maintenance of positive adjustment under challenging conditions," or "the ability to recover from unexpected event" (French & Holden, 2012, p. 214; Gittell, Cameron, Lim, & Rivas, 2006, p. 303; Sutcliffe & Vogus, 2003; Webster's Ninth New Collegiate Dictionary, 1987; Weick, Sutcliffe, & Obstfeld, 1999). At the individual level, resilience originates from research on vulnerable children in psychopathology and developmental psychology (Masten, 2001; Masten & Reed, 2002). The concept of resilience has been extended to organization science and even crisis management (Sutcliffe & Vogus, 2003; Olsson, 2014). By doing so, the scholars have focused on understanding protective processes (e.g., self-efficacy and effective organization environment) with the underlying mechanism in order to understand how such factors contribute to positive outcomes in an organization as well as community (Guenthner, 2012; Luthar, Cicchetti, & Becker, 2000; Norris et al., 2008; Sutcliffe & Vogus, 2003). In the same vein, this study takes the research focus by understanding employees' protective processes (i.e., competence, self-efficacy, and sensemaking and sensegiving communicative actions) and how the processes affect positive outcomes.

This study maintains that internal publics' (i.e., employees') psychological beliefs and communicative behaviors in an organization should be understood to better examine organizational resilience in terms of an internal dimension (Powely, 2009; Youseef & Lutans, 2007). The individual resilience embodies "the personal qualities that enable one to thrive in the face of adversity" (Connor & Davidson, 2003, p. 76). The researchers demonstrate that those who have resilience are better able to respond effectively in unfamiliar or challenging situations and persevere in the face of failure and challenge (Sutcliffe & Vogus, 2003). In terms of organization management, employees are required to learn how to be resilient because they can quickly design and implement positive adaptive behaviors matched to the immediate situation (Mallack, 1998). Individual resilience can contribute to organizational resilience through an individual employee's ability to use positive emotions as well as help the company quickly engage in creative and positive crisis communication (French & Holden, 2012; Tugade & Fredrickson, 2004). Moreover, employees, as internal publics, can have a "vested interests" in organizations' crisis recovery by providing a recovery spotlight unlike external publics and media (Austin et al., 2014). For this reason, organizational resilience can be assessed by employees' resilient capacity or ability because the vast majority of studies indicate that resilience can be engendered when individuals are most likely to have the relevant and specific knowledge necessary to make a decision and resolve a problem (Sutcliffe & Vogus, 2003; Wruk & Jensen, 1994).

In the communication literature, searching and evaluating the relevant and specific knowledge is conceptualized as communicative actions for problem solving (Grunig, 1968; Higgins, 1996; McDonough, 1963; Kim, Grunig, & Ni, 2010). To elaborate the communicative actions, the researchers developed a model titled the communicative action in problem solving

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(CAPS: the communicative action model)[19] that describes the communicators' heightened communicative behaviors such as information taking, selecting, and giving based on active and passive components during problematic situations (Kim & Grunig, 2011; Kim, Grunig, & Ni, 2010; Kim & Krishna, 2014). Based on the conceptual framework of CAPS, recent studies found employees' voluntary communicative efforts to collect and circulate strategic information externally and internally (Kim & Rhee, 2012; Mazzei et al., 2012; Park et al., 2014).

The internal publics' communicative behaviors in an organization have been conceptualized as employee communication behaviors (ECB): megaphoning, scouting, and microboundary spanning (Kim & Rhee, 2011; Mazzei et al., 2012; Park et al., 2014). Megaphoning refers to employees' voluntary, external communication behaviors such as information forwarding or sharing (i.e., information transmission) about organizational strengths (accomplishments) or weaknesses (problems) (Kim & Rhee, 2011). Scouting is the employees' voluntary communicative efforts to seek organization-related information and then share and forward the information with relevant organizational members (Kim & Rhee, 2011; Park et al., 2014). As a concept of a combination of megaphoning and scouting, microboundary spanning refers to "nonnominated (nondesignated) employees' voluntary communication behaviors to (a) disperse positive information for one's organization, (b) search and obtain valuable organization-related information from internal and external constituencies, and (c) disseminate acquired information internally with relevant internal personnel and groups" (Kim & Rhee, 2011, p. 249; Mazzei et al., 2012).

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[19] Kim, Grunig, and Ni (2010) initially proposed a new concept about communication behaviors, communicative action in problem solving (CAPS), in a problematic situation. CAPS has been frequently used to explain and understanding publics' communication behaviors in crisis situations (e.g., Kim, Kim, Tam, & Kim, 2014; Kim, Miller, & Chon, 2015).

Such employees' voluntary communicative behaviors, especially information acquisition and transmission, are adopted to assess individual resilience characteristic (i.e., searching and evaluating the relevant and specific knowledge necessary to make a decision and resolve a problem) in this study. The literature indicates that information acquisition and transmission can account for resilient communicative behaviors through sensemaking and sensegiving behaviors that reflect organizational resilience in the context of crisis (Albu & Wehmeier, 2014; Hutter & Kuhlicke, 2013; Weick, 1988; Weick, Sutcliffe, & Obstfeld, 2005).

Specifically, Weick (1988) maintained that action is a mean to learn and build an understanding of unknown environments; that is, "actions determine the situations" in times of crisis (p. 306). Hutter and Kuhlicke (2013) highlight that resilience can be understood as a process of sensemaking that encompasses "attempts to actively shape the context of talk and action" (p. 304). Other scholars also emphasize that human resilience is constituted through communication processes (Agarwal & Buzzanell, 2015; Buzzanell, 2010). Moreover, communicating across organizational boundaries through obtaining and disseminating information (i.e., boundary spanning) is seen as resilient behavior (Lundberg, Törnqvist, & Nadjm-Tehrani, 2012). That is, employees' voluntary communicative actions such as information acquisition and dissemination called boundary spanning represent resilient behaviors. In this regard, two different communicative actions in this study are defined as sensemaking communicative action for information acquisition and sensegiving communicative action for information transmission in this study.

Sensemaking Communicative Action. The literature provides conceptual evidence for how information seeking can be defined as the resilient communicative behaviors, sensemaking (Paul, 2010). In terms of information science, an important aspect of the process of the

information seeking is "creating a shared understanding of information," and a synthesis

definition of sensemaking is defined in the context of the information seeking process (Paul,

2010, p. 40). Sensemaking is "meaning construction and reconstruction by the involved parties

as they attempted to develop a meaningful framework for understanding the nature of the

intended strategic change" (Gioia & Chittipeddi, 1991, p. 442); that is, "the creation of meaning"

(Degn, 2015, p. 903). The concept of sensemaking can be better understood in terms of

ethnomethodology because ethnomethodology, as the science of sensemaking, refers to "a

sociological investigation of the everyday life and conversational and social practices (methods)

through which the members of a society socially construct a sense of shared meaning for that

society and its institution" (Garfinkel, 1967; Gephart, 1993, p. 1469; Heap, 1975).

Ethnomethodology also provides a conceptual link between information seeking and

sensemaking because it indicates that people actively engaged in sensemaking interpret their

world by seeking information from conversations, textual accounts, explanations offered and

accepted, and ongoing discourse that describe and make sense of the social world (Gephart,

1993; Leiter, 1980).

Moreover, sensemaking in the context of a crisis refers to "both social processes of talk

and action to make some plausible sense of cues as well as the sense that is made through

connecting a cue to a frame" (Hutter & Kuhlicke, 2013, pp. 296-27; Weick, 1995). Thus,

sensemaking is a meaning construction process through communicative actions. The

sensemaking process can be specifically understood by the information seeking (i.e., active

information acquisition) action when it comes to communicative action in a problematic situation

like a crisis. The CAPS (i.e., the communicative action model in a problematic situation)

elaborates the information acquisition action which refers to "information-foraging" to construct

"cognitive building block," leading to proactive information collection in the problematic or crisis situation (Kruglanski, 1989, Kim, Grunig, & Ni, 2013, p. 130). In the information acquisition, a proactive communication behavior to acquire messages about a specific topic (i.e., active information acquisition action) is called information seeking distinguished from a passive communicative action for information acquisition, information attending (Grunig, 1997; Kim & Grunig, 2011). The information seeking is also used to explain employees' voluntary communication behaviors (Kim & Rhee, 2011).

In this sense, this study adopts information seeking domain to explain sensemaking action and proposes a new concept, sensemaking communicative action, a resilient action, defined here as employees' active and voluntary communicative behavior to create a shared understanding of information by searching and obtaining valuable and positive organization-related information from internal and external constituencies.

Sensegiving Communicative Action. As aforementioned, boundary spanning communication, as resilient behavior, involves disseminating information (Lundberg et al., 2012). In particular, the employees' voluntary communicative actions are more likely to influence others' (i.e., less active employees') attitude and behaviors, thus shaping reputation internally and externally (Kim, Hung-Baesecke, Yang, & Grunig, 2013; Men & Stacks, 2013). The employees who are more active than others will select and circulate selected information (i.e., information forwarding; active transmission) to mobilize attention, legitimacy, and resources toward their problem-solving (Kim et al., 2013). In a crisis situation, employees, as receivers in terms of the management or the crisis management team of the organization, perceive the crisis through instructions and information (Frandsen & Johansen, 2011; Mazzei & Ravazzani, 2011). At the same time, employees can be senders (i.e., information transmitter)

who have the role of communicating with the organization, among each other to the management, or across organizational boundaries by participating in various kinds of social networks internally and externally (Mazzei & Ravazzani, 2011). Thus, information transmission behaviors should be understood as additional resilient employees' behaviors (Albu & Wehmeier, 2014; Lundberg et al., 2012).

Moreover, the scholars conceptualize another resilient behavior, sensegiving, to differentiate information seeking (sensemaking) and information transmission (Albu & Wehmeier, 2014; Gioia & Chittipedi, 1991; Weick et al., 2005). Sensegiving is concerned with the process of attempting to influence the sensemaking and means "meaning construction of others toward a preferred redefinition of organizational reality" (Albu & Wehmeier, 2014; Degn, 2015; Gioia & Chittipedi, 1991, p. 442). In the CAPS, there are two distinctive information transmission behaviors according to different levels of activeness, information sharing and information forwarding (Kim & Grunig, 2011; Kim et al., 2010). A more active information giver forwards information even if there is no one soliciting it while a reactive (i.e., a less active) information giver shares only when someone else request it (Kim et al., 2010). As a voluntary and self-propelled communicative action by heightened problem perception, information forwarding behavior is considered one of employees' communicative behaviors (ECB) (Kim & Rhee, 2011).

Accordingly, this study proposes a new concept of sensegiving communicative action based on information forwarding, as the other resilient actions in the internal crisis communication. Sensegiving communicative action can be defined here as employees' active and voluntary communicative behavior to influence others' sense by forwarding valuable and positive organization-related information from internal and external constituencies. Hence,

organizations can take advantage of the voluntary communicative actions, sensemaking and sensegiving communicative actions, to enhance resilience during a crisis (Frandsen & Johansen, 2011).

Nevertheless, resilience is also more likely when individuals have experiences that add to their competences or expertise and self-efficacy, motivating them to succeed in their future endeavors (Masten & Reed, 2002). Further, the resilience research indicates that increasingly positive voluntary communicative actions can help other employees have capacity for recovery or maintain adaptive behaviors in that crisis situation (Garmezy, 1991). Such effective actions subsequently reinforce a sense of competence and efficacy, and the resilience is an outcome of the reinforcing nature of the cycle (Masten & Reed, 2002; Sutcliffe & Vogus, 2003). For this reason, employees' competence and self-efficacy, as different dimensions from resilient communicative behaviors, should be understood to assess organizational resilience for effective internal crisis communication (Powely, 2009; Youseef & Lutans, 2007).

Competence. Competence is an enabling condition of individuals to develop resilience, increasing the likelihood of positive adjustment (Powely, 2009). Building competence or honing existing competencies is emphasized for organizational resilience (Sutcliffe & Vogus, 2003; Powely, 2009). Thus, the concepts of competence and competencies – sometimes called competency – are seemingly interchangeable (Cheng, Dainty, & Moore, 2003). Nonetheless, scholars highlight a distinctive difference between competence and competencies (or competency) (Bartram, 2005, 2012; Klemp & McClelland, 1986; Kurz & Bartram, 2002; Kurz, Bartram, & Baron, 2004). They elucidate competencies (or competency) as "attributes of an individual that are necessary for effective performance in a job or life role" (Klemp & McClelland, 1986, p. 32). The attributes can include general or specialized knowledge, physical

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and intellectual abilities, traits, motive or need states, and self-image (i.e., the roles people see themselves) (Klemp & McClelland, 1986). Others maintain that competencies (or competency) are collection of knowledge, skills, abilities, and other characteristics (KSAOs) or the individual KSAOs that are needed for effective performance in the jobs in question (Campion, Fink, Ruggerberg, Carr, Phillips, & Odman, 2011).

In psychology and management research, however, the concept of competence refers to "an individual's belief in his or her capability to perform activities with skill" (Spreitzer, 1995, p .1443). Competence is also analogous to agency beliefs, personal mastery, or effort-performance expectancy (Bandura, 1989). Based on the concept, the employee competence is defined as "attributes needed by an individual to perform at work…an individual became competent through a combination of education, training, and work practice" (Thomson, 1995, p. 7). Thus, employees' competence refers to ability to apply knowledge, understanding, and skills in performing to the standards required in employment, including solving problems and meeting changing demands (Beaumont, 1995). Therefore, the competence is more related to performance or outcomes and involves the description of tasks, functions, and objectives (Bartram, 2012). On the other hand, competency or competencies are "generic in that they apply across all occupations and jobs" and focuses more on "the behaviors underpinning successful performance" (Bartram, 2012, pp. 4-5). The competencies determine "whether or not people will acquire new job knowledge and skills, and how they will use that knowledge and skills to enhance their performance in the workplace" (Bartram, 2012, p. 6). In an organization, employees can demonstrate their competence by applying their competencies knowledge and skills in a goal-directed manner (Bartram, 2012).

Increasing competence (i.e., psychological belief in an individual's ability) as well as improving application of competency or competencies (i.e., behavioral repertoires) lead individuals to be better able to respond effectively in unfamiliar or challenging situations; that is, resilience can be engendered in a problematic situation or a crisis (Sutcliffe & Vogus, 2003; Wruck & Jensen, 1994). Consequently, this study encompasses competence and competencies by defining competence here as an individual's belief in his or her capability to perform activities with skill and to apply knowledge, understanding and skills in performing to the standards required in employment, including solving problems and meeting changing demands.

Self-efficacy. One more enabling condition of individuals to develop resilience is self-efficacy because building self-efficacy or restoring feelings of efficacy make individuals able to adapt in future challenges (Masten & Reed, 2002; Powely, 2009). Self-efficacy refers to "people's beliefs about their capabilities to exercise control over their own level of functioning and over events that affect their lives" (Bandura, 1991, p. 257). Self-efficacy was introduced to deal with coping behaviors in the context of behavior modification (Ajzen, 2002; Bandura, 1977). In this regard, self-efficacy should be assessed in reference to handling a specific situation or performing a specific behavior rather than generalized feelings of mastery (Ashford, 1988; Bandura, 1977). Therefore, scholars have examined self-efficacy tied to a specific situation or behavior (e.g., Vardaman, Amis, Dyson, Wright, & Randolph, 2012). Specifically, their studies focus on change-related self-efficacy, not general self-efficacy, that refers to "one's belief in his or her ability to perform capably during change" (Ashford, 1988; Vardaman et al., 2012, p. 840).

When it comes to employee management and organization science research, such change-related self-efficacy has become more important. Employees with high levels of self-efficacy are

more likely to adjust more effectively among new hires than others with low levels of self-efficacy (Jones, 1986). Employees with high self-efficacy tend to experience increased psychological well-being and job satisfaction (McNatt & Judge, 2008; Wanberg & Banas, 2000). Thus, high levels of efficacy can help employees foster an interpretation that events are within their control in the face of the considerable dynamism and uncertainty brought on by organizational change (Vardaman et al., 2012).

The literature also has demonstrated how the self-efficacy concept, especially change-related self-efficacy, can be applied to crisis or turbulence situation in order to facilitate resilience (Sutcliffe & Vogus, 2003; Weick & Sutcliffe, 2001). Persons with a high level of self-efficacy are more likely to engage individuals to respond actively to negative feedback or bad news with increased effort and motivation while others in low level of self-efficacy tend to lessen their efforts (Bandura & Cervone, 1986). Further, efficacious individuals tend to view situations as learning experiences rather than traps, and as opportunities to demonstrate skills rather than as threats (Ashford, 1988; Jones, 1983). People with high feelings of self-efficacy are considered to be more active and persistent in their efforts to handle threatening situations (Moos & Billings, 1982). Thus, self-efficacy can contribute to resilience by fostering or restoring the capacity for adaptability (e.g., motivating the employees to succeed in their future endeavors) and positive functioning (e.g., viewing the situation as learning experience) (Egeland, Carlson, & Sroufe, 1993; Lundberg et al., 2012; Masten & Reed, 2002; Sutcliffe & Vogus, 2003).

In the context of internal crisis communication, therefore, this study defines self-efficacy here as employees' beliefs about their capabilities to exercise control over their own level of functioning and over negative events that affect their lives and organization. However, perceived competence seems to most closely relate to self-efficacy in the literature. Both competence and

self-efficacy constructs contribute to goal pursuit and attainment and are generative in the sense that they promote behavioral engagement, learning, and skill acquisition (Rodgers, Markland, Selzler, Murray, & Wilson, 2014). For this reason, competence and self-efficacy are frequently used interchangeably in the literature (e.g., Biddle, Whitehead, O'Donovan, & Nevill, 2005; Maddux, 1986; Senecal, Nowen, & White, 2000). Other scholars, nevertheless, argue that self-efficacy and competence should be separated as different constructs as "one can be efficacious for behavior that do not satisfy the need for competence" (Edmunds, Ntoumanis, & Duda, 2007; Mullan & Markland, 1997; Rodgers et al., 2014, p. 529; Wilson, Rodgers, Fraser, & Murray, 2004). Therefore, dimensions of competence and self-efficacy should be separated in this study.

Taking all four dimensions, sensemaking and sensegiving communicative actions, competence, and self-efficacy, this study proposes a new framework facilitating organization resilience, i.e., organizational resilience asset named employee generated organizational resilience asset (EGORA). The resilience research indicates the four dimensions are interrelated and reinforce each other in crisis situations (Sutcliffe & Vogus, 2003). More information and social support leads to and promote a greater sense of self-efficacy and competence during organizational changes (Vardaman et al., 2012). In other words, the sensemaking and giving actions seek to serve self-efficacy or competence (Weick, 1995). Also, the capabilities (self-efficacy and competence) motivate individuals to engage in effective communication process, increasing the likelihood of positive adjustment (Bunderson & Sutcliffe, 2002). Thus, competence, self-efficacy, and sensemaking and sensegiving communicative actions can be employees' characteristics for organizational resilience asset.

Antecedents of EGORA: Authentic leadership and Internal Communication

Scholars in the strategic management perspective have demonstrated the strategic value of employees by exploring factors, including authentic leadership, two-way symmetrical communication, transparent communication, and organization-employee relationship, that drive internal communication effectiveness (Grunig & Grunig, 2001; Kim & Rhee, 2011; Men & Stacks, 2014; Ni, 2006; Park et al., 2014; Waters et al., 2013). Their studies indicate that such factors in the context of internal communication can be antecedent factors affecting employees' psychological beliefs (i.e., competence and self-efficacy) (e.g., Men, 2011; Yagil & Medler-Liraz, 2014) and communication behaviors (i.e., sensemaking and sensegiving communicative behaviors) (e.g., Kim & Rhee, 2011; Men, 2014b; Men & Stacks, 2014; Park et al., 2014). This study will explore the factors and propose hypotheses concerning them as antecedents of organizational resilience asset, competence, self-efficacy, and sensemaking and sensegiving communicative behaviors.

Authentic Leadership. In the context of internal crisis communication, the role of leadership is important because communication between leaders of various levels and employees is a major component of the organization's internal communication system (Dolphin, 2005; Whitworth, 2011). Amongst various leadership styles, including transformation, transactional, inclusive, and shared leadership, authentic leadership, as an emerging concept, has recently drawn special attention from public relations and management scholars for effective internal communication (Men, 2014b; Men & Stacks, 2014). Authentic leadership refers to "a process that draws from both positive psychological capacities and a highly developed organizational context, which results in both greater self-awareness and self-regulated positive behaviors on the part of leaders and associates, fostering positive self-development" (Luthans & Avolio, 2003, p.

243; Walumbwa, Avolio, Gardner, & Peterson, 2008, p. 94). Authentic leadership has a root

construct that can incorporate other leadership styles such as transformational and ethical

leadership because authentic leaders can be directive or participative, and could even be

authoritarian (Avolio, Gardner, Walumbwa, Luthans, & May, 2004). As distinctive

characteristics from inauthentic leaders, authentic leaders act in accordance with deep personal

values and convictions in order to "build credibility and win the respect and trust of followers by

encouraging diverse viewpoints and building networks of collaborative relationships with

followers" (Avolio et al., 2004, p. 806). In doing so, employees can recognize their leaders as

authentic (Avolio et al., 2004; Men & Stacks, 2014).

The literature demonstrates how authentic leadership can enhance and foster

organizational resilience asset through employees (i.e., EGORA). Through authentic leadership,

leaders genuinely desire to serve employees and make efforts to guide the employees by the

qualities of the heart, passion, and compassion as they are by qualities of the mind (Avolio et al.,

2004, p. 806; George, 2003). Moreover, the authentic leaders not only are more interested in

empowering their employees they lead to make a difference but also recognize and value that

difference (George, 2003; Luthans & Avolio, 2003). The leaders based on authentic leadership

have the ability and motivation to identity employees' talents and help them build those talents

into strengths (i.e., helping them build competence) (George, 2003). Such leaders also have the

ability to remain realistically hopeful and trustworthy, leading to establishing employees' hope

and will power, as well as providing positive aspects of the way or directions to enhance

employees' sense of self-efficacy (Avolio et al., 2004). In other words, authentic leaders who

with a strong sense of pathways thinking see "obstacles as opportunities rather than threats, and

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looks for alternative means to address them to achieve desired outcomes" (i.e., positive

adaptability) (Avolio et al., 2004, p. 809; Luthans & Jensen, 2002).

In addition, the authentic leaders tend to openly share information fairly and transparently

with employees, cultivating employees' favorable perception of the organization and employee

engagement (Men, 2014b; Men & Stacks, 2014). Such transparent internal communication can

promote a fair and open organizational environment "where employees can freely express

themselves and participate by contributing their opinions and ideas to the management" (Men,

2014a, p. 266). Thus, authentic leadership fosters a positive environment where employees feel

trusted and empowered, as well as where they freely engage in communicative actions (Men &

Stacks, 2014). Applying the positive relationship between authentic leadership and organization

resilience asset, therefore, this study proposes a following hypothesis:

> Hypothesis 1: Authentic leadership will be positively associated with employee generated
> organization resilience asset in a crisis situation.

Internal Communication: Two-way Symmetrical Communication. According to the

excellence theory in public relations, participative organizational culture, an organic structure, an

equal opportunity system, high job satisfaction, and two-way symmetrical communication are

key characteristics of organizations with excellent public relations (Grunig, 2009; Grunig et al.,

1992; Grunig, Grunig, & Dozier, 2002; Kim & Ni, 2010). Among the characteristics, internal

symmetrical communication, especially two-way symmetrical communication, has been

underlined as an excellent system of internal communication (Grunig, 1992; Kim & Ni, 2010;

Men & Stacks, 2013). The symmetrical model in strategic management focuses on how

individuals, organizations, and publics use communication to adjust their ideas and behaviors

rather than trying to control or manipulate how the other party thinks or behaves (Grunig, 2006;

Grunig & Hunt, 1984; Men & Stacks, 2014). Following the symmetrical model, two-way

symmetrical system of communication makes organization "more effective by building open, trusting, and credible relationships with strategic employee constituencies" (Grunig, 1992, p. 559). Thus, two-way symmetrical communication can be built by the emphasis on "trust, credibility, openness, reciprocity, network symmetry, feedback, adequacy of information, employee-centered style, tolerance for disagreement, and negotiation" (Grunig, 1989, p. 558).

Through the two-way symmetrical communication, furthermore, the organization can "promote mutual understanding, resolve conflict, and establish respect" with its employees by encouraging communication symmetry (Park et al., 2014, p. 12). In this sense, the two-way symmetrical communication is suggested as the most effective way to communicate with strategic internal publics (i.e., employees) (Grunig & Hunt, 1984; Kim & Ni, 2010).

Two-way symmetrical communication refers to "the willingness of an organization to listen and respond to the concerns and interest of publics" and aims to build dialogues and promote mutual understanding between the organization and its employees (Grunig, 1984, 1992; Men & Stacks, 2014). In the context of internal communication, two-way symmetrical communication fosters a participative culture that provides employees with more opportunities for dialogues, discussion, and discourse on issues (Grunig & Grunig, 1992). Such participative culture nurtures employees' confidence (i.e., competence) and aids their development, resulting in participative decision making and sharing of power (Aldoory & Toth, 2004). Thus, the two-way symmetrical communication allows employees accessibility to participate in the decision-making process (Kim & Rhee, 2011).

Two-way symmetrical communication also emphasizes "two-way information flow, understanding, responsiveness to employees' needs and concerns, and tolerance to different voices" (Men & Stacks, 2013, p. 306). In this regard, two-way symmetrical communication can

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enhance employees' empowerment as Grunig (1992) defined empowerment as the symmetrical concept of power. Two-way symmetrical communication enables employees to collaborate for the increase of their power and the benefit of themselves in the organization (Grunig, 1992; Men & Stacks, 2014). Since employees' empowerment is frequently defined as competence and self-efficacy (e.g., Chiles & Zorn, 1995; Thomas & Velthouse, 2000) [20], the positive association between two-way symmetrical communication and resilience provides a plausible explanation.

Also, the two-way symmetrical communication, as one of the key antecedents, influences the quality of the organization-employee relationship that leads to employees' communicative actions, especially information seeking and forwarding (i.e., sensemaking and sensegiving communicative actions) (Jo & Shim, 2005; Kim, 2007; Kim & Rhee, 2011; Welch & Jackson, 2007). Consequently, this leads to a following hypothesis:

> Hypothesis 2*:* Two-way symmetrical communication between organization and employees will be positively associated with employee generated organization resilience asset in a crisis situation.

Internal Communication: Transparent Communication. In the context of internal communication, transparent communication is defined as "an organization's communication to make available all legally releasable information to employees whether positive or negative in nature" (Men, 2014a, p. 260; Men & Stacks, 2014, p. 306). Furthermore, transparent communication should be implemented "in a manner that is accurate, timely, balanced, and unequivocal," for the purpose of enhancing the reasoning ability of employees, and "holding organizations accountable for their actions, policies, and practices" (Men, 2014a, p. 260; Men & Stacks, 2014, p. 306; Rawlins, 2009, p. 75).

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[20] Thomas and Velthouse (1990) defined empowerment as "a function of one's belief in his/her ability to exercise choice" (p. 16), and Chiles and Zorn (1995) also conceptualized empowerment in two categories such as the perception of self-efficacy/competence and the perceived control ability/decision-making authority.

The definition of transparent communication originated from concepts of transparency and transparent organization (Men & Stacks, 2014; Rawlins, 2008). Balkin (1999) identified transparency as three types, including informational, participatory, and accountability. Drawing on Balkin's (1999) concepts, Rawlins (2009) defined transparency as having the three important elements: "information that is truthful, substantial, and useful; participation of stakeholders in identifying the information they need; and objective, balanced reporting of an organization's activities and policies that holds the organization accountable" (p. 74).

In the context of internal communication, more specifically, transparent organizations make available publicly all legally releasable information to their employees – whether positive or negative in nature – "in a manner which is accurate, timely, balanced, and unequivocal" (Heise, 1985, p. 209). The transparent information (i.e., informational aspect) should meet substantial completeness, concerning the needs of the receiver (i.e., employees), rather than the sender (Klaidman & Beauchamp, 1987; Rawlins, 2008). To obtain substantial completeness, management should know what employees need to know (Men & Stacks, 2014; Rawlins, 2008a,b). Employees' participation (i.e., participatory aspect) is also an important part of transparency because "transparency cannot meet the need of employees unless their organization knows what they want and need to know" (Rawlins, 2009, p. 75). In this regard, employees must be invited to participate in identifying the information they need to make accurate decision (Men, 2014b; Rawlins, 2008). In addition, transparency requires accountability (i.e., accountability aspect) (Cotterrell, 2000). An organization needs to be accountable for its words, actions, and decisions because these are available for its employees to see and evaluate (Men & Stacks, 2014; Rawlins, 2009).

Thus, transparency is a process because it involves not just making information available, but also "active participation in acquiring, distributing, and creating knowledge" (Cotterrell, 2000, p. 419; Gower, 2006, p. 96). Thus, an organization can be transparent when internal publics (e.g., employees) understand their organization's decision and believe their organization has told them the truth about its reasoning (Gower, 2006). To be transparent, organizations try to make their actions and decisions understandable to all internal publics interested (Men, 2014a).

For this reason, the purpose of transparent communication is not merely to increase information flow, but enhance understanding (Balkin, 1999; Rawlins, 2009; Wall, 1996). Through transparent communication, employees can facilitate collaboration and cooperation because they can trust each other and provide reciprocal support (Parks & Hulbert, 1995; Jahansoozi, 2006). Further, transparent communication can lead to accountability, which was crucial for rebuilding and maintaining relationships between industry and community (Jahansoozi, 2006). In the same vein, transparent communication can improve organizational resilience in crisis situations. As Cotterrell (2000) emphasized, specifically, transparency entails "active participation in acquiring, distributing, and creating knowledge"; that is, sensemaking and sensegiving (p. 419). Also, transparency helps an organization respond ethically to a crisis by taking into account its employees' expectation of their organization (Gower, 2006). Through transparent communication in crisis situations, employees can understand what happened and why, and what actions have been taken or will be taken. Employees, in turn, can be reassured that "the organization is capable of taking control of crisis and resolving it," leading to their competence and self-efficacy (Gower, 2006, p. 98). Therefore, the following hypothesis is proposed:

Hypothesis 3*:* Transparent communication between organization and employees will be positively associated with employee generated organization resilience asset in a crisis situation.

Mediating Role of Quality of Organization-Employee Relationship (OER). Within the strategic management approach to public relations, many scholars and practitioners define public relations by emphasizing an organization's relationship with its key publics (Bruning & Ledingham, 1999; Huang & Zhang, 2015). By doing so, public relations practice has placed itself away from the manipulation of public opinion in public relations practice (Bruning & Ledingham, 1999). By taking the relational perspective (i.e., strategic management approach), public relations research has shifted away from evaluating communication processes or outcomes to examining the factors that influence the development and maintenance of mutually beneficial relationships between organizations and publics (Bruning, 2002; Huang & Zhang, 2015). Over the past two decades, the study of the relationship between an organization and its publics, i.e., organization-public relationships (OPR), has continued to attract considerable attention in the field of public relations (Huang & Zhang, 2015). The premise of the strategic management has become that the value of public relations lies in the relationships an organization develops with its publics (Kim & Ni, 2010).

The OPR is defined as "the state which exists between an organization and its key publics in which the actions of either entity impact the economic, social, political and/or cultural well-being of the other entity" (Ledingham & Bruning, 1998, p. 62). OPR has diverse dimensions of relationship quality (Huang, 1997; Hon & Grunig, 1999; Huang & Zhang, 2015). Hon and Grunig's (1999) four dimensions originated from Huang's (1997) scales are all representing relational quality as key indicators and have been widely used in research and practice: control mutuality, trust, relational satisfaction, and relational commitment. Control mutuality is "the

degree to which parties agree on who has the rightful power to influence one another" (Hon & Grunig, 1999, p. 19). Trust refers to "one party's level of confidence in and willingness to open oneself to the other party" (Hon & Grunig, 1999, p. 19). Satisfaction is the degree of positive feelings that one party has about another party (Hon & Grunig, 1999). Commitment is "the extent to which one party believes and feels that the relationship is worth spending energy to maintain and promote it" (Hon & Grunig, 1999, p. 20).

In the crisis communication literature, recent scholarly efforts have explicated positive outcomes of OPR for both research and practice (Brown & White, 2011; Coombs & Holladay, 2001; Ki & Brown, 2013; Park & Reber, 2011; Ulmer, 2012; Ulmer et al., 2015). Researchers have also emphasized maintaining good relationships to manage a crisis and rebuild reputation (Ulmer, 2012; Ulmer et al., 2015), to discount negative information related to a crisis in order to leave the company's positive reputation intact (i.e., halo effect) (Coombs & Holladay, 2001), to facilitate less crisis responsibility on the organization regardless of crisis response strategies (Brown & White, 2011; Ki & Brown, 2013), and to increase positive attitudes toward the organization in crisis (Park & Reber, 2011).

When it comes to internal crisis communication research, understanding the intra-organizational relationships, organization-employee relationships (OER), is underscored as well because crisis response is an outcome of the intra-organization relationships (Taylor, 2012). Deep trust relationships with employees can help an organization cope better and reduce misalignments of internal crisis communication during a crisis (Mazzei & Ravazzani, 2011; O'Hair, Friedrich, Wiemann, & Wiemann, 1995). In this sense, the scholars suggest that communication managers need to place a high value on the relational role throughout the organization (Mazzei & Ravazzani, 2014; Veil et al., 2011), as well as an integrated framework

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for the study of internal crisis communication that must start with understanding the relationships between an organization and its internal publics (i.e., employees) (Frandsen & Johansen, 2011).

The relational perspectives have been closely linked to resilience in organizations (Cameron, Bright, & Caza, 2004; Luthans, 2002; Ryff & Singer, 2001; Seligman, 2002; Spreitzer, Sufcliffe, Dutton, Sonenshein, & Grant, 2005; Sutcliffe & Vogus, 2003). In particular, the scholars have considered how trust, communication, mutual respect, and high-quality relationships facilitate more coordination and learning (Dutton, Worline, Frost, & Lilius, 2006). A series of studies found consistent results that positive relationships can help employees reduce the negative effects of work stressors on work outcomes (Moyle & Parkes, 1999; Schaubroeck & Fink, 1998). For this reason, positive relationships are considered "the key coping resources that enabled individuals and organizations to develop resilience in the face of work stress" (Carver, Scheier, & Weintraub, 1989; Gittell et al., 2006, p. 303). Through investigating factors for resilience in U.S. airline companies after the tragedy of September 11, Gittell et al. (2006) found that the relationship between employees and organization could serve as a collective coping mechanism in the face of adversity. More recently, Kahn, Barton, and Fellows (2013) maintain positive relationships allow organizations to "be better positioned to remain resilient during crises" (p. 393). Hence, the internal relationship (i.e., OER) between employees and an organization fosters organizational resilience.

More importantly, the OER has been discussed as the major outcome generated by internal public relationships (Jo & Shim, 2005; Men & Stacks, 2014; Rhee, 2004). In particular, the scholars have demonstrated its positive association with the internal communication factors such as authentic leadership (e.g., Men, 2014b; Men & Stacks, 2014), two-way symmetrical

communication (e.g., Grunig et al., 2002; Kim & Rhee, 2011; Park et al., 2014), and transparent communication (e.g., Rawlins, 2008).

In the leadership research, OER, with trust as a cornerstone of the relationship, has attracted considerable research attention (Avolio et al., 2004; Men & Stacks, 2014). Researchers have demonstrated authentic leadership build organizational commitment (Jensen & Luthans, 2006; Walumbwa et al., 2008) as well as benevolence and integrity with their followers (i.e., employees) (Avolio et al., 2004) by encouraging open communication, engaging their followers, and sharing critical information (Men & Stacks, 2014). Authentic leadership also enhances employees' levels of trust and willing to cooperate with the leaders for the benefit of their organization because of their positive expectation and reputation on authentic leaders exemplifying high moral standards, integrity, and honesty (Jung & Avolio, 2000; Konovsky & Pugh, 1994). More recently, Men (2011) demonstrated the perceived trustworthy and credibility of an organization's senior leadership cultivates employees' favorable perception of the organization and employee engagement, leading to favorable OER.

Organizational psychologists and human resource management scholars have proposed that "it is necessary to generate an internal culture that emphasize two-way communication in order to build positive relationships with employees" (Schneider, Bowen, Ehrhart, & Holocombe, 2000; Rhee, 2004, p. 10). In the public relations literature, two-way symmetrical communication has been found as the key antecedent for building a trusting relationship because its effectiveness facilitates dialogue between management and employees, thereby nurturing quality OER (Grunig et al., 2002; Kim & Rhee, 2011; Jo & Shim, 2005; Park et al., 2014). Since the symmetrical communication model relies on "honest and open to have both parties understand each other," two-way symmetrical communication inherently focuses on long-term

relationships building based on mutual understanding (Grunig & Hunt, 1984; Park et al. 2014, p. 12).

Transparent communication also provides a number of outcomes that are beneficial for relationship building by promoting accountability, collaboration, cooperation, and commitment (Jahansoozi, 2006; Men & Stacks, 2014; Rawlins, 2009). Specifically, Rawlins (2009) found strong empirical evidence of a positive association between transparent communication and employee trust in organization. Moreover, transparency becomes a critical relational characteristic when crises or other organization behaviors have contributed to a decline in trust (i.e., rebuilding OER) (Jahansoozi, 2006). Men and Stacks's (2014) suggested that "informational and participatory transparency is predicted to lead to employee satisfaction and feeling of shared control," which constitute a quality OER (p. 308).

Therefore, this study posits the mediating role of OER between organizational resilience asset and its antecedent factors, leading to the following hypotheses:

Hypothesis 4: Authentic leadership will be positively associated with the quality of OER in a crisis situation.

Hypothesis 5: Two-way symmetrical communication between organization and employees will be positively associated with the quality of OER in a crisis situation.

Hypothesis 6: Transparent communication between organization and employees will be positively associated with the quality of OER in a crisis situation.

Hypothesis 7: The quality of the organization-employee relationship (OER) will be positively associated with employee generated organization resilience asset in a crisis situation.

Based on the literature, this study proposed a theoretical model (see Figure 1).

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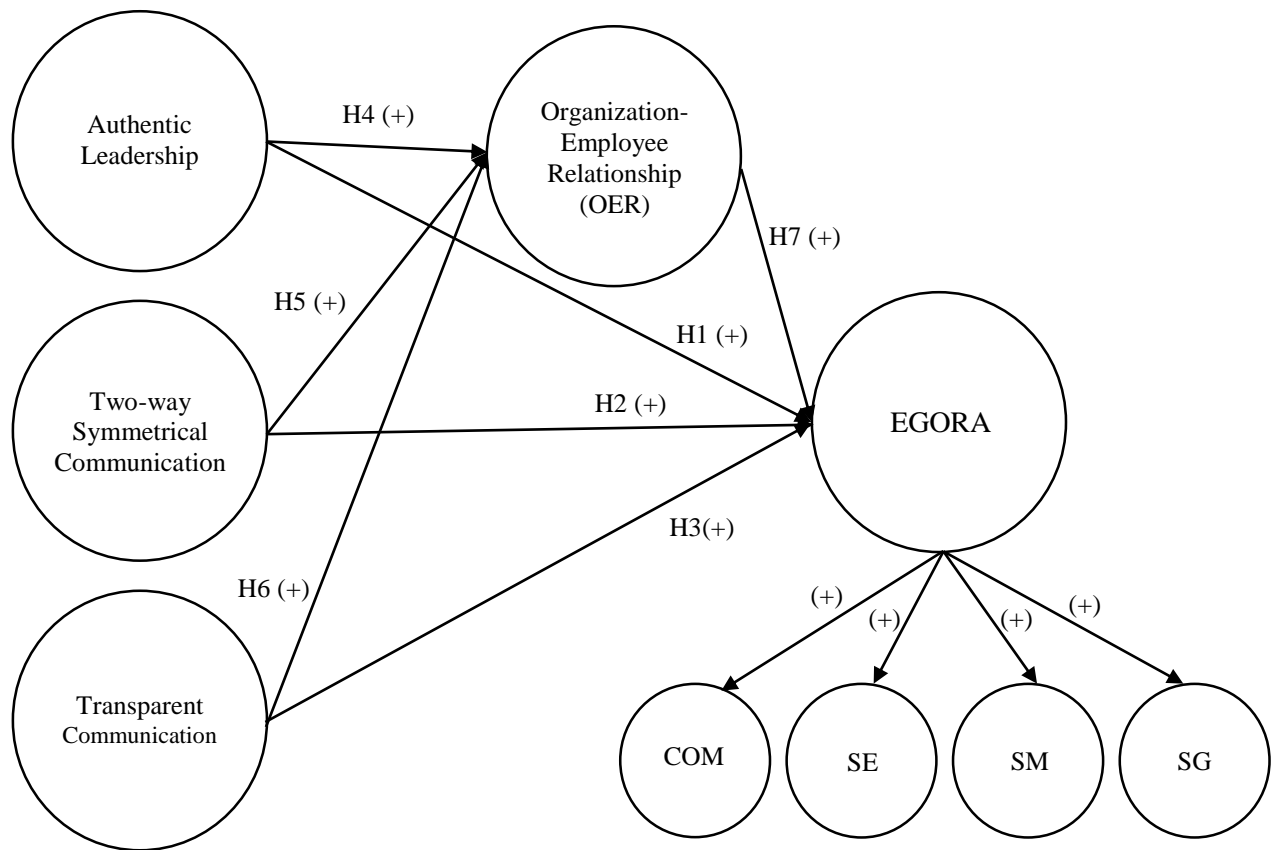
Figure 2. A proposed model of EGORA (Employee Generated Organizational Resilience Asset) and its antecedents. COM: competence. SE: self-efficacy. SM: sensemaking communicative action. SG: sensegiving communicative action.

CHAPTER 3
METHODS AND RESEARCH DESIGN

Survey Research Methods

For this study, I conducted an online survey and used its results for data analysis. Surveys are "a research method which information is typically gathered by asking a subset of people questions on a specific topic and generalizing the results to a larger population" (Bennett et al., 2011, p. 2). Survey research methods are especially important and useful when investigating problems in realistic settings as well as collecting a large amount of data at a reasonable cost (Wimmer & Dominick, 2006). Moreover, surveys are not constrained by geographic boundaries and can be conducted for topics that are difficult to assess using other approaches (e.g., in studies assessing constructs that require individual self-report about beliefs, knowledge, attitudes, opinions, or satisfaction) (Bennett et al., 2011; Wimmer & Dominck, 2006).

In this regard, survey research method fits this study well. To measure the main variables, employee generated organizational resilience asset (EGORA) and its antecedents such as leadership, communication factors, and relationships, in a valid manner, a realistic setting is needed based on uncontrolled environments from different industry sectors and organizations. In this regard, an experimental setting, including a field experimental setting, is not suitable for this study. It is quite difficult to manipulate attributes of an entire industry or firm positions experimentally (Chatterji, Findley, Jensen, Meier, & Nielson, 2016). Even in the field experiment conducted in inside organizations, moreover, enlisting employees and securing top management to help manage the experiment are not always easy (Chaterji et al., 2016; Gerber & Green, 2012). From a practical point of view, survey research is ideal to study the perceptions or opinions of a large number of participants across geographic boundaries (Fowler, 2009). In this

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sense, survey research methods are an essential component of many types of research including public opinion, politics, and health (Bennett et al., 2011). In public relations, surveys are the most commonly used research methodology (Stacks, 2011).

Through EGORA, in addition, this study seeks to explain employees' psychological beliefs or attitudes, including competence and self-efficacy, and communication behaviors like sensemaking and sensegiving communicative behaviors in crisis situations. The explanation of employees' psychological factors and intentions for communication behaviors can be obtained by asking how employees think in certain ways (Weisberg, Krosnick, & Bowen, 1996). Weisberg et al. (1996) stressed that "you cannot regard aggregate data as equivalent to individual data, nor can you use experiment as alternatives to the collection of data in the natural environment" (p. 20). Also, survey research methods are suggested for studies assessing constructs that require individual self-report about beliefs (Bennett et al., 2011). For this reason, survey research methods are commonly used to measure employees' psychological factors, especially self-efficacy and competence or competencies research (Campion, Fink, Ruggeberg, Carr, Phillips, & Odman, 2011; Vardamna et al., 2012).

More importantly, the purpose of this study is to test a structural model that provide empirical evidence of the need for internal crisis communication through managerial efforts. The structural model is based on a large amount of data collected from a variety of people and are demonstrated by statistical procedure using structural equation modeling (SEM). The statistical procedures using SEM can be useful to achieve what others can do experimentally to explain structural associations controlling for the effects of other variables (Hair, Black, Babin, & Anderson, 2010). In many cases, the observed attitude and behavior variables have affected each other and the measured variables are simultaneously related. Consequently, many structural

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models of social behavior should contain simultaneous relationships (Hanushek & Jackson, 1977). In this sense, the analysis of full simultaneous systems is more important in social science research (Hanushek & Jackson, 1977). In the context of one survey, particularly, it is certainly not possible to observe the independent changes in exogenous and endogenous variables required to estimate the magnitudes of these two influences separately (Hanushek & Jackson, 1977; Kline, 2011). Therefore, the hierarchical model (i.e., relationship between and cause and effect) estimated is replaced by a more complete model that includes equations simultaneously modeling both exogenous and endogenous variables as functions of each other and additional appropriate explanatory variables (Hanushek & Jackson, 1977; Hair et al., 2010). Moreover, it has long been recognized that covariations among observed variables cannot establish or prove causation (Hanushek & Jackson, 1977). Consequently, statistical procedures, especially SEM that include a set of exogenous variables that are also expected to determine endogenous variable, should be used for this study. SEM[21] models are typically used in nonexperimental situations in which the exogenous constructs are not experimentally controlled variables (Hair et al., 2010; Kline, 2011).

Research Design

Sampling

The population for the study is employees occupying different positions in medium and large corporations in the United States. Since a larger number of employees are more likely to attentively manage internal communication than a smaller number of employees, larger organizations with more than 300 employees were chosen (Park et al., 2014). In addition,

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[21] The term structural equation modeling (SEM) is used interchangeably with other terms such as covariance structure analysis, covariance structure modeling, analysis of covariance structures, or casual modeling (Kline, 2011).

leadership and public relations practices are not salient in small companies that have different

organization dynamics from medium and large corporations (Men, 2014b). Therefore, small

business companies with less than 250 employees were excluded from the population in this

study.

To recruit individual employees who work for a variety of medium and large

corporations, an online survey firm was used. The firm, Qualtrics.com, maintains panel members

of 1.8 million in the United States and has been frequently used for employment research

because the researchers can have on-demand respondents according to their target demographics

(Brandon, Long, Loraas, Mueller-Phillips, & Vansant, 2014; Qaltrics.com, 2016). Qualtrics.com

allows the researcher to obtain some relatively focused and externally valid samples, especially

individuals employed within specific industries, through the size of its participant pool (i.e.,

panel members), its ability to solicit participants from its research partnerships, and the

availability of demographic screens (Brandon et al., 2014).

Qualtrics is an online service considered to have broadest and most diverse survey group,

"general Internet survey panel," among online survey services because it works with industry

partners to build both broad and targeted participant panels (Brandon et al., 2016, p. 9). Qualtrics

teams the researcher with a Qualtrics project manager called PM to explore panel options based

on the researcher's needs, including sample size, target demographics, instrument complexity,

and length of instrument. Regarding participant recruitment and data collection, Qualtrics

attempts to generate higher-quality response by "aligning compensation with task complexity

and/or instrument tedium" (Brandon et al., 2016, p. 9).

For this study, target respondents were set up, and Qualtrics.com recruited samples in

accordance with the criteria as follows; a) full-time employees working in medium and large

corporations with 300 or more employees in the US, b) relatively representative panels based on

the selection of the population being studied (i.e., quota sampling based on state population), and

c) workers in the major industries based on Bureau of Labor Statistics of the United States

Department of Labor (http://www.bls.gov) (e.g., Wholesale trade, Information, and so on).

Thus, this study used "purposive" samples that include "subjects or elements selected for

specific characteristics or qualities and eliminates who fail to meet these criteria" (Wimmer &

Dominck, 2006, pp. 91-92). As part of purposive sampling methods, this study used a quota

sample that includes subjects selected to meet a predetermined or known percentage (Wimmer &

Dominck, 2006). Since this study aims to test theoretically hypothesized relationships between

variables, not making a generalization of the finding beyond the immediate sample, quota

sampling can be adequate to analyze the data for this study examining the applicability of theory

itself outside the research context (Judd, Smith, & Kidder, 1991; Yang, 2007). In fact, quota

sampling has been popularly used in the United States and other countries because it is not

consistently inferior to probability samples in terms of bias, gives reasonable estimates, and less

expensive than probability sampling (Brick, 2011; Stephan & McCarthy, 1958). Hence, this

study used quota sampling where participants were targeted in accordance with different

proportions of state population and gender based on the U.S. Census (Census.com)[22].

Data Collection Process

The Qualtrics data collection procedure helped this study ensure that the qualified

employees for this study took the online survey. After launching the survey to the panel

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[22] Based on the population of the U.S. Census, Qualtrics.com targeted the USA major regions in accordance
with census breakdowns such as Northeast 18%, South 36%, Midwest 23%, and West 23%
(https://www.census.gov/popclock/data_tables.php?component=growth). The female participants were targeted at
slightly more than 50% due to 50.8% of female estimated in 2014
(http://quickfacts.census.gov/qfd/states/00000.html).

participants through Qualtrics.com's the survey link administered by the researcher, real-time access to incoming data was available for the researcher. The PM also monitored the incoming data for issues such as incompletion rates, disqualification checks, and unreasonably quick completion times. When these circumstance occur, "the PM may temporarily suspend data collection to determine the root cause that allow the researcher to determine whether to continue the data collection with the current instruments" (Brandon et al., 2016, p. 10). In this study, the circumstance did not occur throughout data collection.

The firm solicited the participant with an online survey link which contained an informed consent form and a questionnaire built in the web-based tool for building surveys (i.e., Qualtrics.com). For this study, a pretest ($N = 50$), a full-scaled preliminary test ($N = 231$) and a main-test ($N = 544$) were conducted from November 30 to December 7, 2015. The first round pretest (N = 50) was used for checking and revising measurements and other problems. The pretest was conducted in Amazon.com's Mechanical Turk (M-Turk). M-Turk, maintaining more than 400,000 panel members, is a burgeoning and promising vehicle for social science studies (Berinsky, Huber, & Lenz, 2012). M-Turk's panel members comprise a more representative sample of the general population compared to other participant pools (Berinky et al., 2012). Targeting qualified participants, full-time employees working for organization in the main industries, was not available in the M-Turk. Since the purpose of the pretest, however, was to check the length of instrument, the adequacy of questions, structures of questionnaire, and any technical issues needed to revise, M-Turk participants were used only for the pretest. Fifty-two participants – all full-time employees based on self-report - completed the survey, and each participant was paid 50 cents. Ages ranged from 22 to 62 years old, with an average age of 38.27. Nearly 50% ($n = 26$) were male, and 50% ($n = 26$) were female. There were no issues

with questions, technical problems or the structure of questionnaire, and the reliabilities of variables met all satisfied level (i.e., Crobach's alpha (α) > 0.70).

Using Qualtrics.com's participant panels, a full-scaled preliminary test ($N = 231$) was conducted to check construct reliability and validity of main resilience asset variable, employee generated organization resilience asset (EGROA). The main-test was then be conducted among 313 full-time employee working in the middle and large sized companies. Participants in the pretest, full-scale preliminary test, and the main-test were different employees and paid four dollars and eight cents as compensation. The incentive was determined based on the task complexity that measures leadership, two-way symmetrical and transparent communication, relationships with organizations, and employees' competence, self-efficacy, and communication behaviors in their crisis situations. Preliminary test ($N = 231$) revealed that construct validity and reliability of main resilience variable, employee organization resilience asset (EGORA), successfully established (e.g., standardized loading estimate > 0.50 and composite reliability > 0.70).

Survey Procedure

After obtaining the participants' agreement to take the survey via an informed consent form, a question followed to find out which industry sector the participants are currently working. The categories of industry sectors[23] were based on from Bureau of Labor Statistics in the United States Department of Labor. The Bureau of Labor Statistics provides employment by major 16 industry goods producing (e.g., mining, construction, manufacturing) and service providing (e.g., utilities, wholesale trade, retail trade, transportation and warehousing, information, financial activities, professional and business services, education services, health

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[23] For the complete table, please see table employment by major industry sector on the webpage of Bureau of Labor Statistics – United States Department of Labor, http://www.bls.gov/emp/ep_table_201.htm

care and social assistance, leisure and hospitality, federal government, and state and local government) sectors, except self-employed and unpaid family workers (http://www.bls.gov).

Their positions and tenured time were asked as well. They then answered questions measuring authentic leadership, transparent communication, and two-way symmetrical communication. After measuring the antecedents of EGORA, brief crisis scenarios with several sentences tailored to their industries were present. A freelancer journalist was hired to create 17 hypothetical scenarios, for the 16 major sectors and other sector addressed in the major ones. The scenarios were based on actual crises (e.g., the 2006 Sago Mine disaster in West Virginia, the 2009 Mast climbing platform collapse in Austin, TX, and the 2006 Dell laptop explosion at Japanese conference) in order to increase ecological validity (Lyon & Cameron, 2004). The scenarios also indicated that the main cause could be attributed to the organizations (i.e., internal locus) to make the participants perceive their organizational crisis well (e.g., Today, it is reported that a tractor overturn incident occurred in the small town. The exact extent of injury and property damage is under the investigation. The cause is speculated by poor rolling system of the tractor produced by your company.) (Coombs & Holladay, 1996; Moon & Rhee, 2012).

The 17 scenarios tailored to participants' industry sectors were present in order to help participants better understand the questions by giving theme concrete information about the EGORA variable that consists of competence, self-efficacy, and sensemaking and sensegiving communicative actions. A good script is an important strategy in survey research because the script can help respondents understand the questions exactly as worded (Fowler, 2009). Fowler (2009) also noted that "the more concrete the questions, the better the chances for comparability of results across languages or cultures" (p. 96). Based on the industry the participants indicated

at the beginning of the survey, they read one of the scenarios in accordance with their industry. If

they indicated manufacturing industry, the participants read the following scenario:

> Today, it is reported that a laptop produced by your company suddenly exploded into
> flames at a public conference, in what could have been a deadly accident. The exact
> extent of injury and property damage is under the investigation. The cause is speculated
> by your company's manufacturing defects.

Other scenarios are provided in the Appendix A. Survey instrument.

The participants then answered the same questions measuring EGORA, including self-

efficacy, competence, and sensemaking and sensegiving communicative actions. Other questions

measuring variables were asked including demographic information such as age, education,

income, and race.

Measures

The question items were mostly adopted from previous research (Allen & Meyer, 1990;

Ashford, 1988; Chiles & Zorn, 1995; Dozier, Grunig, & Grunig, 1995; Kim, 2007; Kim & Rhee,

2011; Leoni, 2012; Neider & Schriesheim, 2011; Spreitzer, 1995; Vardaman et al., 2012;

Williams & Anderson, 1991). All items used a 7-point Likert-type scale, ranging from strongly

disagree (1) to strongly agree (7) or other labeling of response categories, such as not true at all

to true nearly all of the time, very unlikely to very likely, and not at all to very much. Wording of

the initial items was slightly modified for each crisis context. The items to measure the main

variables and other questions used in this study are provided in Appendix A.

First, the measures for authentic leadership were adopted from Neider and Shreisheim's

(2011) the Authentic Leadership Inventory (ALI). The questions regarding authentic leadership

included fourteen items to evaluate the authentic aspects of self-awareness (e.g., my manager

describes accurately the way others view his/her abilities), relational transparency (e.g., my

manager clearly states what he/she means), internalized moral perspective (e.g., my manager is

guided in his/her actions by internal moral standards), and balanced processing of the leader

(e.g., my manager objectively analyzes relevant data before making a decision) (See Table 1).

Table 1.
Means and standard deviations (SD) of authentic leadership (AL) items

Authentic leadership items	Mean (SD)
AL1: My manager describes accurately the way others view his / her abilities (Self-awareness).	5.32 (1.24)
AL2: My manager shows that he/she understands his/her strengths and weaknesses (Self-awareness)	5.23 (1.56)
AL3: My manager is clearly aware of the impact he/she has on others (Self-awareness).	5.31 (1.47)
AL4: My manager clearly states what he/she means (Relational transparency).	5.44 (1.48)
AL5: My manager openly shares information with others (Relational transparency).	5.45 (1.49)
AL6: My manager expresses his/her ideas and thoughts clearly to others (Relational transparency).	5.44 (1.48)
AL7: My manager shows consistency between his/her beliefs and actions (Internalized moral perspective).	5.42 (1.49)
AL8: My manager uses his/her core beliefs to make decisions (Internalized moral perspective).	5.36 (1.36)
AL9: My manager resists pressures on him/her to do things contrary to his/her beliefs (Internalized moral).	5.28 (1.46)
AL10: My manager is guided in his/her actions by internal moral standards (Internalized moral).	5.38 (1.44)
AL11: My manager asks for ideas that challenge his / her core beliefs (Balanced processing).	5.14 (1.68)
AL12: My manager carefully listens to alternative perspectives before reaching a conclusion (Balanced processing).	5.31 (1.53)
AL13: My manager objectively analyzes relevant data before making a decision (Balanced processing).	5.42 (1.46)
AL14: My manager encourages others to voice opposing points of view (Balanced processing).	5.24 (1.60)

Two-way symmetrical communication was measured by seven items (e.g., most communication between management and other employees in this organization can be said to be two-way communication) from Dozier, Grunig, & Grunig's (1995) and Kim's (2007) scales (See Table 2).

Table 2.
Means and standard deviations (SD) of two-way symmetrical communication (TW) items

Two-way symmetrical communication items	Mean (SD)
TW1: I am comfortable talking to my manager about my performance.	5.73 (1.38)
TW2: Most communication between management and other employees in our company can be said to be two-way communication.	5.33 (1.49)
TW3: Our company encourages differences of opinion.	5.18 (1.59)
TW4: The purpose of communication in our company is to help managers be responsive to the problems of employees.	5.20 (1.54)
TW5: Supervisors encourage employees to express differences of opinion.	5.21 (1.61)
TW6: Employees are usually informed about major changes in policy that affect our job before they take place.	5.29 (1.56)
TW7: Employees are usually informed about major changes in policy that affect our job before they take place.	5.59 (1.46)

To measure transparent communication, Rawlin's (2008a,b) operationalization of organization transparency was adopted as previous studies had used (e.g., Men & Stacks, 2014). Rawlin's (2008a,b) transparency measure examines three dimensions, including participatory, substantial information, and accountability. Six items were used for participatory (e.g., my company asks for feedback from people like me about the quality of its information), seven items were adopted to measure substantial information (e.g., my company provides information in a timely fashion to people like me), and the accountable dimension was measured by five items (e.g., my company presents more than one side of controversial issues) (See Table 3).

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Table 3.
Means and standard deviations (SD) of transparent communication (TR) items

Transparent communication items	Mean (SD)
TR1: My company asks for feedback from people like me about the quality of its information (Participative).	5.24 (1.67)
TR2: My company involves people like me to help identify the information I need (Participative).	5.16 (1.61)
TR3: My company provides detailed information to people like me (Participative).	5.22 (1.59)
TR4: My company makes it easy to find the information people like me need (Participative).	5.26 (1.53)
TR5: My company asks the opinions of people like me before making decisions (Participative).	4.92 (1.81)
TR6: My company takes the time with people like me to understand who we are and what we need (Participative).	5.11 (1.71)
TR7: My company provides information in a timely fashion to people like me (Substantial).	5.22 (1.58)
TR8: My company provides information that is relevant to people like me (Substantial).	5.25 (1.53)
TR9: My company provides information that can be compared to previous performance (Substantial).	5.43 (1.43)
TR10: My company provides information that is complete (Substantial).	5.33 (1.47)
TR11: My company provides information that is easy for people like me to understand (Substantial).	5.45 (1.35)
TR12: My company provides accurate information to people like me (Substantial).	5.49 (1.39)
TR13: My company provides information that is reliable (Substantial).	5.57 (1.38)
TR14: My company presents more than one side of controversial issues (Accountable).	4.97 (1.60)
TR15 My company is forthcoming with information that might be damaging to the organization (Accountable).	5.00 (1.67)
TR16 My company is open to criticism by people like me (Accountable).	4.99 (1.69)
TR17 My company freely admits when it has made mistakes (Accountable).	5.04 (1.66)
TR18 My company provides information that can be compared to industry standards (Accountable).	5.51 (1.35)

For the quality of employee-organization relationships (EOR), this study used Hon and Grunig's (1999) and Grunig and Huang's (2000) measures originated from Huang's (1997) four dimensions which are commitment, trust, satisfaction, and control-mutuality[24]. For commitment, five items (e.g., I feel that this company is trying to maintain a long-term commitment to me) were used. Five items (e.g., this company can be relied on to keep its promises) measured the trust dimension. Satisfaction was also measured by five items (e.g., both the organization and I benefit from the relationship), and control-mutuality was measured by five items (e.g., this company believes my opinions are legitimate) (See Table 4).

Table 4.
Means and standard deviations (SD) of the quality of employee-organization relationships (OER) items

OER items	Mean (SD)
OER1: My company treats people like me fairly and justly (Trust: Integrity).	5.39 (1.52)
OER2: Whenever my company makes an important decision, I know it will be concerned about people like me (Trust: Integrity).	5.00 (1.62)
OER3: My company can be relied on to keep its promises (Trust: Dependability).	5.27 (1.52)
OER4: I believe that my company takes the opinions of people like me into account when making decisions (Trust: Dependability).	5.00 (1.74)
OER5: I feel very confident about my company's skills (Trust: Competence).	5.51 (1.40)
OER6: My company has the ability to accomplish what it says it will do (Trust: Competence).	5.67 (1.26)
OER7: My company and people like me are attentive to what each other say (Control Mutuality).	5.31 (1.42)
OER8: My company believes the opinions of people like me are legitimate (Control Mutuality).	5.14 (1.58)
OER9: In dealing with people like me, my company has a tendency to throw its weight around (^R) (Control Mutuality).	4.91 (1.70)

[24] Huang (1997) developed four dimensions of relational quality in her dissertation; trust, control mutuality, relational commitment, and relational satisfaction. Based on her work (Huang, 1997), "Hon and Grunig (1999) report on how to measure relationship quality in public relations outlined six dimensions: trust, commitment, satisfaction, and control mutuality, communal, and exchange relationships. Grunig and Huang (2000) later dropped the two dimensions of change and communal relationships" (Shen & Kim, 2012, p. 376).

Table 4 (continued).

OER items	Mean (SD)
OER10: My company really listens to what people like me have to say (Control Mutuality).	5.04 (1.72)
OER11: The management of my company gives people like me enough say in the decision-making process (Control Mutuality).	4.98 (1.75)
OER12: I feel that my company is trying to maintain a long-term commitment to people like me (Commitment).	5.23 (1.64)
OER13: I can see that my company wants to maintain a relationship with people like me (Commitment).	5.20 (1.61)
OER14: There is a long-lasting bond between my company and people like me (Commitment).	5.17 (1.66)
OER15: Compared to other companies, I value my relationship with my company more (Commitment).	5.23 (1.62)
OER16: I would rather work together with my company than not (Commitment).	5.68 (1.33)
OER17: I am happy with my company (Satisfaction).	5.49 (1.43)
OER18: Both my company and people like me benefit from the relationship (Satisfaction).	5.49 (1.36)
OER19: Most people like me are happy in their interactions with my company (Satisfaction).	5.34 (1.46)
OER20: Generally speaking, I am pleased with the relationship my company has established with people like me (Satisfaction).	5.34 (1.53)
OER21: Most people enjoy dealing with my company (Satisfaction).	5.39 (1.48)

Note. ^R: reversed item.

To measure competence in EGORA, Spreitzer's (1995) and Chiles and Zorn's (1995) three items (e.g., I have mastered the skills necessary for my job) were used in this study. In addition, Leoni's (2012) eleven items for key competencies, including problem solving (e.g., I would analyze complex problems in depth), professional relations (e.g., I would deal with people and to interact with them), and teamwork (e.g., I would join a group effort), were measured as well.

Self-efficacy in EGORA was measured by Ashford's (1988) change-specific efficacy that consists of four items (e.g., wherever this crisis takes me, I am sure I can handle it).

Kim and Rhee's (2011) microboundary spanning measures were used to measure

sensemaking communicative action (i.e., information seeking eight items; e.g., I would voluntary

check people's feedback on the crisis) and sensegiving communicative action (i.e., information

forwarding eight items; e.g., I would write positive comments or advocating posting for my

organization on the Internet) in EGORA (See Table 5).

Table 5.
Means and standard deviations (SD) of employee generated organizational resilience asset
(EGORA) items

EGORA items	Mean (SD)
COM1: I am confident about my ability to do my job (Competence 1).	5.61 (1.22)
COM2: I am self-assured about my capabilities to perform my work activities (Competence 2).	5.54 (1.19)
COM3: I have mastered the skills necessary for my job (Competence 3).	5.58 (1.17)
COM4: I would analyze complex problems in depth (Competency: Problem solving 1).	5.53 (1.19)
COM5: I would deal with problems or faults (which could be through my own work, someone else's work or equipment) (Competency: Problem solving 2).	5.49 (1.13)
COM6: I would spot problems or defaults (which could be through my own work, someone else's work or equipment) (Competency: Problem solving 3).	5.49 (1.11)
COM7: I would think of solutions to problems (which could be through my own work, someone else's work or equipment) (Competency: Problem solving 4).	5.66 (1.11)
COM8: I would deal with people and to interact with them (Competency: Professional relations 1).	5.67 (1.16)
COM9: I would persuade or influence others (Competency: Professional relations 2).	5.18 (1.32)
COM10: I would counsel, advise or care for others (Competency: Professional relations 3).	5.45 (1.13)
COM11: I would instruct, train or teach people, individually or in groups (Competency: Professional relations 4).	5.54 (1.28)
COM12: I would join a group effort (Competency: Team work 1).	5.47 (1.26)
COM13: I would help other members of my team (Competency: Team work 2)	5.83 (1.07)
COM14: I would listen carefully to colleagues (Competency: Team work 3)	5.91 (1.05)

Table 5 (continued).

EGORA items	Mean (SD)
SEF1: Whatever this issue or crisis takes me, I am sure I can handle it.	5.74 (1.17)
SEF2: I get nervous [that] I may not be able to do all that is demanded of me by this issue or crisis (^R).	4.91 (1.67)
SEF3: I have reason to believe I may not perform well in my job situation following this issue or crisis (^R).	4.91 (1.75)
SEF4: Though I may need some training, I have little doubt I can perform well following this issue or crisis.	5.57 (1.33)
SM1: I would meet and check with suppliers and government officials to collect new information.	5.15 (1.55)
SM2: I would voluntarily meet and check with those people who have grievances with organization.	5.00 (1.46)
SM3: I would voluntarily check people's feedback on this issue or crisis.	5.19 (1.41)
SM4: I would search for new information and subscribe to Listserv, newsletters, publications for organization.	4.98 (1.52)
SM5: I would even after working hours contact strategic publics and stakeholders for their complaints and new information and share the information with colleagues.	4.82 (1.71)
SM6: I would make extra effort to cultivate and maintain relationships with external stakeholders and strategic publics.	4.97 (1.57)
SM7: I would meet people who work for similar businesses and check rumors and news about organization or business.	4.84 (1.64)
SM8: I would start conversation or give information to relevant colleagues about new trends or unusual signals related to work.	5.15 (1.45)
SG1: Employees are not afraid to speak up during meetings with supervisors and managers.	5.27 (1.47)
SG2: I would writing positive comments or advocating posting for my organization on the Internet.	4.87 (1.60)
SG3: I would say good things to friends and neighbors about positive aspects of the management and company.	5.27 (1.33)
SG4: I would recommend my organization and its service / products to people.	5.40 (1.36)
SG5: I would attempt to persuade people who have negative opinions about my organization.	5.16 (1.41)
SG6: I would refute prejudiced or stereotyped opinions about my organization.	5.23 (1.37)

Table 5 (continued).

EGORA items	Mean (SD)
SG7: I would argue with those who criticized my organization and business.	4.86 (1.56)
SG8: I would become upset and tend to speak up when encountering ignorant or biased opinions about my organization.	5.02 (1.49)

Note. COM: competence, SEF: self-efficacy, SM: sensemaking communicative action, and SG: sensegiving communicative action. ^R: reversed item.

Data Screening

Prior to data analysis, this study conducted data screening procedures that included data quality, identification of outliers, and checking normality and linearity that are important assumptions for multivariate analysis (Hair et al., 2010; Tabachnick & Fidell, 2013).

To ensure accuracy of a data file, this study examined univariate descriptive statistics, especially frequencies, to check that all the values within range and means and standard deviations are plausible (Tabachnick & Fidell, 2013). There was no issue with the accuracy of the data as all the values of main variables ranged from 1 to 7 and standard deviations ranged from 0.96 to 1.68 across the cases. In addition, there was no missing data in the preliminary and main tests because the online survey service (i.e., Qualtrics.com) provided the data completely answered.

Outliers were checked as the next screening procedure. Univariate outliers where cases have an extreme value on one variable, as well as multivariate outliers where cases have such a strange combination of scores on two or more variables were checked. To detect univariate outliers, all cases in the main variables were transformed to standardized scores (i.e., z-scores), and z-scores in excess of $|3.29|$ ($p < .001$, two-tailed test) were considered as outliers (Tabachnick & Fidell, 2013). There were 29 cases greater than 3.29 (e.g., 3.59 and -3.73) and all

were deleted. Multivariate outliers were assessed by Mahalanobis D^2 measure that "evaluates the position of each observation compared with the center of all observations on a set of variables" (Hair et al., 2010, p. 69; Tabachnick & Fidell, 2013). Mahalonobis D^2 measure[25] can be evaluated for each case using the χ^2 distribution (i.e., $p < .001$ for the χ^2 value) (Tabachnick & Fidell, 2013). Based on Mahalonobis D^2 measure, five cases (e.g., subject number 95, 96, 186, 219, and 344) were detected as multivariate outliers and deleted as well.

The normality, referring to "the shape of the data distribution for an individual metric variable and its correspondence to the normal distribution," was checked (Hair et al., 2010, p. 71). In checking normality, specifically, Shapiro-Wilk test, as a statistical test, was used to statistics evaluate skewness and kurtosis for univariate normality. Shapiro-Wilk test revealed that all main variable were in violation of the normality assumption at .001 significant level. Multivariate normality was also checked by using Doornik-Hansen omnibus test (Doornik & Hansen, 2008). Doornik-Hansen test reported that there was a multivariate nonnormality issue ($\chi^2(10) = 403.50$, $p < .001$). Although such nonnormality can have a substantial impact on the results, the impact could be negligible in this study due to the sample size (i.e., $N > 500$). Hair et al. (2010) suggest that the impact caused by nonnormality could be negligible in the study that has sample size more than 200 when assessing the impact of violating the normality assumption. In addition, the impact of departure from zero kurtoisis diminishes in a large sample (e.g., $N > 300$) (Waternaux, 1976; Tabachnick & Fidell, 2013). Moreover, the SEM estimation procedure

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[25] Mahalanobis measure is available as statistical methods through Statistical Package for the Social Science (SPSS) regression using the RESIDUAL subcommand. SPSS 20 program was used to check multivariable outliers.

in this study was maximum likelihood estimation (MLE)[26] that lessens the effect of non-normal distribution of data (Hancock & Mueller, 2001; West, Finch, and Curran, 1995).

However, this study conducted a remedial test (i.e., bootstrapping) for nonnormality when analyzing the data. The bootstrap is an approach to handle the presence of multivariate nonnormal data (Byrne, 2010; Yung & Bentler, 1996; West et al., 1995; Zhu, 1997). The bootstrapping "validates a multivariate model by drawing a large number of subsamples, estimating models for each subsample, and then determining the values of the parameter estimates from the set of models by calculating the mean of each estimated coefficient across all the subsample models" (Hair et al., 2010, p. 22). In other words, the bootstrapping serves as a "resampling procedure by which the original sample is considered to represent the population" (Byrne, 2010, p. 330; Kline, 2011). There are two general kinds of bootstrapping, nonparametric bootstrapping that treats the data as a pseudopopulation and parametric bootstrapping that draws subsample from "a theoretical probability density function specified by the researcher" (Kline, 2011, p. 42). The parametric bootstrapping method is used in computer simulation studies of the properties of particular estimators (e.g., SEM) (Kline, 2011). For this reason, this study used parametric bootstrapping method, especially the Monte Carlo method.

As another screening procedure, linearity was also checked using bivariate plots and plots of x against y (Hair et al., 2010; Tabachnick & Fidell, 2013). All variables in this study were embedded in the scatter matrix to check bivariate scatterplots between pairs of variables. The scatter matrix shows there was no nonlinearity, curvilinear or a mix of linear relationships. To

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[26] The most common SEM estimation procedure is maximum likelihood estimation (MLE) (Byrne, 2010; Hair et al., 2010; Kline, 2011). The term maximum likelihood describes the statistical principle "that underlies the derivation of parameter estimates; the estimates are the ones that maximize the likelihood (the continuous generalization) that the data (the observed covariances) were drawn from this population" (Kline, 2011, p. 154). MLE, specifically, involves "an iterative process in which the observed covariance matrix (among items) is compared with an implied or theoretical matrix to minimize the differences (or residuals) between the observed and implied matrices" (Netemeyer et al., 2003, p. 150).

diagnose nonlinearity from residuals plots in analyses involving a predicted variable, each variable was assessed in plots where standardized residuals plotted against predicted values (i.e., plots of x against y). Most of the residuals in each variable were neither above the zero line on the plot at some predicted values nor below the zero line at other predicted values; that is, there was no violation of linearity (Tabachnick & Fidell, 2013).

Ethics of the Research

As in all social research, the survey researchers should be attentive to the ethical manner in which the research was conducted in order to avoid risks to participants and respondents (Fowler, 2009). This study maintained ethical principles using techniques suggested by Fowler (2009) and the ethical conduct of research in public relations (Stacks, 2011). Before the online survey was launched, this study was officially approved by Louisiana State University Institutional Review Board (IRB) (IRB# E9676) in November, 2015.

The participants were informed via a consent form before they started taking the online survey (i.e., "informing respondents" principle): 1) the name of researcher and organization, 2) sponsorship, 3) a reasonably accurate, through brief, description of the purposes of the research, 4) an accurate statement of the extent to which answers are protected with respect to confidentiality, 5) assurance that cooperation is voluntary and that no negative consequences for those who decide not to participant in the study, and 6) assurance that respondents can skip any questions (Folwer, 2009, p. 164; Stacks, 2011).

To protect respondents, this study maintained standard procedures minimizing the chances of a breach of confidentiality (Folwer, 2009; Stacks, 2011). There were no questions asking specific identifiers such as names, addresses, e-mail, or telephone numbers. As a result, there was no any link between answers and identifiers. In the actual data files, random ID

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numbers generated by the online survey service (i.e., Qualtrics.com) were assigned to

participants. The completed survey data were locked and not accessible to nonproject members.

As the key ethical responsibility regarding benefits to participants, the benefits (e.g.,

better understanding of crisis communication) were not overstated. For the direct benefits, as

aforementioned, cash incentives (i.e., $4.80 per participant) decided by the online survey service

were used (Folwer, 2009).

CHAPTER 4
RESULTS

By conducting a pretest, preliminary test, and main-test, this study was able to design and

conduct various types of reliability and validity analyses to meet its main purpose, conducting

empirical tests to develop measurable resilience assets and refine multiple scales (Netemeyer,

Bearden, & Sharma, 2003). Since the measurement items were used identically in preliminary

test ($N = 313$) and main test ($N = 313$), the both data sets were combined for the data analysis.

Descriptive Statistics

After screening the data, 34 cases were deleted as outliers (i.e., $N = 34$), and the total

number of sample was 510 for data analysis. Ages of participants ranged from 19 to 65 years old,

with an average age of 40.12 ($SD = 0.51$). The gender makeup of the sample was 50.2% ($n =$

256) were male, and 49.8% ($n = 254$) were female. The participants' regions were Northeast

(17.5%, $n = 89$), Midwest (22.9%, n = 117), South (36.5%, $n = 186$), and West (23.1%, $n = 118$).

The majority of participants (78.6%, $n = 401$) were White, 7.6% ($n = 39$) were Asian or Asian

American, 6.5% ($n = 33$) were African American, 6.3% ($n = 32$) were Hispanic/Latino, and 1%

($n = 5$) were other races. 8.4% of respondents ($n = 43$) had a high school degree or less, 27.1% (n

= 138) had a two-year associate degree or less, 37.1% ($n = 189$) had a bachelor's degree or less

than four year university level, and 27.4% ($n = 140$) had a post-graduate degree or less.

Regarding income in 2014, a majority number (78.9%, $n = 302$) earned more than $50,000;

12.2% ($n = 62$) earned $150,000 or more, 22.0% ($n = 112$) were 100 to under $150,000, 21.4%

($n = 109$) earned $75,000 to under $100,000, and 23.3% ($n = 119$) had an income of $50 to under

$ 75,000. 21% ($n = 108$) were under $50,000; 8.8% ($n = 45$) were 40 to under $50,000, 6.7% ($n$

= 34) were 30 to under $40,000, 3.5% (*n* = 18) were 20 to under $30,000, and 2.2% (*n* = 11)

were 10 to under $20,000 (See Table 6).

Participants were all full-time employees in different positions such as director or

supervisor, team leader, manager or administrative manager, associate or administrative, analyst,

and technician. On average, participants have worked at their current company almost 10 years

(*M* = 9.57, *SD* = 8.52). 64.9% (*n* = 331) of participants have worked at their current company

less than 10 years. 21.6% (*n* = 110) have worked more than 10 years and less 20 years, and 8.4%

(*n* = 43) have worked more than 20 years and less than 30 years. Those who have worked more

than 30 years were 5.1% (*n* = 26). The majority number of participants (72.3%, *n* = 369) work in

large corporations with 1,000 or more employees; 1,000 to 4,999 (29.4%, *n* = 150), 5,000 to

9,999 (13.1%, *n* = 67), and 10,000 or more (29.8%, *n* = 152). Others work in the organizations

with 300 to 499 (4.9%, *n* = 25) and 500 to 999 employees (22.7%, *n* = 116) (See Table 6).

Table 6.
Sample descriptive statistics (N=510)

Variables		*n*	*%*
Age *M*: 40.12 *SD*: 0.51 Range: 19 to 65	19 to 29	84	16.5
	30 to 39	203	39.8
	40 to 49	99	19.4
	50 to 59	84	16.5
	60 to 65	40	7.8
Gender	Female	254	49.8
	Male	256	50.2
Region	Northeast	89	17.5
	Midwest	117	22.9
	South	186	36.5
	West	118	23.1
Race	White	401	78.6
	Asian American or Asian	39	7.6
	African American	33	6.5
	Hispanic/Latino	32	6.3

Table 6 (continued).

Variables		*n*	*%*
Race	Other races	5	1.0
Education	High school degree or less than high school level	43	8.4
	Two year associate degree or less than associate level	138	27.1
	Bachelor's degree or less than four year university level	189	37.1
	Post-graduate degree or less than post-graduate level	140	27.4
Income	10 to under $20,000	11	2.2
	20 to under $30,000	18	3.5
	30 to under $40,000	34	6.7
	40 to under $50,000	45	8.8
	50 to under $75,000	119	23.3
	75 to under $100,000	109	21.4
	100 to under $150,000	112	22.0
	$150,000 or more	62	12.2
The length of employment	Less than 1 year	27	5.3
	1 to less than 5 year	187	36.7
	6 to less than 10 years	147	28.8
	11 to less than 15 years	63	12.4
	16 to less than 20 years	26	5.1
	21 to less than 25 years	19	3.7
	26 to less than 30 years	21	4.1
	31 to less than 35 years	10	2.0
	More than 36 years	10	2.0
Organization size by employees	300- 499	25	4.9
	500 – 999	116	22.7
	1,000 – 4,999	150	29.4
	5,000 – 9,999	67	13.1
	10,000 or more	152	29.8

Regarding industry sectors, more than a half of participants (55.6%, $n = 284$) were drawn from five industry sectors, including manufacturing (12.9%, $n = 66$), health care and social assistance (12.5%, $n = 64$), professional & business service (11.6%, $n = 59$), education service (9.6%, $n = 49$), and retail trade (9.0%, $n = 46$). Around 30% ($n = 154$) of participants were in the

information sector (7.8%, $n = 40$), financial activities (6.5%, $n = 33$), public sector (6.1%, $n = 31$), constructing (4.9%, $n = 25$), and transportation and warehousing (4.9%, $n = 25$). Other participants were in other services (e.g., repair & maintenance, personal & laundry services, and religious) (3.5%, $n = 18$), in agriculture, forestry, fishing & hunting (3.1%, $n = 16$), wholesale trade (2.4%, $n = 12$), leisure and hospitality (2.4%, $n = 12$), mining, quarrying, and oil and gas extraction (1.4%, $n = 7$), and utilities industry (1.4%, $n = 7$) (See Table 7).

Table 7.
Descriptive statistics of participants' industry sectors

Industry sectors	n	%
Agriculture, Forestry, Fishing and Hunting	16	3.1
Mining, quarrying, and oil & gas extraction	7	1.4
Construction	25	4.9
Manufacturing	66	12.9
Wholesale trade	12	2.4
Retail trade	46	9.0
Transportation and warehousing	25	4.9
Utilities	7	1.4
Information	40	7.8
Financial activities	33	6.5
Professional and business services	59	11.6
Educational services	49	9.6
Health care and social assistance	64	12.5
Leisure and hospitality	12	2.4
Other services (except public administration)	18	3.5
Public sector	31	6.1
Total	510	100

Data Analysis and Results

Initial Item Analysis: Exploratory Factor Analysis

Initial item analysis criteria. For an initial item analysis, the current study examined Cronbach's alpha of the main variables to assess reliability and internal consistency (acceptable level > 0.70), as well as exploratory factor analysis (EFA) to assess the loadings

dimensionalities, and eigenvalues of the model (i.e. data reduction). EFA was used for two primary purposes "a) to reduce the number of items in a scale so that the remaining items maximize the explained variance in the scale and maximize the scale's reliability and b) to identify potential underlying dimensions in a scale" (Netemeyer et al., 2003, p. 121).

Regarding factor analysis, there two methods, EFA and principal component analysis (PCA), widely used, and the purpose of both methods is to understand "how much of a variable's variance is shared with other variable in that factor versus what cannot be shared (e.g., unexplained)" (Hair et al., 2010, p. 105). PCA is most appropriate when "data collection is a primary concern, focusing on the minimum number of factors needed to account for the maximum portion of the total variance represented in the original set of variables" (Hair et al., 2010, p. 107). EFA-based common factor analysis (i.e., EFA) is most appropriate when "the primary objective is to identify the latent dimensions or constructs represented in the original variables" (Hair et al., 2010, p. 108). EFA is often viewed as more theoretically based with its more restrictive assumptions and use of only the latent dimensions (shared variance) (Hair et al., 2010; Tabachnick & Fidell, 2013). Moreover, confirmatory factor analysis (CFA) is widely used for scale finalization, EFA-based common factor analyses generalize better to CFA than does PCA (Floyd & Widaman, 1995; Netemeyer et al., 2003). Since this study used CFA for scale finalization and sought for theory-based factor analysis, EFA-based common factor analysis was chosen and used in this study.

The current study adopted several criteria for extracting factors, known as "rules of thumb" most often applied for EFA (Hair et al., 2010, p. 111; Netemeyer et al., 2003, p. 122). First, the "eigenvalue-greater-than-1" rule (i.e., latent root criterion) was applied to determine the initial number of factors to retain (Hair et al., 2010). Similarly, the latent root criterion is that any

individual factor should account for the variance of at least a single variable to be retained (Hair et al., 2010). Each variable contributes a value of 1 to the total eigenvalue; that is, each factor (component) has an eigenvalue that represents the amount of variance accounted for by the factor, where the sum of all eigenvalues is equal to the number of items analyzed. An eigenvalue less than 1 indicates that the factor accounts for less variance than any single item (Netemeyer et al., 2003).

As the second rule for retaining factors, this study maintained the number of items that substantially load on a factor. Although substantial level is still debatable, loadings in the .40 range and above have been considered substantial and loadings above .50 have been considered as very significant (Floyd & Widaman, 1995; Hair at el., 2010). However, many researchers suggest that "sample size must be considered in judging not only the size of the factor loading but also its stability" (Clark & Watson, 1995; Comrey, 1988; Floyd & Widaman, 1995; Hair et al., 2010; Netemeyer et al., 2003, p. 123). Therefore, the study considered substantial loading above .30 range according to Hair et al.'s (2010) "the guidelines for identifying significant factor loadings based on sample size"[27] (p. 116). This study also retained items with loadings no greater than .90 as Netemyer et al. (2003) suggested.

As the third rule called percentage of variance criterion, this study considered "the amount of variance being explained by an extracted factor in relation to the total variance explained by the entire factor solution" (Netemyer et al., 2003, p. 124). The percentage of variance criterion is an approach based on "achieving a specified cumulative percentage of total variance extracted by successive factors" (Hair et al., 2010, p. 109). There is no absolute

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[27] Hair et al. (2010) suggested that 350 sample size is needed for significance of .30 range factor loading. The significance is based on a .05 significance level (α), a power level of 80 percent, and standard errors assumed to be twice those of conventional coefficient. For this reason, it is reasonable that this study with total sample of 544 adopted the above .30 factor loading criterion.

threshold, but factors that accounts for 60% of the total variance are considered as satisfactory or meaningful factor (Hair et al., 2010; Netemyer et al., 2003). Hence, this study extracted the number of factors that accounted for 60% of the variance in the items.

To make factors more interpretable, factors extracted based on the above rules were rotated. Numerous methods of rotation are available (Tabachnick & Fidell, 2013), but the current study chose oblique rotation methods (i.e., PROMAX) because the methods are widely advised (Netemyer et al., 2003). A simplest case of rotation is an orthogonal factor rotation that keeps factors uncorrelated in which the axes are maintained at 90 degrees (Hair et al., 2010). When not constrained to be orthogonal, the rotational procedure is called oblique factor rotation (Netemyer et al., 2003). Oblique factor rotation allows correlated factors instead of maintaining independence between the rotated factors (Hair et al., 2010). In most cases, oblique rotation is considered best suitable method for obtaining several theoretically meaningful factors or constructs because few constructs in the real world are uncorrelated (Hair et al., 2010; Netemyer et al., 2003). Hence, this study used oblique rotation method to interpret factors after extracting.

Using STATA 13, a series of exploratory factor analyses (EFA) were run to define the underlying structure among the variables in the analysis (Hair et al., 2010). After EFA, this study examined internal consistency estimates, reliability (i.e., Cronbach's alpha (α)) and item-based statistics (i.e., corrected item-to-total correlations: CIC) (Clark & Watson, 1995; Cortina, 1993; Hair et al., 2010; Netemeyer et al., 2003). As the most widely used measure, Cronbach's alpha (α) is a reliability measure used to assess the consistency of entire scales (Hair et al., 2010). Corrected item-total correlation[28] shows "how the item is correlated with a scale computed from only the other items" (William, 2015, p. 3).

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[28] STATA program calls it "item-rest correlation" (William, 2015, p. 3).

To retain items for further analysis (i.e., confirmatory factor analysis), this study considered Hair et al.'s (2010) and Netemeyer et al.'s (2003) suggestions (i.e., greater than .40 but no greater than .90) for factor loadings. Hair et al. (2010) and Netemeyer et al. (2003) suggest that factor loadings with .40 are considered to meet the minimal level for interpretation of structure. Regarding high factor loading, Netemeyer et al. (2003) maintains that items with extremely high loadings (i.e., >.90) could be "indicative of wording redundancy that does not add substantively to a scale's internal consistency or validity" (p. 125). When considering internal consistency estimates, only items with corrected item-to-total correlations greater than .50 were retained, and Cronbach's α greater than .70 as reliability of the entire items retained, were considered as acceptable levels (Clark & Watson, 1995; Cortina, 1993; Hair et al. 2010).

In this study, five groups of variables, including authentic leadership, transparent communication, two-way symmetrical communication, organization- employee relationships (OER), and employee generated organizational resilience asset (EGORA), were posited as causal structures in the hypothesized SEM. The following information contains more details of the EFA results:

Authentic leadership. To measure the authentic leadership variable, 14 items in four dimensions, including self-awareness (three items), relational transparency (three items), and internalized moral perspective (four items), and balanced process (four items), were used. EFA revealed one factor with all items retained through oblique rotation method PROMAX; Eigenvalue: 10.26, Variance Explained (%): 97.96, and Cronbach's α: 0.97 (See table 8).

Table 8.

Exploratory factor analysis results with PROMAX of authentic leadership (AL) scales (N = 510)

Items	Factor Loadings	CIC
AL1: My manager describes accurately the way others view his / her abilities (Self-awareness).	0.88	0.86
AL2: My manager shows that he/she understands his/her strengths and weaknesses (Self-awareness).	0.89	0.88
AL3: My manager is clearly aware of the impact he/she has on others (Self-awareness).	0.85	0.84
AL4: My manager clearly states what he/she means (Relational transparency).	0.85	0.84
AL5: My manager openly shares information with others (Relational transparency).	0.88	0.84
AL6: My manager expresses his/her ideas and thoughts clearly to others (Relational transparency).	0.88	0.86
AL7: My manager shows consistency between his/her beliefs and actions (Internalized moral perspective).	0.84	0.83
AL8: My manager uses his/her core beliefs to make decisions (Internalized moral perspective).	0.85	0.83
AL9: My manager resists pressures on him/her to do things contrary to his/her beliefs (Internalized moral).	0.83	0.82
AL10: My manager is guided in his/her actions by internal moral standards (Internalized moral).	0.83	0.82
AL11: My manager asks for ideas that challenge his / her core beliefs (Balanced processing).	0.84	0.83
AL12: My manager carefully listens to alternative perspectives before reaching a conclusion (Balanced processing).	0.89	0.88
AL13: My manager objectively analyzes relevant data before making a decision (Balanced processing).	0.87	0.86
AL14: My manager encourages others to voice opposing points of view (Balanced processing).	0.84	0.83

Eigenvalue: 10.26

Variance Explained (%): 97.96

Cronbach's α: 0.97

Note. Factor loadings are based on oblique rotation method (PROMAX). CIC: corrected item-to-total correlations.

Two-way symmetrical communication. Seven items were used to measure two-way

symmetrical communication. EFA revealed one factor with all items retained through oblique

rotation method PROMAX; Eigenvalue: 4.94, Variance Explained (%): 99.73, and Cronbach's α:

0.94 (See table 9).

Table 9.
Exploratory factor analysis results with PROMAX of two-way symmetrical communication
(TW) scales (N = 510)

Items	Factor Loadings	CIC
TW1: I am comfortable talking to my manager about my performance.	0.78	0.74
TW2: Most communication between management and other employees in our company can be said to be two-way communication.	0.88	0.85
TW3: Our company encourages differences of opinion.	0.88	0.85
TW4: The purpose of communication in our company is to help managers be responsive to the problems of employees.	0.89	0.87
TW5: Supervisors encourage employees to express differences of opinion.	0.86	0.84
TW6: Employees are usually informed about major changes in policy that affect our job before they take place.	0.74	0.72
TW7: Employees are usually informed about major changes in policy that affect our job before they take place.	0.83	0.80
Eigenvalue: 4.94		
Variance Explained (%): 99.74		
Cronbach's α: 0.94		

Note. Factor loadings are based on oblique rotation method (PROMAX). CIC: corrected item-to-total correlations.

Transparent communication. For transparent communication, 18 items were used in

three dimensions where were participative, substantial, and accountable. EFA revealed one factor

with 17 items retained after one item was deleted. The item (i.e., TR 10) had a factor loading

greater than .90 (i.e., .91) (Netemeyer et al., 2003). Oblique rotation method with PROMAX was

used for interpretation; Eigenvalue: 13.31, Variance Explained (%): 94.43, and Cronbach's α:

0.98 (See table 10).

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Table 10.

Exploratory factor analysis results with PROMAX of transparent communication (TR) scales (N = 510)

Items	Factor Loadings	CIC
TR1: My company asks for feedback from people like me about the quality of its information (Participative).	0.88	0.87
TR2: My company involves people like me to help identify the information I need (Participative).	0.89	0.89
TR3: My company provides detailed information to people like me (Participative).	0.89	0.89
TR4: My company makes it easy to find the information people like me need (Participative).	0.88	0.86
TR5: My company asks the opinions of people like me before making decisions (Participative).	0.87	0.86
TR6: My company takes the time with people like me to understand who we are and what we need (Participative).	0.89	0.88
TR7: My company provides information in a timely fashion to people like me (Substantial).	0.89	0.88
TR8: My company provides information that is relevant to people like me (Substantial).	0.89	0.88
TR9: My company provides information that can be compared to previous performance (Substantial).	0.83	0.82
*TR10: My company provides information that is complete (Substantial).	0.91	-
TR11: My company provides information that is easy for people like me to understand (Substantial).	0.86	0.84
TR12: My company provides accurate information to people like me (Substantial).	0.87	0.85
TR13: My company provides information that is reliable (Substantial).	0.85	0.83
TR14: My company presents more than one side of controversial issues (Accountable).	0.74	0.74
TR15 My company is forthcoming with information that might be damaging to the organization (Accountable).	0.76	0.75
TR16 My company is open to criticism by people like me (Accountable).	0.86	0.86
TR17 My company freely admits when it has made mistakes (Accountable).	0.85	0.84
TR18 My company provides information that can be compared to industry standards (Accountable).	0.81	0.80

Eigenvalue: 13.31

Variance Explained (%): 94.43

Cronbach's α: 0.98

Table 10 (continued).
Note. Factor loadings are based on oblique rotation method (PROMAX). CIC: corrected item-to-total correlations. *TR10 was deleted in the procedure of Cronbach's α due to extremely high loading (.91) in EFA.

Organization-employee relationship. The quality of the organization-employee relationship was measured by 21 items in four dimensions, including trust with six items, control mutuality with five items, commitment with five items, and satisfaction with five items. EFA resulted in one factor with 20 items retained. One item (i.e., OER 13) had a factor loading greater than 0.90 (i.e., 0.91) and it was deleted (Netemeyer et al., 2003). Oblique rotation method with PROMAX was used for interpretation; Eigenvalue: 15.22, Variance Explained (%): 93.58, and Cronbach's α: 0.98. (See table 11).

Table 11.
Exploratory factor analysis results with PROMAX of the quality of organization-employee relationships (OER) scales (N = 510)

Items	Factor Loadings	CIC
OER1: My company treats people like me fairly and justly (Trust: Integrity)	0.86	0.85
OER2: Whenever my company makes an important decision, I know it will be concerned about people like me (Trust: Integrity).	0.86	0.85
OER3: My company can be relied on to keep its promises (Trust: Dependability).	0.86	0.85
OER4: I believe that my company takes the opinions of people like me into account when making decisions (Trust: Dependability).	0.88	0.88
OER5: I feel very confident about my company's skills (Trust: Competence).	0.82	0.81
OER6: My company has the ability to accomplish what it says it will do (Trust: Competence).	0.79	0.77
OER7: My company and people like me are attentive to what each other say (Control Mutuality).	0.86	0.85
OER8: My company believes the opinions of people like me are legitimate (Control Mutuality).	0.89	0.88
OER9: In dealing with people like me, my company has a tendency to throw its weight around (^R) (Control Mutuality).	0.58	0.58

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Table 11 (continued).

Items	Factor Loadings	CIC
OER10: My company really listens to what people like me have to say (Control Mutuality).	0.89	0.89
OER11: The management of my company gives people like me enough say in the decision-making process (Control Mutuality).	0.87	0.86
OER12: I feel that my company is trying to maintain a long-term commitment to people like me (Commitment).	0.89	0.88
*OER13: I can see that my company wants to maintain a relationship with people like me (Commitment).	0.91	-
OER14: There is a long-lasting bond between my company and people like me (Commitment).	0.89	0.88
OER15: Compared to other companies, I value my relationship with my company more (Commitment).	0.87	0.86
OER16: I would rather work together with my company than not (Commitment).	0.75	0.73
OER17: I am happy with my company (Satisfaction).	0.86	0.85
OER18: Both my company and people like me benefit from the relationship (Satisfaction).	0.85	0.83
OER19: Most people like me are happy in their interactions with my company (Satisfaction).	0.88	0.87
OER20: Generally speaking, I am pleased with the relationship my company has established with people like me (Satisfaction).	0.89	0.88
OER21: Most people enjoy dealing with my company (Satisfaction).	0.85	0.84

Eigenvalue: 15.22
Variance Explained (%): 93.58
Cronbach's α: 0.98

Note. Factor loadings are based on oblique rotation method (PROMAX). CIC: corrected item-to-total correlations. ^R: Reversed item. *OER13 was deleted in the procedure of Cronbach's α due to extremely high loading (.91) in EFA.

Employee generated organizational resilience (EGORA). EGORA was measured by 34 items. Fourteen items were used for competence, four items for self-efficacy, eight items for sensemaking communicative action, and eight items for sensegiving communicative action. EFA revealed that there were four factors with 25 items retained; competence with 11, self-efficacy

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with 2, sensemaking communicative action with six, and sensegiving communicative action with six. Factor loading in one item (i.e., SG 1) did not meet the minimal level (0.40), and two items had factor loadings greater than .90 (i.e., SM 5: 0.91 and 7: 0.92). Six items had cross-loadings (i.e., COM10, 11, 12, SEF1, 4, SG2). Hence, nine items were deleted from further analysis. Oblique rotation method with PROMAX was used for interpretation; Eigenvalue: 3.36 (four factors), Variance Explained (%): 14.49 (four factors), Cronbach's α: 0.94 (competence), 0.93 (sensemaking communicative action), 0.91 (sensegiving communicative action), and reliability (*r*) of self-efficacy: 0.88 (See table 12).

Table 12.
Exploratory factor analysis results with PROMAX of employee generated organizational resilience (EGORA) scales (N = 510)

Items	Factor Loadings				CIC
	COM	SEF	SM	SG	
COM1: I am confident about my ability to do my job (Competence 1)	**0.77**				0.75
COM2: I am self-assured about my capabilities to perform my work activities (Competence 2).	**0.82**				0.78
COM3: I have mastered the skills necessary for my job (Competence 3).	**0.77**				0.75
COM4: I would analyze complex problems in depth (Competency: Problem solving 1).	**0.69**				0.76
COM5: I would deal with problems or faults (which could be through my own work, someone else's work or equipment) (Competency: Problem solving 2).	**0.81**				0.80
COM6: I would spot problems or defaults (which could be through my own work, someone else's work or equipment) (Competency: Problem solving 3).	**0.75**				0.76
COM7: I would think of solutions to problems (which could be through my own work, someone else's work or equipment) (Competency: Problem solving 4).	**0.82**				0.81
COM8: I would deal with people and to interact with them (Competency: Professional relations 1).	**0.82**				0.80

Table 12 (continued).

Items	Factor Loadings				CIC
	COM	SEF	SM	SG	
COM9: I would persuade or influence others (Competency: Professional relations 2).	**0.41**				0.60
*COM10: I would counsel, advise or care for others (Competency: Professional relations 3)	0.56	0.38			-
*COM11: I would instruct, train or teach people, individually or in groups (Competency: Professional relations 4).	0.64	0.32			-
*COM12: I would join a group effort (Competency: Team work 1).	0.49	0.35			-
COM13: I would help other members of my team (Competency: Team work 2).	**0.84**				0.77
COM14: I would listen carefully to colleagues (Competency: Team work 3).	**0.70**				0.76
*SEF1: Whatever this issue or crisis takes me, I am sure I can handle it.	0.70				-
SEF2: I get nervous [that] I may not be able to do all that is demanded of me by this issue or crisis(^R).		**0.83**			-
SEF3: I have reason to believe I may not perform well in my job situation following this issue or crisis (^R).		**0.84**			-
*SEF4: Though I may need some training, I have little doubt I can perform well following this issue or crisis.	0.49				-
SM1: I would meet and check with suppliers and government officials to collect new information.			0.65	0.88	0.77
SM2: I would voluntarily meet and check with those people who have grievances with organization.			0.73	0.89	0.82
SM3: I would voluntarily check people's feedback on this issue or crisis.			0.66	0.85	0.81
SM4: I would search for new information and subscribe to Listserv, newsletters, publications for organization.			**0.79**		0.78
*SM5: I would even after working hours contact strategic publics and stakeholders for their complaints and new information and share the information with colleagues.			**0.91**		-
SM6: I would make extra effort to cultivate and maintain relationships with external stakeholders and strategic publics.			**0.84**		0.80

Table 12 (continued).

Items	Factor Loadings				CIC
	COM	SEF	SM	SG	
*SM7: I would meet people who work for similar businesses and check rumors and news about organization or business.			**0.92**		-
SM8: I would start conversation or give information to relevant colleagues about new trends or unusual signals related to work.			**0.70**		0.79
*SG1: Employees are not afraid to speak up during meetings with supervisors and managers.			0.30		-
*SG2: I would writing positive comments or advocating posting for my organization on the Internet.			0.54	0.42	-
SG3: I would say good things to friends and neighbors about positive aspects of the management and company.				**0.61**	0.78
SG4: I would recommend my organization and its service / products to people.				**0.61**	0.77
SG5: I would attempt to persuade people who have negative opinions about my organization.				**0.67**	0.78
SG6: I would refute prejudiced or stereotyped opinions about my organization.				**0.71**	0.77
SG7: I would argue with those who criticized my organization and business.				**0.71**	0.72
SG8: I would become upset and tend to speak up when encountering ignorant or biased opinions about my organization.				**0.66**	0.71

Eigenvalue: 15.22

Variance Explained (%): 93.58

Cronbach's α: 0.94 (competence), 0.93 (sensemaking communicative action),
0.91 (sensegiving communicative action), and reliability (r) of self-efficacy: 0.88

Note. COM: competence, SEF: self-efficacy, SM: sensemaking communicative behavior, SG: sensegiving communicative behavior. CIC: Corrected Item-to-total correlation. Factor loadings in bold type were considered for cluster interpretation (i.e., each dimension of EGORA). Factor loadings are based on oblique rotation method (PROMAX). ^R: Reversed item. *SG1 (< 0.40), SM5 (> 0.90), and SM7 (> 0.90) were deleted in the procedure of Cronbach's α due to factor loading issues such as minimal and high levels in EFA. COM10, COM11, COM12, SEF1, SEF4, SG2 were also deleted in the procedure of Cronbach's α because of cross-loading issues in EFA. Since self-efficacy had two items, SEF2 and SEF3, its reliability (r) coefficient was assessed.

Hypothesis Testing: Two-Step Structural Equation Modeling

Structural equation modeling (SEM) using AMOS 20 was run as the primary statistical analysis for hypothesis testing. SEM is a family of statistical models that seek to explain the relationships between one or more independent variables and one or more dependent variables (Bentler, 1988; Byrne, 2010; Tabachnick & Fidell, 2013). SEM examines "the structure of interrelationships expressed in a series of equations" (i.e., a series of regression equations), similar to multiple regression equations (Byrne, 2010; Hair et al., 2010, p. 616). The equations depict all of the relationships among constructs (the dependent and independent variables) involved in the analysis (Hair et al., 2010). Constructs are unobservable or latent factors represented by multiple variables (Kline, 2011). By using latent concepts, theoretical concepts can be better presented through multiple measures of a concept to reduce the measurement error of that concept (Hair et al., 2010). In addition, the statistical estimation of the relationships between concepts can be improved by accounting for the measurement error in the concepts (Hair et al., 2010; Kline, 2011).

For hypothesis testing, this study conducted a two-step structural equation modeling, including measurement and structural phases (Kline, 2011; Mueller & Hancock, 2008). The two-step (phase) process is recommended over an all-in-one approach because it allows a researcher to realize misspecification and address it first before the structure among latent constructs is assessed (Anderson & Gerbing, 1988; Mueller & Hancock, 2008).

Confirmatory factor analysis (CFA). In the measurement phase, initial confirmatory factor analysis (CFA) based on EFA results was conducted to analyze and select the best measurement items for each construct. CFA helped this study finalize and confirm a theoretical factor structure and test for the invariance of the factor structure (Netemyer et al., 2003). CFA is

useful to detect individual items that may threaten the dimensionality of the scale and the items can be trimmed (Floyd & Widaman, 1995; Netemyer et al., 2003). The initial CFA was evaluated by several criteria such as acceptable range of parameter estimates, fit indices, significance of parameter estimates, and modification indices (Hair et al., 2010).

Regarding an acceptable range of parameter estimates, running the initial CFA helped this study check if there was any out-of-range parameter estimates[29] such as Heywood cases (i.e., negative error variances of items) and completely standardized parameter estimates greater than 1. Since this study conducted EFA as initial item analysis[30], there was no out-of-range estimate problem.

The initial CFA model fit was assessed by using fit indices, allowing the theoretical measurement model comparison against reality, as represented by the sample (Hair et al., 2010). To assess the initial CFA model, this study adopted Hu and Bentler's (1999) joint criterion (i.e., comparative fit index (CFI) ≥ 0.95 and standardized root mean residual (SRMR) ≤ 0.80 or root mean square error of approximation (RMSEA) ≤ 0.05 and SRMR ≤ 0.08) and Hair et al.'s (2010) characteristics of different fit indices demonstrating goodness-of-fit across different model situation (i.e., significant p-values expected in chi-square (χ^2) statistics, CFI or Tucker Lewis index (TLI) ≥ 0.90, SRMR ≤ 0.08 with CFI ≥ 0.92, and RMSEA ≤ 0.07 with CFI ≥ 0.92)[31]. As

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[29] Netemyer et al. (2003) explained well the problem about out-of-range parameter estimates: "CFA is conducted with SEM packages that use maximum likelihood estimation (MLE). MLE involves an iterative process in which the observed covariance matrix (among items) is compared with an implied or theoretical matrix to minimize the differences (or residuals) between the observed and implied variables. The SEM package iterates until these differences are minimized. When the differences can no longer be reduced further, convergence occurs. Thus, an initial step in model evaluation is to determine if the CFA solution converges. SEM packages generally issue a warning if the solution has not converged. Still, a converged solution may contain out-of-range parameter estimates ("offending estimates")" (p. 150).

[30] EFA helps to determine which items could be candidates for deletion are called for to avoid out-of-range estimate problems (Netemyer et al., 2003).

[31] These criteria are applied to more than 300 samples with 30 observed variables (i.e., indicators). The initial CFA model of this study (N = 510) had 84 indicators.

absolute fit indices, specifically, χ^2 statistics, RMSEA, SRMR, and normed χ^2 (NC) (i.e., ration χ^2: *df*) were adopted (Hair et al., 2010; Netemyer et al., 2003). Absolute fit indices are a direct measure of "how well the model specified by the researcher reproduces the observed data" (Hair et al., 2010, p. 648). Incremental indices assessing "how well the estimated model fits relative to some alternative baseline model" were also considered (Hair et al., 2010, p. 650). CFI and NFI, the most widely reported, were assessed (Hair et al., 2010; Hu & Bentler, 1999).

The initial CFA model provided additional diagnostic information that may suggest modifications for improving the model's test of measurement theory. Because CFA's ultimate goal is to obtain an answer as to whether a given measurement model is valid, this study used the modification indices (MIs) as a guidelines for model improvement (Byrne, 2010; Hair et al., 2010). Netemyer et al. (2003) suggested that "MIs greater than 3.84 are considered statistically significant ($p <.05$), thus freeing a parameter with an MI of 3.84 or greater would significantly improve model fit" (p. 155). By freeing parameters with MIs greater than 3.84, the CFA achieved the acceptable model fit (i.e., final CFA model) in terms of Hu and Bentler's (1999) joint criterion and Hair et al.'s (2010) criterion.

Furthermore, this study checked correlated residuals and cross-loadings, excluded low-loadings, and used items that met criteria in each latent variable. In the final CFA phase (the measurement phase), the current study attempted to ensure minimal differences in factor loadings for the same indicator, so that composites for the indicators can be invariant across samples. For construct validity of measurement items, the study use the criterion of extracted variance (i.e., average squared standardized factor loadings) by the indicators for a given latent variable. To successfully establish construct validity and composite reliability in all measurement items, Hair et al.'s (2010) golden rule for construct validity was used (standardized loading

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estimate > 0.50, convergent validity: average variance extracted (AVE) > 0.50, discriminant

validity: AVE > ASV) and composite reliability (CR > 0.70)).

After initial item analysis and CFA, I then proceeded with the second step of the

structural phase, applying the final confirmatory models to test the proposed structural models

(Hair et al., 2010; Kline, 2011). For the structural model goodness-of-fit, this study used Hu and

Bentler's (1999) joint criterion (i.e., CFI ≥ 0.95 and SRMR ≤ 0.80 or RMSEA ≤ 0.05 and SRMR

≤ 0.08) and Hair et al.'s (2010) criteria (i.e., significant *p*-values expected in chi-square (χ^2)

statistics, CFI or TLI ≥ 0.90, SRMR ≤ 0.08 with CFI ≥ 0.92, and RMSEA ≤ 0.07 with CFI ≥

0.92).

Based on EFA results and the criteria above, this study proceeded with CFA to assess

how well measured variables represent a smaller number of constructs. Through EFA, this study

could determine which variables load on a particular factor and how many factors are needed to

best represent the data. With CFA, researchers can "specify both the number of factors that exist

for a set of variable and which factor each variable should load on before results can be

computed" (Hair et al., 2010, p. 671). Using maximum likelihood estimation (MLE), in other

words, CFA statistics shows how well theoretical specification of the factors matches reality (the

actual data) by checking dimensionality of the measures and the covariance of items (i.e.,

composite reliability and construct reliability). Thus, CFA is a tool that enables researchers to

either confirm or reject preconceived theory (Hair et al., 2010; Netemeyer et al., 2003).

In addition, CFA is useful in providing a confirmatory test of measurement theory (Hair

et al., 2010). A measurement theory specifies "how measured variables logically and

systematically represent constructs involved in a theoretical model" (Hair et al., 2010, p. 671)

The measurement theory specifies a series of relationships that suggest how measured variables

represent a latent construct that is not measured directly, resulting in a full specification of a structural equation modeling (SEM) (Hair et al., 2010; Kline, 2011; Netemeyer et al., 2003).

In sum, CFA was used to confirm the scales' final form and fully specify SEM that are required for hypothesis testing in this study (Hair et al., 2010; Floyd & Widaman, 1995). To evaluate CFA models in this study, several criteria were used, including model convergence and an acceptable range of parameter estimates, fit indices, significance of parameter estimates and related diagnostics, modification indices, and measurement invariance (Netemeyer et al., 2003).

Using AMOS 22, the current study ran CFA that included each variable (latent variable) that has items underlying the single construct. EGORA was drawn as a second-order factor. This study conceptualized three dimensions, competence, sensemaking communication action, and sensegiving communicative action, extracted from EFA as a single factor, EGORA. In the initial CFA, there was no offending estimates (i.e., out-of-range parameter estimates) [32]. Specifically, there was neither negative error valence (called Heywood cases) nor completely standardized parameter estimates in item loadings and correlations among factors greater than 1 (Hair et al., 2010; Netemeyer et al., 2003). However, there was convergent validity issues from factor loadings. In the CFA, factor loadings indicate how well they converge on a common point, the latent construct (Hair et al., 2010). For this reason, standardized factor loadings should be statistically significant at a minimum level ($\geq .50$; ideal level $\geq .70$) (Hair et al., 2010). However, two items in self-efficacy specifically SEF2 ($\beta = 0.31$) and SEF3 ($\beta = 0.31$) did not meet the minimum level.

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[32] Since CFA is conducted based on MLE, that iterates until the differences (or residuals) between the observed and implied matrices, are minimized, the very initial step of CFA in this study was to determine if the CFA solution converged (i.e., model convergence and an acceptable range of parameter estimates) (Netemeyer et al., 2003).

Moreover, the initial CFA model (χ^2(3310, $N = 510$) = 12700.50, $p = 0.00$ $\chi^2/df = 3.83$, CFI = 0.82, TLI = 0.81, RMSEA = 0.08, SRMR = 0.06) was not an acceptable model fit in terms of joint criteria from Hu and Bentler (1999) (i.e., CFI $\geq$ 0.95 and SRMR $\leq$ 0.80 or RMSEA $\leq$ 0.05 and SRMR $\leq$ 0.08) and Hair et al. (2010) (i.e., $\chi^2/df \leq$ 3.00, TLI $\geq$ 0.90, SRMR $\leq$ 0.08 with CFI $\geq$ 0.92, and RMSEA $\leq$ 0.07 with CFI $\geq$ 0.92) (See Table 14). To improve the model through modification indices (MIs), this study followed Netemyer et al.'s (2003) a good rule of thumb and was adopted by freeing parameters with MIs greater than 3.84 that are considered statistically significant ($p <$.05). When looking at MIs, the two items (SEF2 and SEF3) in self-efficacy had an extremely high level of MI (i.e., MI: 301.08, Par Change: 2.03).

Because SEF2 and SEF3 had construct validity problems and could potentially hinder the goodness-of-fit of the initial CFA, the two items were deleted. Also, other parameters with MIs greater than 3.84 were freed, and CFA was then run again until the CFA model achieved an acceptable model fit in terms of Hu and Bentler's (1999) and Hair et al.'s (2010) joint criteria. While the CFA model was running, construct validity and composite reliability of all measurement items were checked again to meet Hair et al.'s (2010) golden rule for construct validity (standardized loading estimate > 0.50, convergent validity: average variance extracted (AVE) > 0.50, discriminant validity: AVE $>$ average shared squared variance (ASV)), and composite reliability (CR > 0.70))[33]. Four additional items were detected to be considered problematic in terms of discriminant validity because two variables, two-way symmetrical communication and the quality of organization-employee relationships, did not meet the criterion of discriminant validity (i.e., AVE $>$ ASV). For this reason, items associated with others in MIs

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[33] The golden rules about convergent validity and discriminant validity originated from Fornell and Larcker's (1981) procedure.

greater than 3.48 (e.g., MI: 60.02, Par Change: 0.26) and with relatively low factor loadings

(e.g., 0.58) were identified as TW1, TW7, OER9, & OER16. Those four items were deleted

because they were hindering discriminant validity of two-way symmetrical communication and

the quality of organization-employee relationships.

Consequently, construct validity (standardized loading estimate > 0.50, convergent

validity: AVE > 0.50, discriminant validity: AVE > ASV), and composite reliability (CR > 0.70)

were successfully established in all measurement items[34] (Hair et al., 2010) (See Table 13). As a

result, the final CFA model also achieved the acceptable model fit: χ^2 (2734, N =510) = 6361.86,

p = 0.00, χ^2/df = 2.33, CFI = 0.92, TLI = 0.92, RMSEA = 0.05, SRMR = 0.07 (See Table 14).

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[34] To compute convergent validity and discriminant validity, this study followed the procedure proposed by Fornell and Larcker (1981). In other words, AVE was calculated as the total of all squared standardized factor loadings (squared multiple correlations) divided by the number of items. ASV was calculated as the total of all square correlation estimates divided by the number of items. CR was computed from the squared sum of factor loadings for each construct and the sum of the error variance terms for a construct. For full procedure and formula, please see Hair et al. (2010, p. 687) and Fornell and Larcker (1981, pp. 383-385).

Table 13.
Composite reliability and construct validity of EGORA and its antecedents (N = 510)

Latent variables	Measurement items	Standardized Loading Estimate (β)	Explained Variance (R^2)	Composite Reliability (CR)	Average Variance Extracted (AVE)	Average Shared Variance (ASV)
Authentic Leadership	AL1: My manager describes accurately the way others view his / her abilities. (Self-awareness)	0.88	0.78	0.98	0.73	0.65
	AL2: My manager shows that he/she understands his/her strengths and weaknesses. (Self-awareness)	0.89	0.79			
	AL3: My manager is clearly aware of the impact he/she has on others. (Self-awareness)	0.86	0.74			
	AL4: My manager clearly states what he/she means. (Relational transparency)	0.85	0.72			
	AL5: My manager openly shares information with others. (Relational transparency)	0.84	0.70			
	AL6: My manager expresses his/her ideas and thoughts clearly to others. (Relational transparency)	0.86	0.74			
	AL7: My manager shows consistency between his/her beliefs and actions. (Internalized moral perspective)	0.84	0.70			
	AL8: My manager uses his/her core beliefs to make decisions. (Internalized moral perspective)	0.84	0.71			
	AL9: My manager resists pressures on him/her to do things contrary to his/her beliefs. (Internalized moral perspective)	0.82	0.68			
	AL10: My manager is guided in his/her actions by internal moral standards. (Internalized moral perspective)	0.83	0.68			
	AL11: My manager asks for ideas that challenge his / her core beliefs. (Balanced processing)	0.83	0.69			
	AL12: My manager carefully listens to alternative perspectives before reaching a conclusion. (Balanced processing)	0.89	0.78			
	AL13: My manager objectively analyzes relevant data before making a decision. (Balanced processing)	0.87	0.76			

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Table 13 (continued).

Latent variables	Measurement items	Standardized Loading Estimate (β)	Explained Variance (R^2)	Composite Reliability (CR)	Average Variance Extracted (AVE)	Average Shared Variance (ASV)
Authentic Leadership	AL14: My manager encourages others to voice opposing points of view. (Balanced processing)	0.84	0.71	0.98	0.73	0.65
Two-way Symmetrical Communication	TW2: Most communication between management and other employees in our company can be said to be two-way communication.	0.85	0.73	0.94	0.75	0.73
	TW3: Our company encourages differences of opinion.	0.90	0.81			
	TW4: The purpose of communication in our company is to help managers be responsive to the problems of employees.	0.91	0.82			
	TW5: Supervisors encourage employees to express differences of opinion.	0.87	0.76			
	TW6: Employees are usually informed about major changes in policy that affect our job before they take place.	0.80	0.65			
Transparent Communication	TR1: My company asks for feedback from people like me about the quality of its information (Participative).	0.88	0.78	0.98	0.73	0.69
	TR2: My company involves people like me to help identify the information I need (Participative).	0.90	0.81			
	TR3: My company provides detailed information to people like me (Participative).	0.90	0.81			
	TR4: My company makes it easy to find the information people like me need (Participative).	0.88	0.78			
	TR5: My company asks the opinions of people like me before making decisions (Participative).	0.88	0.78			
	TR6: My company takes the time with people like me to understand who we are and what we need (Participative).	0.90	0.81			
	TR7: My company provides information in a timely fashion to people like me (Substantial).	0.88	0.78			
	TR8: My company provides information that is relevant to people like me (Substantial).	0.89	0.80			

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Table 13 (continued).

Latent variables	Measurement items	Standardized Loading Estimate (β)	Explained Variance (R^2)	Composite Reliability (CR)	Average Variance Extracted (AVE)	Average Shared Variance (ASV)
Transparent Communication	TR9: My company provides information that can be compared to previous performance (Substantial).	0.84	0.70			
	TR11: My company provides information that is easy for people like me to understand (Substantial).	0.84	0.70			
	TR12: My company provides accurate information to people like me (Substantial).	0.85	0.72			
	TR13: My company provides information that is reliable (Substantial).	0.83	0.69			
	TR14: My company presents more than one side of controversial issues (Accountable).	0.73	0.54	0.98	0.73	0.69
	TR15 My company is forthcoming with information that might be damaging to the organization (Accountable).	0.73	0.66			
	TR16 My company is open to criticism by people like me (Accountable).	0.87	0.71			
	TR17 My company freely admits when it has made mistakes (Accountable).	0.84	0.75			
	TR18 My company provides information that can be compared to industry standards (Accountable).	0.81	0.54			
Organization-employee Relationship (OER)	OER1: My company treats people like me fairly and justly (Trust: Integrity).	0.87	0.76			
	OER2: Whenever my company makes an important decision, I know it will be concerned about people like me (Trust: Integrity).	0.87	0.75			
	OER3: My company can be relied on to keep its promises (Trust: Dependability).	0.87	0.76	0.98	0.74	0.73
	OER4: I believe that my company takes the opinions of people like me into account when making decisions (Trust: Dependability).	0.89	0.80			
	OER5: I feel very confident about my company's skills (Trust: Competence).	0.82	0.67			

Table 13 (continued).

Latent variables	Measurement items	Standardized Loading Estimate (β)	Explained Variance (R^2)	Composite Reliability (CR)	Average Variance Extracted (AVE)	Average Shared Variance (ASV)
Organization-employee Relationship (OER)	OER6: My company has the ability to accomplish what it says it will do (Trust: Competence).	0.78	0.60			
	OER7: My company and people like me are attentive to what each other say (Control Mutuality).	0.86	0.75			
	OER8: My company believes the opinions of people like me are legitimate (Control Mutuality).	0.90	0.80			
	OER10: My company really listens to what people like me have to say (Control Mutuality).	0.90	0.81			
	OER11: The management of my company gives people like me enough say in the decision-making process (Control Mutuality).	0.86	0.75			
	OER12: I feel that my company is trying to maintain a long-term commitment to people like me (Commitment).	0.89	0.79	0.98	0.74	0.73
	OER14: There is a long-lasting bond between my company and people like me (Commitment).	0.89	0.78			
	OER15: Compared to other companies, I value my relationship with my company more (Commitment).	0.86	0.73			
	OER17: I am happy with my company (Satisfaction).	0.85	0.71			
	OER18: Both my company and people like me benefit from the relationship (Satisfaction).	0.82	0.67			
	OER19: Most people like me are happy in their interactions with my company (Satisfaction).	0.86	0.74			
	OER20: Generally speaking, I am pleased with the relationship my company has established with people like me (Satisfaction).	0.88	0.77			
	OER21: Most people enjoy dealing with my company (Satisfaction).	0.84	0.70			

Table 13 (continued).

Latent variables	Measurement items	Standardized Loading Estimate (β)	Explained Variance (R^2)	Composite Reliability (CR)	Average Variance Extracted (AVE)	Average Shared Variance (ASV)
EGORA: Competence	COM1: I am confident about my ability to do my job.	0.69	0.48			
	COM2: I am self-assured about my capabilities to perform my work activities.	0.73	0.53			
	COM3: I have mastered the skills necessary for my job.	0.72	0.51			
	COM4: I would analyze complex problems in depth.	0.79	0.62			
	COM5: I would deal with problems or faults (which could be through my own work, someone else's work or equipment).	0.78	0.61			
	COM6: I would spot problems or defaults (which could be through my own work, someone else's work or equipment).	0.74	0.56	0.94	0.60	0.49
	COM7: I would think of solutions to problems (which could be through my own work, someone else's work or equipment).	0.80	0.64			
	COM8: I would deal with people and to interact with them.	0.82	0.67			
	COM9: I would persuade or influence others.	0.69	0.45			
	COM13: I would help other members of my team.	0.77	0.59			
	COM14: I would listen carefully to colleagues.	0.78	0.61			
EGORA: Sensemaking communicative behavior	SM1: I would meet and check with suppliers and government officials to collect new information.	0.67	0.45			
	SM2: I would voluntarily meet and check with those people who have grievances with organization.	0.67	0.45			
	SM3: I would voluntarily check people's feedback on this issue or crisis.	0.69	0.48	0.93	0.68	0.54
	SM4: I would search for new information and subscribe to Listserv, newsletters, publications for organization.	0.57	0.33			
	SM6: I would make extra effort to cultivate and maintain relationships with external stakeholders and strategic publics.	0.59	0.35			

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Table 13 (continued).

Latent variables	Measurement items	Standardized Loading Estimate (β)	Explained Variance (R^2)	Composite Reliability (CR)	Average Variance Extracted (AVE)	Average Shared Variance (ASV)
EGORA: Sensemaking communicative behavior	SM8: I would start conversation or give information to relevant colleagues about new trends or unusual signals related to work.	0.64	0.41	0.93	0.68	0.54
EGORA: Sensegiving Communicative Behavior	SG3: I would say good things to friends and neighbors about positive aspects of the management and company.	0.73	0.53	0.91	0.62	0.54
	SG4: I would recommend my organization and its service / products to people.	0.72	0.51			
	SG5: I would attempt to persuade people who have negative opinions about my organization.	0.65	0.42			
	SG6: I would refute prejudiced or stereotyped opinions about my organization.	0.63	0.39			
	SG7: I would argue with those who criticized my organization and business.	0.52	0.27			
	SG8: I would become upset and tend to speak up when encountering ignorant or biased opinions about my organization.	0.56	0.31			

Note. Construct validity (standardized loading estimate > 0.50, convergent validity: AVE > 0.50, discriminant validity: AVE > ASV), and composite reliability (CR > 0.70) were successfully established in all measurement items (Hair et al., 2010) Confirmatory factor analysis (CFA) model goodness-of-fit indices met all of the joint criteria by Hu and Bentler (1999) and Hair et al. (2010): χ^2(2734, N = 510) = 6361.86, p = 0.00, χ^2/df = 2.33, Comparative Fit Index (CFI) = 0.92, Tucker Lewis Index (TLI) = 0.92, Root Mean Square Error of Approximation (RMSEA) = 0.05, and Standardized Root Mean Residual (SRMR) = 0.07.

Table 14.

Data-model fits for confirmatory factor analysis (CFA) models (N = 510)

Model	χ^2	df	p	χ^2/df	CFI	TLI	SRMR	RMSEA	$\Delta\chi^2$
Initial CFA model	12700.50	3310	0.00	3.83	0.82	0.81	0.06	0.08	
Final CFA model	6361.86	2734	0.00	2.33	0.92	0.92	0.07	0.05	6338.64

Note. CFI: Comparative Fit Index, TLI: Tucker Lewis Index, RMSEA: Root Mean Square Error of Approximation, and SRMR: Standardized Root Mean Residual.

Structural equation modeling (SEM). Hypotheses from 1 to 3 suggested positive associations between EGORA and authentic leadership (H1), two-way symmetrical communication (H2), and transparent communication (H3). In the first three hypotheses, the construct's domains were hypothesized as unidimensional. EFA and CFA then demonstrated and confirmed that each variable's items underlie a single construct; that is, that authentic leadership, two-way symmetrical communication, and transparent communication have the homogeneity of items that can be considered unidimensional (Netemeyer et al., 2003). To test the first three hypotheses, hence, the items used to measure those three variables were combined; authentic leadership (14 items, M = 5.34, SD = 1.30), two-way symmetrical communication (five items, M = 5.36, SD = 1.31), and transparent communication (17 items, M = 5.22, SD = 1.35). In the CFA models, three dimensions, including competence and sensemaking and sensegiving communication actions, for EGORA were included as a second-order factor. In other words, the CFA models confirmed and demonstrated that EGORA can be conceptualized as an unidimensional variable. Three dimensions such as competence and sensemaking and sensegiving communication actions were combined into a single construct, EGORA (22 items, M = 5.34, SD = 0.96).

To test hypotheses (H1~3), ordinary least squares (OLS) multiple regression analyses using STATA 13 were conducted. Compared to simple or bivariate regression, multiple

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regression is benefitial in allowing additional factors to enter the analysis separately so that the

effect of each can be estimated (Sykes, 1992). The following equations show the differences

between simple and multiple regressions:

Simple (bivariate) regression equation: $\hat{Y} = a + bX$
Multiple regression equation: $\hat{Y} = a + b_1X_1 + b_2X_2 + \ldots + b_kX_k$

Where $\hat{Y}$ is the predicted value on the dependent variable (DV), a is the Y intercept (the

value of Y when all the X values are zero), the Xs represent the various independent variables

(IVs) (of which there are k), and the bs are the coefficients assigned to each of the IVs during

regression (Tabachnick & Fidell, 2013, p. 118). Multiple regression is a statistical technique that

can be used to analyze the relationship between a single dependent variable and several

independent variables (i.e., predictors) (Hair et al., 2010). Multiple regression is valuable for

"quantifying the impact of various simultaneous influences upon a single dependent variable"

(Sykes, 1992, p. 8). To test hypohteses1 through 3, hence, this study conducted multiple

regression analysis to see the effects of each on the dependent variable, controlling for other

effects.

Assumptions for multiple regression, especially multicollinearity and

heteroskedasticity[35], were checked. Multicollinearity arises when two independent variables are

closely correlated, creating "a situation in which the effects of independent variables are difficult

to separate" (Hair et al., 2010; Sykes, 2002). Thus, multicollinearity indicates that there are very

large standard errors for regression coefficients, leading to no significance of regression

coefficients (Tabachnick & Fidell, 2013). To assess multicollinearity, this study used direct

measures such as tolerance, referring to "the amount of variability of the selected independent

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[35] Assumptions for multivariate analysis (e.g., linearity and normality) were checked in the phase of data
screening.

variables not explained by the other independent variables," and variance inflation factor (VIF: the inverse of the tolerance value) (Hair et al., 2010, p. 201).

Pair-wise correlations showed that there were a few high coefficients among variables (i.e., above $r = .80$): authentic leadership and transparent leadership ($r = 0.81$), authentic leadership and two-way symmetrical communication ($r = 0.88$), and two-way symmetrical communication and transparent communication ($r = 0.88$). Nonetheless, the tests of VIF and tolerance showed that there was no violation of multicollinearity in all independent variables. All three independent variables met the criteria of VIF < 10 and tolerance > 0.10; authentic leadership (VIF: 4.65, Tolerance: 0.21), two-way symmetrical communication (VIF: 7.02, Tolerance: 0.14), and transparent communication (VIF: 4.60, Tolerance: 0.22).

Heteroskedasticity is the presence of unequal variances. In other words, heteroscedasticity is a violation of the assumption of homoskedasticity that "the standard deviations of errors of prediction are approximately equal for all predicted dependent scores" (Tabachnick & Fidell, 2013, p. 127). To detect heteroskedasticity, the Breusch-Pagan/Cook-Weisberg test was used because the test is designed to detect any linear form of heteroskedasticity (Williams, 2015).

Breusch-Pagan/Cook-Weisberg test revealed that there was heteroscedasticity as fitted values of EGORA, $\chi^2(1) = 8.47$, $p < 0.05$. For this reason, White's heteroskedastic robust standard error (known as Huber-White estimators or sandwich estimators of variance) was run as a remedial measure (Williams, 2015). This study reports the results (i.e., changed standard errors and tests of statistical significance) (See Table 15).

The three antecedents, independent variables, in the model accounted for a significant portion of the variance in EGORA, $R^2 = 0.41$, $F(3, 506) = 79.56$, $p < 0.001$. Hypothesis 1 (H1)

proposed that authentic leadership will be positively associated with EGORA in a crisis situation. Inconsistent with H1, authentic leadership was not significant for EGORA. As Table 15 (Step 1) shows, however, two-way symmetrical communication and transparent communication appeared as significant and positive factors for EGORA, two-way symmetrical communication: b = 0.24, t = 3.01, transparent communication: b = 0.15, t = 2.30. The results indicated that one unit change in two-way symmetrical communication results in a 0.24 increase of EGORA in crisis situation, controlling for the effects of authentic leadership and transparent communication (H2). In addition, one unit change in transparent communication results in a 0.15 increase of EGORA in crisis situation, controlling for other effects (H3) (See Step 1 in Table 15).

When controlling for demographic and socioeconomic factors that could affect organizational resilience, the results did not change (Step 2 in Table 15). All demographic and socioeconomic factors, including age, gender, education, employment year, income, Asian race Black race, and other race variables were added into the regression model (Step 2). Gender (female = 1, male = 0) and race (Asian, Black, and Other race) were recoded as dichotomous variables. Independent variables (three antecedents and eight demographic and socioeconomic factors) in the model accounted for a significant portion of the variance in EGORA, R^2 = 0.41, $F(11, 498)$ = 31.53. There was no increase (ΔR^2 = 0.00) in variance from the previous model (i.e., Step 1). Controlling for the effects of other independent variables in the model, two-way symmetrical communication (b = 0.19, t = 2.95) and transparent communication (b = 0.17, t = 3.19) were consistent as significant predictors for EGORA (H2 and 3). However, authentic leadership (b = 0.10, t = 1.83) was not significant for EGORA. Also, the demographic and

socioeconomic factors were not significant for EGORA, except income (b = 0.05, t = 2.15)[36]

(See Table 2).

Table 15.
OLS regression analysis for the association EGORA and its antecedents (N = 510)

Variables	EGORA	
	b	t
Step 1		
Constant	2.78	15.36***
Authentic Leadership	0.09	1.29
Two-way Symmetrical Communication	0.24	3.01**
Transparent Communication	0.15	2.30*
R^2	0.41	
F	79.56***	
Step 2		
Constant	2.73	10.75***
Authentic Leadership	0.10	1.83
Two-way Symmetrical Communication	0.19	2.95**
Transparent Communication	0.17	3.19**
Age	-0.00	-0.37
Education	-0.04	-1.63
Gender (Male: 0, Female: 1)	0.02	0.29
Income	0.05	2.15*
Race – Asian (Asian: 1, others: 0)	-1.11	-0.84
Race – Black (Black: 1, others: 0)	0.16	1.21
Other race – other race (Other race: 1, others: 0) (e.g., Hispanic, Pacific Islander)	0.06	0.50
ΔR^2	0.00	
R^2	0.41	
F	31.53***	

Note. ***$p < .001$, **$p < .01$, *$p < .05$. Results of Step 1 were based on White's heteroskedastic robust standard errors because the Breusch-Pagan/Cook-Weisberg test revealed that there was heteroskadesticity ($\chi^2(1) = 8.47$, $p < 0.05$). Independent variables were not in a violation of multicollinearity (i.e., VIF of each variable < 10 and Tolerance (T) of each variable > 0.10). In step 2, there was no violation of homoscedasticity and multicollinearity, $\chi^2(1) = 1.23$, $p > 0.05$, VIF < 10, and T > 0.10).

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[36] Demographic and sociographic factors were excluded from further analyses using SEM because the regression models revealed that they were not significant predictors for EGORA.

This study also hypothesized a mediating role of the quality of OER in EGORA and the three antecedents (i.e., H4 through H7). For this reason, the effects of three antecedents on EGORA, controlling for the quality of OER, needed to be confirmed with further analysis. To test the indirect effects - the mediating effect of the quality of OER on the relationship between EGORA and its antecedents (H4 through 7), structural equation modeling (SEM) using AMOS 22 was run. In fact, regression analysis can be used to test the mediation effects (Baron & Kenny, 1986; Hair et al., 2010)[37] (See Appendix B mediation effect using regression analysis). By using SEM, however, this study could confirm that the sequence antecedents of EGORA → the quality of OER → EOGRA provide a fit, supporting a mediating role for the quality of OER (Hair et al., 2010). In addition, the proposed model in this study included multiple relationships between three antecedents and the mediator as well as the dependent variable (i.e., complex relationships). In this case, SEM is the only analysis because it "allows complete and simultaneous tests of all the relationships" (Tabachnick & Fidell, 2013, p. 684).

The SEM results supported a full mediating role of the quality of OER between EGORA and its antecedents. The initial SEM model include all paths that indicate direct effects and indirect effects of antecedents on EGORA. As expected, there were indirect effects between the antecedents and EGORA through the quality of OER. Variations in the three antecedents (i.e., authentic leadership, two-way symmetrical communication, and transparent communication) positively and significantly accounted for variations in the quality of OER (i.e., presumed mediator). Specifically, there was a positive and significant association between authentic

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[37] To test mediation, Baron and Kenny (1986) suggested that "one should estimate the three following regression equations: first, regressing the mediator on the independent variable; second, regressing the dependent variable on the independent variable; and third, regressing the dependent variable on both the independent variable and on the mediator" (p. 1177).

leadership and OER (H4: β = 0.13, p < 0.01). Two-way symmetrical communication was

positively and significantly associated with the quality of OER as well (H5: β = 0.32, p < 0.01).

Lastly, transparent communication appeared as a positive and significant factor for the quality of

OER (H6: β = 0.55, p < 0.01). Therefore, hypotheses 4 through 6 were supported.

The results also met the further conditions for the mediation effects by demonstrating 1)

variations in the mediator significantly accounted for variations in the dependent variable and 2)

a previously significant relation between the independent and dependent variables was no longer

significant, controlling for the effect of independent variable on the mediator and the effect of

mediator on the dependent variable. In other words, variations in the quality of OER (i.e., the

mediator) significantly accounted for variations in EGORA (i.e., dependent variable) as OER

was positively and significantly associated with EGORA (H7: β = 0.63, p <.001). Hence, H7 was

supported.

In addition, when two associations 1) between three antecedents and OER and 2) between

OER and EGORA are controlled, a previously significant relationship between the independent

(i.e., three antecedents) and dependent variables (i.e., EGORA) was no longer significant.

Specifically, the three antecedents, authentic leadership (β = 0.53, p = 0.32), two-way

symmetrical communication (β = 0.14, p = 0.89), and transparent communication (β = - 0.33, p =

0.84), were not significantly associated with EGORA. Hence, the relevant hypotheses (i.e., H1

through 3) were not supported, controlling for the quality of OER. Therefore, hypotheses 1

through 3 were not supported (See Figure 3).

The initial SEM model achieved an acceptable model fit, χ^2 = 6509.45, df = 32739, χ^2/df

= 2.12, p =.000. CFI = 0.93, TLI = 0.93, RMSEA = 0.05, and SRMR = 0.04, in terms of joint

criteria from Hu and Bentler (1999) (i.e., CFI ≥ 0.95 and SRMR ≤ 0.80 or RMSEA ≤ 0.05 and

SRMR ≤ 0.08) and Hair et al. (2010) (i.e., $\chi^2/df \leq 3.00$, TLI ≥ 0.90, SRMR ≤ 0.08 with CFI ≥ 0.92, and RMSEA ≤ 0.07 with CFI ≥ 0.92) (See Table 16).

Authentic Leadership

0.13

Organization-Employee Relationship (OER)

0.32

0.63*

Two-way Symmetrical Communication

0.53 n.s.

0.14 n.s.

EGORA

0.55*

-0.33 n.s.

Transparent Communication

0.79*

0.85*

0.95*

COM

SM

SG

Figure 3. Initial structural model of EGORA (Employee Generated Organizational Resilience Asset) and its antecedents. For the sake of brevity, only the path model is demonstrated – the confirmatory factor analysis model pattern coefficient, error terms of indicators, and disturbances of endogenous variables were omitted in the figure. COM: competence. SE: self-efficacy. SM: sensemaking communicative action. SG: sensegiving communicative action. n.s.: non-significant effect.
Model fit indices: $\chi^2 = 6509.45$, $df = 2739$, $\chi^2/df = 2.12$, $p = 0.00$. Comparative Fit Index (CFI) = 0.93, Tucker Lewis Index (TLI) = 0.93, Root Mean Square Error of Approximation (RMSEA) = 0.05, Standardized Root Mean Residual (SRMR) = 0.04. **$p < .01$, ***$p < .001$.

Table 16.

Data-model fits for structural equation modeling (N = 510)

Model	χ^2	df	p	χ^2/df	CFI	TLI	SRMR	RMSEA
Initial structural model	6059.45	2739	.000	2.12	.93	.93	.04	.05
Final structural model	6061.46	2742	.000	2.21	.93	.93	.04	.05

To confirm the mediation effect, deleted nonsignificant paths were deleted in the final

SEM model. Results of the retained (simplified) model showed that effects of three antecedents

on the quality of OER were not changed as $\beta = 0.13$, $p < 0.01$ (H4), $\beta = 0.32$, $p < 0.001$ (H5), and

$\beta = 0.55$, $p < 0.001$ (H6). However, the association between the quality of OER and EGORA

increased; $\beta = 0.72$, $p < 0.001$ (H7). The final SEM model also achieved an acceptable model fit,

$\chi^2 = 6061.46$, $df = 2742$, $\chi^2/df = 2.21$, $p = 0.00$. CFI = 0.93, TLI = 0.93, RMSEA = 0.05, and

SRMR = 0.04, in terms of joint criteria from Hu and Bentler (1999) (i.e., CFI $\geq$ 0.95 and SRMR

$\leq$ 0.80 or RMSEA $\leq$ 0.05 and SRMR $\leq$ 0.08) and Hair et al. (2010) (i.e., $\chi^2/df \leq$ 3.00, TLI $\geq$

0.90, SRMR $\leq$ 0.08 with CFI $\geq$ 0.92, and RMSEA $\leq$ 0.07 with CFI $\geq$ 0.92) (See Table 16 and
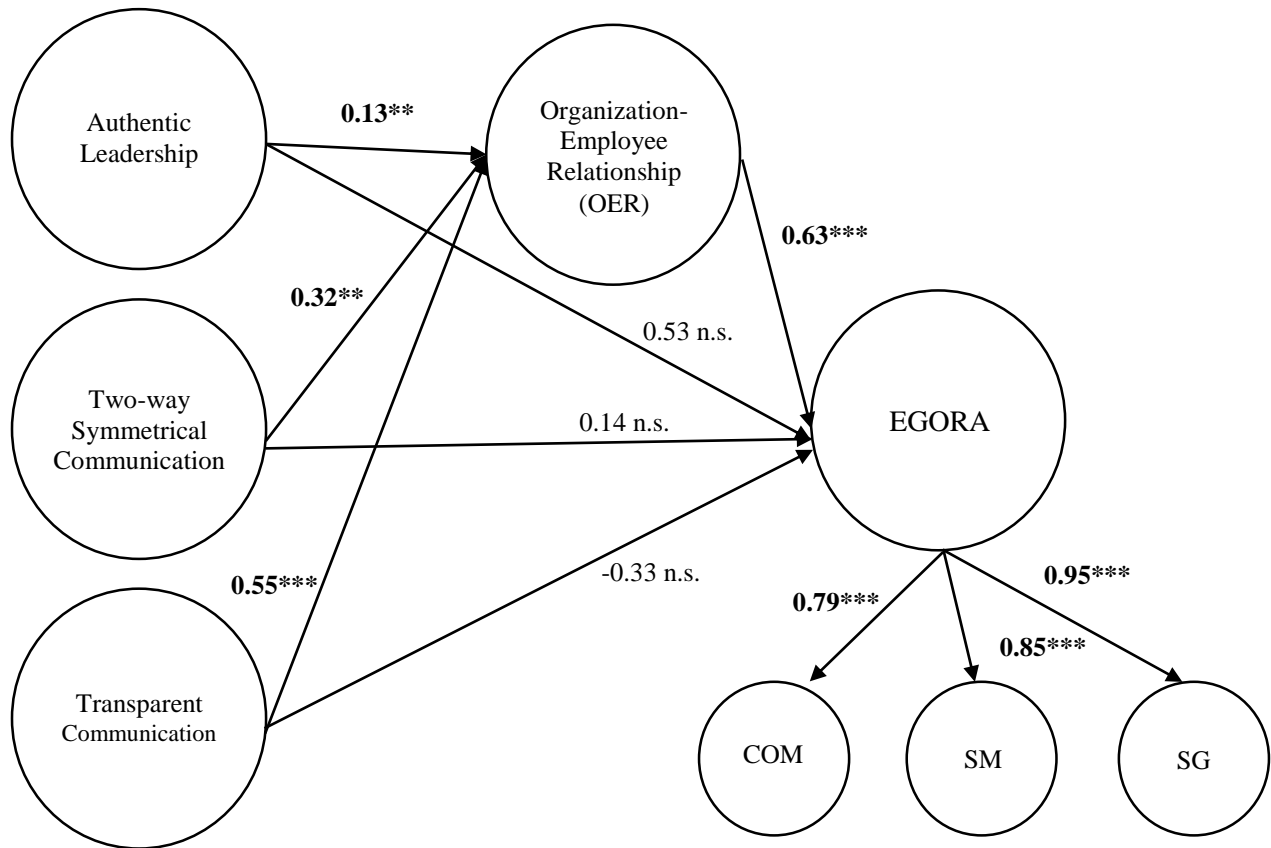
Figure 4).
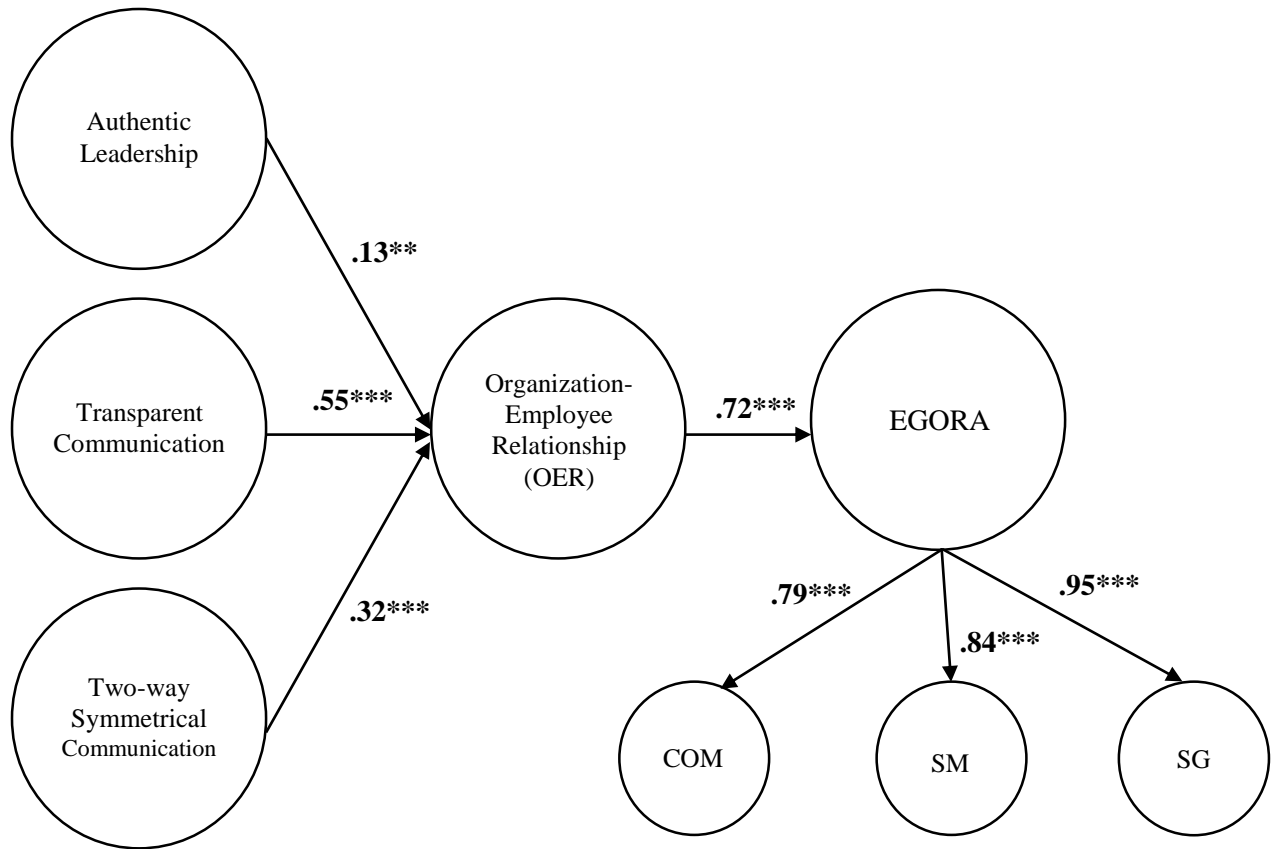
Figure 4. Final structural model of EGORA (Employee Generated Organizational Resilience Asset) and its antecedents. For the sake of brevity, only the path model is demonstrated – the confirmatory factor analysis model pattern coefficient, error terms of indicators, and disturbances of endogenous variables were omitted in the figure. Results of the retained (simplified) model with the deleted nonsignificant path. COM: competence. SE: self-efficacy. SM: sensemaking communicative action. SG: sensegiving communicative action.
Model fit indices: χ^2 = 6645.38, df = 3052, χ^2/df = 2.18, p =.000. CFI = .93, TLI = .92, RMSEA = .05, SRMR = .04. **$p<.01$, ***$p<.001$.

The proposed SEM model was validated by a bootstrapping technique because the data had nonnormality issues (Byrne, 2010; Yung & Bentler, 1996; West et al., 1995; Zhu, 1997). In addition, testing mediation through SEM is recommended because 1) a "true" direct effect can be distinguished from one that is an artifact of errors in variables in measuring a mediator and 2) the discriminant validity of a mediator can be demonstrated by having multi-item scales (Iacobucci, 2008; Zhao et al., 2010). Through multiple regression analysis based on Baron and Kenny's

(1986) conditions, one can observe a significant direct effect due to measurement error in the mediator (i.e., (1)) (Birnbaum & Mellers, 1979), and it is difficult to show "the discriminant validity of "putative mediator" vis-à-vis the independent variable or dependent variable" (i.e., (2)) (Zhao et al., 2010, p. 205).

The bootstrapping procedure ($N = 1000$) was conducted to retest hypotheses. As figure 5 shows, the results were almost identical with the final SEM model. The direct effects of the three antecedents on EGORA were not statistically significant, H1 (authentic leadership → EGORA), $\beta = 0.10$, $p > 0.05$, 95% CI [-0.10, 0.33], H2 (two-way symmetrical communication → EGORA, $\beta = 0.02$, $p > 0.05$, 95% CI [-0.36, 0.40], and H3 (transparent communication → EGORA, $\beta = -0.33$, $p > 0.05$, 95% CI [-0.35, 0.35]. However, the indirect effects of the three antecedents on EGORA through the quality of OER were all positive and significant. Authentic leadership (H4: $\beta = 0.13$, $p < 0.01$, 95% CI [0.04, 0.22]), two-way symmetrical communication (H5: $\beta = 0.32$, $p < 0.01$, 95% CI [0.14, 0.49]), and transparent communication (H6: $\beta = 0.55$, $p < 0.01$, 95% CI [0.43, 0.66]), were significantly associated with the quality of OER. The quality of OER was also positively and significantly associated with EGORA (H6: $\beta = 0.63$, $p < 0.01$, 95% CI [0.66, 0.77]) (See Table 17 and Figure 5). Appendix C. shows full path diagrams of the proposed model and estimates.
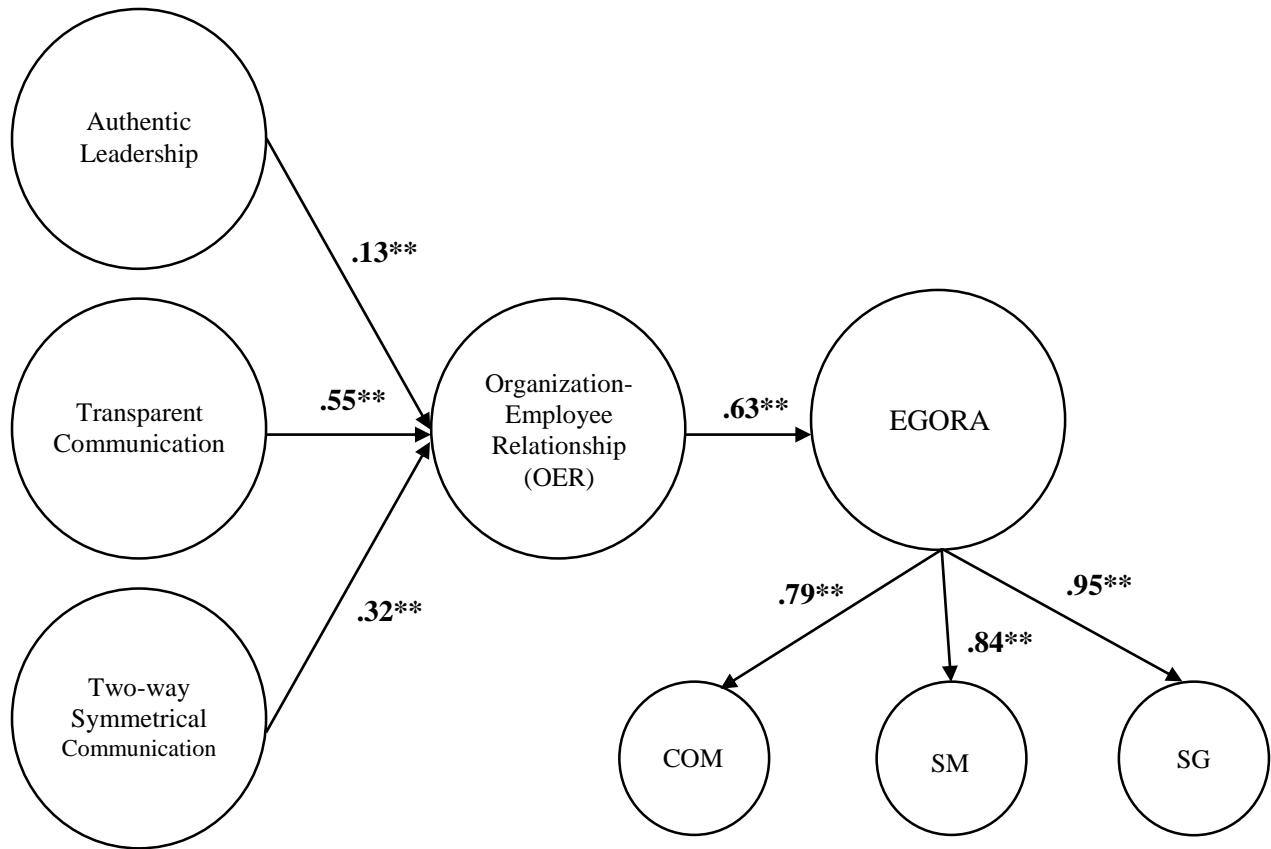
Figure5. Bootstrapping results of structural model of EGORA (Employee Generated Organizational Resilience Asset) and its antecedents through boostrapping (*N*=1,000). For the sake of brevity, only the path model is demonstrated – the confirmatory factor analysis model pattern coefficient, error terms of indicators, and disturbances of endogenous variables were omitted in the figure. Results of the retained (simplified) model with the deleted nonsignificant path. COM: competence. SE: self-efficacy. SM: sensemaking communicative action. SG: sensegiving communicative action.

Model fit indices: χ^2 = 6509.45, *df* = 2739, χ^2/df = 2.21, *p* =0.00. CFI = 0.93, TLI = 0.93, RMSEA = 0.05, SRMR = 0.04. **p<.01.

Table 17.
Hypothesis testing in the proposed SEM model using Bootstrapping (N=1000)

Hs	Parameters			Standardized Coefficient (β)	S.E.	Critical Ratio (z)	*p*	95% CI
H1	AL	→	EGORA	0.10	0.11	0.99	0.362	[-0.10, 0.33]
H2	TW	→	EGORA	0.02	0.20	0.13	0.888	[-0.36, 0.40]
H3	TR	→	EGORA	-0.33	0.17	-0.20	0.921	[-0.35, 0.35]
H4	AL	→	OER	0.13	0.05	2.89	0.006	[0.04, 0.22]
H5	TW	→	OER	0.32	0.08	3.97	0.002	[0.14, 0.49]

Table 17 (continued).

Hs	Parameters			Standardized Coefficient (β)	S.E.	Critical Ratio (z)	p	95% CI
H6	TR	→	OER	0.55	0.06	8.97	0.002	[0.43, 0.66]
H7	OER	→	EGORA	0.63	0.20	11.93	0.002	[0.66, 0.77]
-	EGORA	→	COM^	0.79	0.03	-	0.002	[0.74, 0.84]
-	EGORA	→	SM	0.84	0.02	12.54	0.002	[0.80, 0.89]
-	EGORA	→	SG	0.95	0.02	13.82	0.004	[0.90, 0.99]

Note. S.E.: bootstrap standard errors, CI: confidence intervals, AL: authentic leadership, TW: two-way symmetrical communication, TR: transparent communication, OER: the quality of organization-employee relationships, EGORA: employee generated organization resilience asset, COM: competence, SM: sensemaking communicative action, and SG: sensegiving communicative action. ^A path between EGORA and COM was constrained into 1 because EGORA is constructed by a second-order factor.

Furthermore, the indirect effects were also confirmed with the bootstrapping procedure in the AMOS 20 program. The indirect effects on paths from authentic leadership, two-way symmetrical communication, and transparent communication to EGORA through OER were statistically significant; authentic leadership → OER → EGORA ($\beta = 0.18$, $p < 0.01$, 95% CI [0.02, 0.18]), two-way symmetrical communication → OER → EGORA ($\beta = 0.41$, $p < 0.01$, 95% CI [0.07, 0.41]), and transparent communication → OER → EGORA ($\beta = 0.59$, $p < 0.01$, 95% CI [0.14, 0.59]) (See Table 18). Thus, the results could confirm that the sequence antecedents of EGORA → the quality of OER → EOGRA provide a good fit, supporting a mediating role for the quality of OER (Hair et al., 2010).

Table 18.
Direct, indirect, and total effects in the proposed SEM model using Bootstrapping (N=1000)

	Parameters			Standardized Path Coefficient (β)	S.E.	p	95% CI
Total Effects	AL	→	EGORA	0.18	0.12	0.083	[-0.04, 0.40]
	TW	→	EGORA	0.23	0.20	0.243	[-0.17, 0.61]
	TR	→	EGORA	0.32	0.14	0.021	[0.05, 0.58]

Table 18 (continued).

Parameters				Standardized Path Coefficient (β)	S.E.	*p*	95% CI
Direct Effects	AL	→	EGORA	0.33	0.11	0.36	[-0.10, 0.33]
	TW	→	EGORA	0.40	0.20	0.89	[-0.36, 0.40]
	TR	→	EGORA	0.35	0.17	0.92	[-0.35, 0.35]
Indirect Effects	AL	→	EGORA	0.08	0.04	0.006	[0.02, 0.18]
	TW	→	EGORA	0.20	0.08	0.001	[0.07, 0.41]
	TR	→	EGORA	0.35	0.12	0.002	[0.14, 0.59]

Note. S.E.: bootstrap standard errors, CI: confidence intervals, AL: authentic leadership, TW: two-way symmetrical communication, TR: transparent communication, EGORA: employee generated organization resilience asset.

CHAPTER 5
DISCUSSION AND IMPLICATIONS

Overview of the Study

The purpose of this study was to explore effective internal crisis communication within the strategic management perspective, considering organizational resilience. Responding to the recent researchers' clarion call for new theoretical development, this study aimed to fill the research gaps stemming from the focus on a symbolic approach to crisis communication. Since the symbolic approach emphasizes usage of strategic messages to protect the organization's image from external publics, there has been a research dearth in internal crisis communication. The recent studies to fill the research dearth have been conducted in the context of a descriptive approach (i.e., case studies), providing limited evidence for the need and importance of internal crisis communication.

Against this backdrop, this study sought to provide empirical evidence of the need for internal crisis communication through managerial efforts. As the key concept in the internal crisis communication, the current study attempts to adopt and focus on the organizational resilience concept to build on what recent case studies have demonstrated as the important role of organizational resilience in crisis communication. Following the recent scholars' suggestions led this study to underscore the strategic management perspective as the right direction for new theory development in crisis communication.

In this sense, this study focused on 1) how the resilience concept can be measured empirically, as well as 2) what internal factors can foster and enhance the organization resilience in the context of internal crisis communication. Specifically, this study conceptualized organizational resilience as employee generated organizational resilience asset (EGORA)

encompassing four factors, including employees' confidence, self-efficacy, sensemaking communicative action, and sensegiving communicative action. The study proposed a conceptual model emphasizing causal structures between EGORA and its antecedents such as authentic leadership, two-way symmetrical communication, and transparent communication. Through the conceptual model, in addition, this study highlighted the mediating role of the quality of organization-employee relationships between EGORA and its antecedents.

An online survey was conducted with 544 full-time employees working in medium and large organizations that have more than 300 employees in the U.S. major industries (e.g., Information, Manufacturing, Wholesale trade, and so on). Structural equation modeling (SEM) using AMOS 20 was used to empirically examine the causal structures in a conceptual model emphasizing EGORA, its antecedents, and the mediator with reliable and valid measures extracted and confirmed by EFA and CFA.

SEM revealed that EGORA can be conceptualized by three factors, including employees' competence, sensemaking communicative action, and sensegiving communicative action. Furthermore, this study found that the antecedents such as authentic leadership, two-way symmetrical communication, and transparent communication indirectly affected EGORA through a mediator, the quality of organization-employee relationships. Thus, the current study provided the empirical evidence of how strategic management efforts such as three antecedents and a mediator can foster and enhance organizational resilience for effective internal crisis communication.

Discussion

Taking the strategic management perspective in crisis communication, this study aimed to demonstrate the causal structural relationship between organizational resilience and the

antecedents of resilience (i.e., authentic leadership, two-way symmetrical communication, and transparent communication) and an important mediating role of OER between resilience and its antecedents. Through hypothesis testing, this study found the following results:

1) Three factors, employees' competence, sensemaking communicative action, and sensegiving communicative action, were extracted and empirically confirmed to conceptualize employee generated organizational resilience asset (EGORA).

2) Two-way symmetrical communication and transparent communication, not authentic leadership, directly affected EOGRA.

3) Controlling for a mediator, OER, the antecedents did not directly affect EGORA. In other words, a full mediation effect was found in the proposed model, indicating the three antecedents such as authentic leadership, two-way symmetrical communication, and transparent communication indirectly affected EGORA through OER.

EGORA Specifying the Conceptual Processes for Organizational Resilience

In terms of the strategic management perspective, the extant literature emphasizes employees as one of the most important strategic constituencies (e.g., boundary spanners) in an organization because the perspective highlights environmental interaction as an adaptive process. Following the perspective, this study focused on employees as an organizational resilience asset for effective internal crisis communication. In this sense, this study proposed the concept of EGORA as a measure to assess the organizational resilience asset in terms of four dimensions, including employees' competence and self-efficacy as well as their communicative actions for sensemaking and sensegiving.

The analyses for the dimensionality of EGORA, including the initial item analysis using EFA and measurement model through CFA, operationalized and demonstrated how three

dimensions of employees' competence, sensemaking communicative action, and sensegiving communicative action (i.e., three measured variables) logically and systematically represent EGORA (i.e., a latent construct). In the SEM analysis, a series of relationships between the latent construct and measured variables in a theoretical model were fully specified. In the theoretical model, employees' competence and communicative actions for sensemaking and sensegiving (i.e., measured variables) were strongly and positively associated with EGORA (i.e., a latent construct). Thus, EGORA encompassing three dimensions was statistically and empirically tested in this study as a reliable and valid measure of the concept of organizational resilience.

The three-dimensional measure of EGORA substantiates conceptual processes, reinforcing of competence, sensemaking, and sensegiving, for organizational resilience characterized by qualitative studies in the context of internal crisis communication. Resilience literature indicates resilience is an outcome of the self-reinforcing nature of the cycle pertaining to competence and adaptive behaviors such as sensemaking and sensegiving (e.g., Garmezy, 1991; Sutcliffe & Vogus, 2003). However, the processes for organizational resilience have been remained in ambiguous concepts or been built on a weak empirical and theoretical base (Boin & Van Eeten, 2013). The strong magnitudes[38] estimating the associations between employees' competence and communicative actions for sensemaking and sensegiving and EGORA not only corroborate the conceptual processes quantitatively but also specify the processes empirically and systematically. The result can be added into empirical and theoretical efforts to explain the processes for organizational resilience.

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[38] As Figure 5 and Table 17 show, the paths showing the relationships between the three measured variables (i.e., competence and communicative actions for sensemaking and sensegiving) and a latent construct (i.e., EGORA) are 0.79, 0.84, and 0.95 respectively with statistically significance at 0.01 level. One unit change in employees' competence, sensemaking communicative action, and sensegiving communicative action result in a 0.79 (in accordance to competence), 0.84 (in accordance to sensemaking), and 0.95 (in accordance to sensegiving) increase respectively in EGORA, controlling for other effects.

More importantly, EGORA can be useful for organizations to assess and build the adaptive capacity to bounce back after crises (i.e., organizational resilience). In other words, EGORA can help organizations evaluate their resilience as a proactive assessment, not a retrospective ones. The organizational resilience has been evaluated by retrospective assessment based on case studies examining organizational resilience in the times of crisis (e.g., Agarwal & Buzzanell, 2015; Hutter & Kuhlicke, 2013). As a result, the case studies give rise to the challenge of how organizations can build the capacity of organizational resilience, as a proactive assessment, for effective internal crisis communication (Denhardt & Denhardt, 2010).

Through the concept of EGORA, this study illuminates how organizational resilience can be built by employees' competence and communicative actions for sensemaking and sensegiving. To build organizational resilience, an organization should ensure enhancing employees' belief in their ability to quickly process their knowledge and transfer skills and resources to deal with crisis situations, as well as their voluntary communicative behaviors which may include seeking and forwarding positive organization-relate information internally and externally. Since employees can become competent through a combination of education, training, and work practice, managerial efforts are needed to not only build employees' psychological belief in their abilities to deal with the crisis, but also develop behavioral repertoires based on general or specialized knowledge, skills, abilities, and other characteristics. At same time, employees should have access to a sufficient amount of quality resources as well as the relevant and specific knowledge and information to make decisions and resolve problems in crisis situation; that is, fostering workplaces for sensemaking and sensegiving communicative actions.

In addition, EGORA is empirically extended evidence for the enactment concept and its consequences in the crisis situations. In terms of the enactment concept, the crises can be worsened by organization members' (i.e., employees') actions. The existing literature mainly focused on sensemaking processes as efforts of coupling talk and action through communication because the researchers consider crisis situations as where organizational sensemaking breaks down (i.e., collapse) and where the demands on sensemaking can be severe (Frandsen & Johansen, 2011; Hutter & Kuhlicke, 2013). Reluctance to act can be associated with less understanding and more errors, thereby intensifying crises (Matilis & Sonenshein, 2010; Weick, 1988, 1993).

Supporting the concepts, EGORA in this study explains how employees' collapsed sensemaking as well as competence and sensegiving communicative actions can make situations worse in times of crisis. Low levels of employees' belief in their capability to perform activities with skill and to apply knowledge to the crisis situation (i.e., collapsed competence from lack of knowledge and information) can be associated with a less resilient organization; that is, the crisis could worsen. Moreover, it is reasonably possible that less understanding of the crisis situation due to more errors by reluctantly acting for sensemaking can influence others' sensemaking in the same way (i.e., reluctant sensegiving communicative action), leading to less resilient organization. In other words, collapsed competence and communicative actions for sensemaking and sensegiving can result in less a resilient organization that is less likely to manage crisis situations well due to the lack of the capacity to bounce back after a crisis.

Specifically, collapsed competence, sensemaking communicative action, and sensegiving communicative action can lead employees to express a sense of abandonment and exclusion and would not keep them informed of what they are doing in a crisis situation. In turn, the situation

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heightens employees' vulnerability to disruption or panic, as well as leaves employees in their wake of senselessness (Weick, 1993). As a result, the organization fails to manage the crisis as Weick's (1993) case study of 1949 Mann Gulch disaster demonstrated how collapsed sensemaking resulted in failure of crisis management and communication. Furthermore, employees can be mobilized in crisis communication as they act as negative and positive ambassadors for their organizations in crisis situations. If the employees share their negative feelings with customers, suppliers, and other external publics in their private networks through social media or give interviews or statements to the press, the organization should deal with a secondary crisis caused by employees' reactions (Frandsen & Johansen, 2011; Falkheimer & Heide, 2015; Schultz, Utz, & Göritz, 2011).

Thus, the enactment concept and its consequences as well as the social process of talk and action highlighted in the resilience literature can be better understood through three dimensions of EGORA. By measuring EGORA in an organization, employees' enactment and social process of talk and action can be proactively diagnosed prior to a crisis as well as reactively evaluated during or after the crisis. Taking the strategic management perspective, in this regard, the concept EGORA can be useful to explain the characteristics of less resilient organizations and predict the outcomes more comprehensively. In doing so, EGORA can be empirical evidence of the need for using the strategic management perspective that emphasizes employees as strategic publics, especially boundary spanners in crisis situations.

Importance of Internal Communication Factors for Organizational Resilience

The multiple regression analysis revealed that the effects of internal communication factors, including two-way symmetrical communication and transparent communication, on EGORA were strongly and positively significant, controlling for other effects. Inconsistent with

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hypothesis, authentic leadership was not significantly associated with EGORA, controlling for the effects of other factors. The results indicate that internal communication factors can more strongly affect organizational resilience in crisis situations than the leadership factor.

First, two-way symmetrical communication appeared a strong factor for EGORA. This finding demonstrates the importance of empowered employees through open communication and dialogues in an organization's crisis resiliency. Competence can be improved when employees are satisfied with information about performance as well as an organization's mission. Through the information, more specifically, employees have the ability to make and influence decisions that are appropriately aligned with their organization's goals and mission (Bowen & Lawler, 1992). Employees also can make and influence decisions to maintain and "improve reinforcing a sense of competence and believing that one is a valued part of an organization" (Spreitzer, 1995, p. 1447). In this regard, competence has been considered as one of the key dimensions to measure employees' empowerment in organizational science and management research (e.g., Chiles & Zorn, 1995; Bowen & Lawler, 1992; Menon, 2001; Spreitzer, 1995).

In crisis situations, an organization can freely exchange information with its employees (i.e., open system) through two-way symmetrical communication, aiming to build dialogues and promote mutual understanding between the organization and its employees (Grunig & White, 1992). Through the dialogues based on an open system, employees can be competent because they can be ensured to receive information about organizational missions, performance, and responsibility related to crisis situations. In turn, employees can be empowered by improving their ability to make and influence decisions in accordance with their organization's goals and mission, reinforcing competence. In this sense, two-way symmetrical communication can play a critical role in making the organization resilient by empowering employees in crisis situations.

Also, the finding of a positive association between two-way symmetrical communication and the EGORA can provide a fundamental rationale for understanding and communicating employees as strategic internal publics. Since two-way symmetrical communication is "the willingness of an organization of listen and respond to the concerns and interests of publics" (Grunig, 2011, Men & Stacks, 2014, p. 304), lack of two-way symmetrical communication can generate negative consequences like dissatisfaction with communication and cynicism from employees (Mazzei & Ravazzani, 2015). Since what publics think of as crises are events that are easy to perceive as such, listening is critical for effective internal communication (Ulmer et al., 2007; Rosenthal et al., 2001). More importantly, listening is used to identify potential misunderstandings and unrecognized obstacles during crises (Clampitt, DeKoch, & Cashman, 2000). Lack of two-way symmetrical communication can lead to employees' sensemaking and sensegiving communicative actions based on their misunderstanding and informal problem solving, thereby resulting in rumors.

Rumors represent collective informal sensemaking elements as a consequence of a less resilient organization (Bordia, Jones, Gallois, Callan, & DiFonzo, 2006). Rumors come from the fact that "the formal communication is inadequate or ambiguous in terms of conditions that employees feel are important to them" (Strandberg & Vigsø, 2016, p. 98). When information is unavailable from formal sources (from managers or supervisors), people resort to informal problem solving (Bordia & Rosnow, 1998; Shibutani, 1966). In a crisis situation, rumors can occur due to employees' need of sensemaking when employees are not informed appropriately and their concerns are not listened to (Strandberg & Vigsø, 2016). In the same vein, the employees who suffer from specific cognitive reactions and feelings as "a consequence of lack of

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knowledge, information or competences, or lack of meaning" are more likely to generate the rumors in the crisis situation (Frandsen & Johansen, 2011, p. 354).

In the crisis situation, specifically, when the organization fails to listen to employees' concerns and needs, employees fail to construct meaning appropriately due to lack of information in that situation. The employees create their own information based on their speculations, aiming at uncertainty reduction in the crisis, and, in turn, their own information based on the speculations can lead to rumors through sensegiving communicative actions (Bordia et al., 2006; Rosnow, 1991; Strandberg & Vigsø, 2016). To fill their need for information, employees tend to rely more on informal communication beyond formal communication instruments (e.g., official statement) in a crisis situation as people tend to listen and believe in information that they receive from others in their own networks (Falkheimer & Heide, 2015; Johansen et al., 2012). In this regard, the positive association between two-way symmetrical communication and EGORA indicates the need for understanding and communicating with employees as strategic internal publics that must be placed as the first priority for effective internal crisis communication. By keeping employees informed, inviting their feedback, and involving them in the decision-making process in crisis, an organization can engage in two-way symmetrical communication with its employees and, in turn, recover from or adjust more easily to the crisis by managing rumors well.

Prioritizing employees as strategic publics is also supported by another internal communication factor in this study, transparent communication. The effect of transparent communication on EGORA was positively significant, controlling for other effects. This finding demonstrates that transparent communication through crisis information with substantial completeness, employees' participation, and organization's accountable words, actions, and

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decisions in a crisis can heighten employees' belief in and ability to deal with the crisis and amplify employees' voluntary communicative behaviors for sensemaking and sensegiving, resulting in an increased ability of their organization to recover from the crisis (i.e., more resilient organization).

To be resilient in crisis situations, more specifically, the finding implies that organizations should make available publicly and legally releasable information to their employees in a manner which is accurate, timely, balanced, and unequivocal through informational aspect of transparent communication. To put it another way, unbiased and/or complete crisis information can help employees enhance their competence and communicative actions for sensemaking and sensegiving. Biased and/or incomplete crisis information causes ambiguity and uncertainty in the crisis communication (Ulmer & Sellnow, 2000). In fact, an organizational crisis situation inherently yields ambiguity and uncertainty for employees as Weick (1988) describes that organization members "don't know what the 'appropriate action' is until they take some action and see what happen" (p. 306). The ambiguity and uncertainty "serves to obscure the sensemaking abilities of employees by using biased and/or incomplete information" (Ulmer & Sellnow, 1997, p. 147). Transparent communication focusing on substantially complete information prevents employees' ambiguity and uncertainty, thereby leading employees to apply their knowledge, understanding, and skills to their organization's crisis management as well as voluntarily engage in seeking and forwarding valuable and positive organization-related information.

The results also indicate that organizational resilience can be enhanced by employees' participation in identifying crisis information (i.e., participatory of transparent communication) and an organization's accountable words, actions, and decisions (i.e., accountability of

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transparent communication). To be a resilient organization in a crisis situation, employees should be treated as valuable allies to work together to deal with crisis (Xu & Li, 2013). To do so, the organization should ensure employees' participation in transparent communication by incorporating their employees' voices to determine "what information they really need, how much information they need, and how well the organization is fulfilling their information need" in the crisis situation (Stacks & Men, 2014, p. 305).

For further organizational resilience, organizations should be held accountable for their crisis response strategies (words, actions, and decisions) and make these available for employees to see and evaluate. By making sure their organization uses transparent crisis response strategies, employees are more likely to not only improve their ability to cope with the crisis but also engage in searching for crisis information and influencing others in the crisis situations. Regarding an external dimension, a failure of crisis communication using crisis response strategies to protect organizational reputation often occurs when crisis managers are reluctant to be accountable, doing so only at the last moment when they have no other choice (Xu & Li, 2013). As such, the crisis communication decreases resilience and reflects collapsed employees' competence and communicative actions for sensemaking and sensegiving when organizations use disavowed crisis response strategies and are reluctant or unwilling to take responsibility.

The literature indicates that authentic leadership fosters a positive environment that allows employees to build competence and promote employees free engagement in communicative actions (e.g., Men & Stacks, 2014). However, this study did not find a direct effect of authentic leadership in organizational resilience. Considering only a crisis-specific context, the result of no direct effect of authentic leadership on the organizational resilience can be explained by the contingency approach to leadership in the crisis communication, suggesting

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that "different crisis situations require different kinds of leadership" (Ulmer et al., 2015, p. 146).

Crisis situations, as uncertain and confusing situations, may call for a different style of

leadership. Authoritarian leadership may be an appropriate for emergency that requires more

power to move quickly and take action. Democratic style is more common after the immediacy

of the crisis is over because getting consensus through employees' cooperation and support takes

time (Ulmer et al., 2015). Since this study included crisis situations from diverse industries, the

effect of authentic leadership may have been varied, depending on the crisis, and therefore did

not yield significance on organizational resilience.

Also, authentic leadership may have been influenced by many contextual factors.

Organizational power and politics, organizational structure, gender, and organizational culture

and climate can be contextual factors may influence the effectiveness of authentic leadership

(Avolio et al., 2004).

A Mediating Role of OER between EGORA and Its Antecedents

When considering a mediator, OER, the internal communication factors did not result in

significant effects directly on EGORA. Instead, the internal communication factors affected

EGORA indirectly through OER. Also, the authentic leadership factor that did not yield direct

effect became as a significant factor affecting EGORA indirectly through OER. In other words,

full mediation effects were found in the proposed model, indicating the three antecedents such as

authentic leadership, two-way symmetrical communication, and transparent communication

indirectly can affect EGORA through OER in an organization during crisis.

In particular, this study found that authentic leadership positively affects EGORA

through OER, not a direct effect of leadership on EGORA. Regarding the indirect effect of

authentic leadership on organizational resilience through OER, the result demonstrates the

importance of trust, a key dimension for OER, to facilitate the effect of authentic leadership on organizational resilience in crisis situations. Recent research suggested that trust is an important part of leadership because it increases the impact of leadership on employees' outcomes (e.g., work effort) during crisis situations (Hasel, 2013). Employees increased their work efforts during the times of crisis if they perceived "their leader to be fighting for decisions, willing to take personal risks, and reliable when decisions are made" (Hasel, 2013, p. 286). This study supports previous research and extends it to how a specific leadership style, authentic leadership, can be helpful to foster organizational resilience through OER in crisis.

The finding in this study can also demonstrate that OER should be considered to maintain the effectiveness of leadership during a crisis. The previous research indicates that crisis can moderate (i.e., decrease) leadership effectiveness (Beyer & Browning, 1999; Hasel, 2013). Beyer and Browning (1999) found how an organization used different leadership styles successfully during and after crisis situation through in-depth interviews with employees. They suggested people-focused leadership during crisis is important (Beyer & Browning, 1999). In subsequent research, Hasel's (2013) employee survey research found the decreased leadership effectiveness on employees' outcomes (e.g., work effort) during a crisis like organization bankruptcy, compared to before the crisis. The indirect effects of authentic leadership on organizational resilience through OER, not direct effects, imply that the leadership factor can generate positive effectiveness by affecting the organization resilience through positive relationships with employees even though a crisis factor that decreases the leadership effectiveness exists.

The direct effect of authentic leadership on OER was also confirmed. The extant research has heavily demonstrated that employees are more likely to build and maintain the quality of relationships with their organizations when they perceive their managers as authentic leaders

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who openly share information fairly and transparently, encourage totally open communication, and share their perceptions and feelings with their followers. In the context of crisis, the result can imply how the quality of the relationship, especially trust, with employees built by leaders' openness and honesty, becomes more important for organizational resilience. Trust can play a critical role in employees' sensemaking and sensegiving communicative actions because it affects "the extent to which employees are willing to believe the accuracy of information" they receive (Dirks & Ferrin, 2002, pp. 613-614). Through the quality of the relationship based on trust, employees believe that their authentic leaders are trusted sources "who do not have a reason to lie to them and have access to accurate information" (Longstaff & Yang, 2008, p. 3). Thus, the relationship-building from authentic leadership can reduce employees' misunderstanding and confusion during crisis situations, leading to enhanced competence and positive sensemaking and sensegiving communicative actions.

Moreover, the quality of OER from authentic leadership, especially commitment and satisfaction, can lead employees to ensure in their roles representing cooperation and collaboration to overcome crisis. Since authentic leaders exemplify high moral standards, integrity, and benevolence, their favorable reputation fosters positive expectations among employees and instills elevated levels of commitment and satisfaction with employees' supervisors and managers (Avolio et al., 2004). Such elevated commitment and satisfaction with managers result in personal self-concepts tied to or identified with the mission and causes being pursued by their organization (Shamir, House, & Arthur, 1993). As a result, commitment and satisfaction built by authentic leadership encourage employees to have a willingness to engage in risk-taking behaviors for the benefit of their organization (Mayer, Davis, & Schoorman, 1995) and to make an extra-effort at work among them (Avolio et al., 2004). In a crisis situation, the

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willingness and extra-efforts based on employees' satisfaction and commitment can cause

voluntary communicative actions to sustain their roles and collaboration to overcome the crisis

and encourage supportive inquiry, leading to enhancing employees' competence (Avolio et al.,

2004; Mazzei & Ravazzani, 2015).

The indirect effect of authentic leadership on EGORA through OER also indicates how

positively sensemaking and sensegiving communicative actions can be fostered.

The OER built by authentic leadership is closely connected to employees' hopefulness.

Authentic leaders have the ability to remain realistically hopeful and trustworthy, leading to

fostering employees' hope and will power. Hope is one of the important constructs that is critical

to building a long-term relationship between the authentic leaders and their followers. The

leaders with high levels of hope (e.g., positive expectations of goal attainment) can inspire their

followers by providing a sense of security and trust that enables the followers to focus their

creative energies on goal-related endeavors (Shorey & Snyder, 2004). Authentic leaders with

high hopes have well-formulated plans and goals as well as have alternative pathways clearly

determined (Luthans & Jensen, 2002; Luthans et al., 2004).

When the authentic leaders are faced with obstacles (i.e., crisis), they can revert to

alternative courses of action. In this sense, authentic leaders who have a strong sense of direction

"sees obstacles as opportunities rather than threats, and looks for alternative means to address

them to achieved desired outcomes" (Avolio et al., 2004, p. 808). Through the quality of OER,

authentic leader's hopefulness can help employees commit to and enact organizational renewal

with their hope and will power. In this regard, OER "serves as a vital resource from which to

construct meaning to help adapt to crisis conditions," resulting in organization members moving

beyond crisis by updating the sense they are making and forwarding (Maitlis & Sonenshein,

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2010, p. 562; Seeger & Ulmer, 2002). Thus, OER based on authentic leadership can facilitate positive sensemaking and sensegiving communicative actions during the crisis situations.

Also, the full mediated effects of internal communication factors on organizational resilience through OER were found in the study. The results demonstrate that creating open and two-way communication environments for employees as well as providing employees accurate, timely, balance, and unequivocal information can build a better relationship and, in turn, build a more resilient organization during a crisis. From the findings, transparent communication was the strongest, significant variable that affected EGORA through the quality of OER. As other scholars have revealed (e.g., Jahansoozi, 2006; Men & Stacks, 2014; Rawlins, 2008, 2009), the result confirms that transparent communication plays a crucial role in building and maintaining the quality of relationship with employees because "truly open and transparent communication encourages employees to voice out their opinions" (Men & Stacks, 2014). Thus, transparent communication is closely linked to openness and provides a number of outcomes such as accountability, collaboration, cooperation, and commitment that are beneficial for relationship building with employees (Jahansoozi, 2006).

Considering the openness of transparency, the finding suggests building and maintaining OER through transparent communication for organizational resilience. The openness of transparency is the opposite of secrecy (Florini, 1988). OER based on such openness can prevent an organization from becoming blinded by the secrecy, "limiting a future repertoire of meanings and actions in the crisis situations" (Maitlis & Sonenshein, 2010, p. 562). The OER through secrecy leads to the ability of the public commitment of a few to affect decision making for competitive advantage in the organization, leading to a dangerous blind spot in creating meanings in the wake of ambiguity (e.g., crisis situations) (Weick, 1988). By restricting to a

particular set of meanings such as strategies or visions, the secrecy inhibits employees'

sensemaking and sensegiving communicative actions and impedes organizational adaptation in

crisis situations while OER based on openness can fuel the communicative actions and energize

the organization.

Two-way symmetrical communication also indirectly affects EGORA through the quality

of OER. This result demonstrates how two-way symmetrical communication, as the most

effective communication, can contribute to OER and subsequently result in organizational

resilience. In particular, an organization that advocates a two-way symmetrical communication

and provides employees with more opportunities for dialogues, discussion, and discourse of

issues can contribute to building and maintain the quality of OER. In turn, the quality of OER

enhances not only employees' belief in their ability in their skills and knowledge that can be

applied for solving problems but also employees' voluntary communicative behaviors to seek out

and forward positive organization-related information in times of crisis.

To ensure the positive effect of OER on organizational resilience, the finding highlights

building OER based on an employee-centered symmetrical communication worldview that

stresses the importance of employees' feedback and participation as well as truly concerned with

employees' needs and interests (Men & Stacks, 2014). Peters and Austin (1985) suggested

MBWA (managing by walking around; i.e., listening directly) to underline symmetrical

communication: "to listen is just that: to listen" (p. 10). For organizational resilience during a

crisis, furthermore, Weick (1993) underscored two-way symmetrical communication by

suggesting excellent readers should "talk less, listen more, and resort less to canned

presentations" (p. 650). In other words, a true employee-centered symmetrical worldview can

help their an organization "consider the public interest to be at least as important as its own at the

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time of crisis" and, in turn, cultivate a quality OER (Grunig, 2011, p. 23). Subsequently, the

quality of OER can facilitate a more resilient organization through employees' competence and

positive communicative actions for sensemaking and sensegiving in the crisis situations.

Thus, this study demonstrates how two-way symmetrical communication and transparent

communication can be used strategically for effective internal crisis communication, generating

organizational resilience. The effectiveness for how the strategic internal communication,

including two-way symmetrical communication and transparent communication, works and why

it is effective within an organization has not been fully examined empirically yet, especially in

crisis communication research (Men & Stacks, 2014). In this regard, the indirect effects of

internal communication factors on EGORA through OER extends previous research to

organizational resilience in crisis situations. In other words, the result substantiates that internal

communication is a key driver of relationship quality with employees as well as organizational

capacity to bounce back during and after crisis (MacMillan, Money, & Downing, 2000).

More importantly, all three antecedents affected EGORA through OER. The full

mediation effects in this study revealed that the quality of the relationship with employees is a

strong underlying factor in constructing why strategic internal communication and leadership can

exert an impact on organizational resilience. Through their case studies and conceptual research,

many resilience researchers emphasize the relationship factor in terms of the social capital

concept[39] underscoring individual interactions within their networks. Herman (1997) insists that

recovery and bouncing back from trauma takes place "only within the context of relationships; it

cannot occur in isolation" (p. 133). Powley (2009) argues the relationship factor can activate

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[39] Social capital refers to "connections among individuals" (Putnam, 1995, p. 67) and "features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit" (Putnam, 2000, p.19).

resilience "through intersecting and interactions that ensure the persistence of relationships within organization" (p. 1318). Agarwal and Buzzanell (2015) indicate that employees' resilience is sustained through different identification network ties such as familial (e.g., family members), ideological (e.g., humanitarian), and spiritual (e.g., their episodic nature) ones that "can fulfill real needs and encourage workers' identities and connections" (p. 422).

In this sense, the results corroborate how organization members draw on their social capital based on relational sources (Powley, 2009). For organizational resilience in the crisis situations, the finding indicates that organizations should manage and maintain OER as "unique organizational resources" (Ni, 2006, p. 257). In the context of crisis situations, the unique organizational resources reflecting employees' trust, commitment, control mutuality, and satisfaction, as results of internal communication and leadership, could enhance employees' psychological ability to cope with the crisis and voluntary communicative behaviors for searching and forwarding the positive information of their organization. As a fairly robust mechanism, hence, the mediating role of the quality of OER between EGORA and its antecedents demonstrates that OERs are valuable in "helping their organizations take advantage of opportunities and neutralize threats in the environment" (Ni, 2006, p. 266).

Implications

Implications for Crisis Communication Theory

By taking the strategic management perspective beyond the symbolic one in the crisis communication, the findings in this study indicate the need for new theoretical development in crisis research. Current theoretical efforts based on the symbolic perspective (i.e., SCCT and image restoration theory) have not provided managerial strategies which can help understand why and how crisis occur but dominantly focused on the post hoc nature of the crisis response

(Taylor, 2012; Xu & Li, 2013). Through the concept of EGORA and its antecedents, the findings in this study provide an insightful account of the crisis situations. Less resilient organizations based on negative impacts of collapsed employees' competence and communicative behaviors for sensemaking and sensegiving, will likely face an organizational crisis or a secondary crisis during its crisis due to employees' boundary spanning activities.

Current crisis communication theories are limited to explain the dynamic nature of crisis due to "their strategically calculating and instrumental nature (e.g., what to do at what level of responsibility at which stage)" (Xu & Li, 2013, p. 384). By relying on the rhetorical strategies, moreover, the symbolic approach to crisis communication gives rise to strategic ambiguity (e.g., accuse the organization's external environment or deny crisis) that produces two or more plausible interpretations (Ulmer & Sellnow, 1997). However, considering EGORA and its antecedents can provide proactive crisis communication through managerial efforts to prevent an organization facing decreased resilience in a crisis and a non-crisis context. By enhancing and fostering the organizational resilience asset through managing the resilience antecedents such as authentic leaderships, transparent communication, and two-way symmetrical communication, crisis communication managers can prevent a crisis, as well as cope with it better.

In this regard, this study provides a direction of how the concept of resilience can be applied for new theoretical development in crisis research. A new theory can be developed by integrating the findings in this study into one of the strategic management theories (e.g., excellence theory) in public relations. Based on the excellence theory, strategic management scholars in public relations suggested scenario building that provides possible future scenarios for an organization and helps the organization to better understand its environment (Georgantzas & Acar, 1995, Grunig, 2011; Shoemaker, 1995; Sung, 2004, 2007; White & Dozier, 1992). The

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scenario building about the crises, as managerial efforts in terms of strategic management, can be useful for employees to be resilient for preparing and dealing with their organizational crisis.

As a way of envisioning the consequences of different decisions by management, more specifically, strategic management researchers suggested that public relations practitioners develop scenarios about "what publics might emerge, what problems they are concerned about, what issues they might create, and what crises might develop if different decisions are made" (Grunig, 2011, p. 23). To help employees envision "alternative futures" and uncertainties emerging from crisis situations and "refine their present actions," education, training, and work practice through scenario building can make employees become competent in crisis situations (Grunig, 2011; Sung, 2007, p. 178).

Such scenario building about crises can also help build sensemaking communicative action and sensegiving communicative action as well. As another key dimensions in EGORA, sensemaking and sensegiving communicative actions are employees' active and voluntary communicative behaviors. The employees' communicative behaviors (ECB) not only create a shared understanding of information by searching and obtaining valuable and positive organization-related information from internal and external constituencies (i.e., sensemaking) but also influence others' sense by forwarding valuable and positive organization-related information from internal and external constituencies (i.e., sensegiving). The sensemaking and sensegiving communicative actions play an important role in connecting cues and frames to create accounts of what is going on in the crisis situation (Maitlis & Sonenshein, 2010). Such cues and frames can be found in the scenarios in which employees were educated and trained because the sensemaking and sensegiving communicative actions involves "the retrospective development of

plausible meanings" that rationalize what they are doing to cope with unusual, unexpected, and threatening situation (i.e., crisis) (Matilis & Sonenshein, 2010; Weick, 1995).

The results of this study, in addition, indicate the need for crisis communication theory that emphasizes employees as valuable assets for an organization. Since there has been scant theoretical attention to employees in crisis communication (Strandberg & Vigsø, 2016; Ravazzani, 2016), the findings should be added into empirical evidence, reflecting the importance of communication with employees in the context of internal crisis communication, as well as responding to calls from previous studies for more attention to internal crisis communication. Through understanding employees' competence and communicative actions for sensemaking and sensegiving in crisis situations, this study expands the scope of theoretical efforts of previous research that chiefly focused on relationship, leadership, and internal communication factors. Under organizational resilience, employees' role and impacts should be taken into consideration when a new crisis communication theory is discussed.

More importantly, this study paves the theoretical foundation for the resilience concept. This study develops and proposes the measurable concept assessing the organizational resilience asset, employee generated organizational resilience concept (EGORA), encompassing three dimensions, employees' competence, and sensemaking and sensegiving communication actions. Since there is no measure to evaluate the organizational resilience asset, the measurable concept will be applicable for effective crisis communication. Further, the concept of EGORA can be useful to guide managerial decision-making facilitating organizational resilience in the practice as well.

Implications for Crisis Communication Practice

As practical implications, the proposed model specifying the resilient process in crisis situations can help crisis managers and public relations practitioners reduce the missing gap between what they intended to communicate and what employees actually perceived. By doing so, crisis managers and public relations practitioners can prevent not only employees from practicing negative communicative behaviors based on misinterpretation, but also an organization from being less resilient by strategically concentrating on two-way symmetrical communication (e.g., listening to employees' concerns). In addition, the crisis managers can avert negative relational feature including distrust and dissolution that employees may perceive when they are exposed to crises through transparent communication because transparency is beneficial for building and rebuilding OER (Jahansoozi, 2006; Moon & Rhee, 2013). Highlighting the leadership factor (e.g., authentic leadership), furthermore, the crisis managers and public relations practitioners can also provide organizational management in a specific and useful way to give voice to and empower the strategic internal publics in organizational decision-making for a possibly full recovery from a crisis.

The proposed model specifying the resilient process in crisis situations provides an important rationale for why organizations need the strategic management function of public relations. In terms of strategic management, public relations functions to bridge the gap between an organization and internal publics (i.e., employees). In crisis situations, the function of public relations should be designed to maintain a relationship with internal publics through interactive and proactive communication (i.e., two-way communication) while balancing efforts for distinctive interests (i.e., symmetrical communication management) (Grunig, 2009; Ni & Kim, 2010). In turn, the public relations practitioners can make management decisions for effective

crisis communication using valuable information collected from the internal publics, as well as facilitate dialogue between the management and its publics both before and after decisions are made during the crisis (Grunig, 2011).

In fact, the perceived communication gap between organizational leadership and employees often leads to internal activist groups in an organization (McCown, 2007). That is, employees can organize and use activist communication strategies with organizational leadership such as crafting a formal letter to the board of trustees, writing personal letters and emails to the president, forcefully speaking out in open forums to advocate for other employees, and spreading rumors. By ongoing internal environmental scanning activities with regard to leadership, two-way symmetrical communication, and transparent communication, public relations can prevent employees from becoming internal activists.

Furthermore, the findings in this study can help organizations develop positive, public-based crisis management and communication. The proposed model indicates how organizations help their employees become copers, who are well-equipped to manage stressful situations, during a crisis (Goldstein, 1958; Pincus & Acharya, 1988). Crisis brings emotional trauma. In particular, organizational crises related to personal livelihood (e.g., hostile takeover, bankruptcy, and product tampering) or health and safety (e.g., disease, contamination, and major industrial accident) are likely to substantially exacerbate employees' stress levels, heighten their anxieties and uncertainty, and diminish their sense of control over their lives (Pincus & Acharya, 1988). Some may be able to manage the stressful situations well, by involving information seeking and protective behaviors to minimize or neutralize the perceived threat (i.e., copers) (Goldsten, 1958). The copers can be characterized by EGORA which represents a high level of employees' competence and communicative actions for sensemaking and sensegiving.

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However, there may be other employees who "project inner conflicts to the current perceived stressful situation, and alleviate tension by resorting to neurotic and defensive responses, such as panic, chronic anxiety, denial, repression, or anger" (i.e., avoiders) (Pincus & Acharya, 1988, p. 184). The existing public-based research mostly focuses on the avoiders by examining the negative coping strategies such as anger, anxiety, fright, and sadness (e.g., Jin, Pang, & Cameron, 2012, Pincus & Acharya, 1988). Jin et al. (2012) suggested "organizations may consider making available resources for the publics to manage their situations better" (p. 291). Through the proposed model, especially EGORA, in this study, public relations practitioners and crisis managers can help management develop resources, including authentic leadership, two-way symmetrical communication, and transparent communication, for employees to become copers.

Also, EGORA in this study sheds light on how an organization can facilitate cooperation pragmatically during crisis, resulting in organizational resilience. Crisis management entails an effort to manage all technical aspects of a crisis, "mostly about mobilizing and directing resources," in order to create a capacity to manage a crisis when it occurs (Ödlund, 2010, p. 96). To create the capacity to manage the negative outcomes, organizations are often, realistically, forced into extensive interactions during crises, including cooperation with new groups across different departments within an organization or other organizations (Quarantelli, 1985, 1998). Cooperation is "the interaction between two or more actors in order to coordinate their activities" (Ödlund, 2010, p. 98).

For cooperation within an organization, building relationships is required because trust "lubricates cooperation" and "cooperation itself breeds trust" (Meyerson, Weick, & Kramer, 1996, p. 189; Putnam, 1992). Although building relationships develop over time, rebuilding

relationships[40] through adjusting interactions and blurring of normal boundaries is needed in the crisis situations; that is, cooperation within temporary groups. In these circumstances, employees need to develop "swift trust" (i.e., a lighter form of trust) in order to cope with insecurity from strangers in the temporary groups (Meyerson et al., 1996; Ödlund, 2010, p. 102). The antecedents such as authentic leadership, two-way symmetrical communication, and transparent communication can help employees develop the swift trust (i.e., relationship rebuilding) for cooperation within temporary groups in their organization. Through the EGORA during the crisis, the swift trust for cooperation can be assessed for the crisis learning process.

Limitations and Suggestions for Future Research

Despite theoretical and practical implications in crisis communication and public relations, this study has several limitations. First, the self-efficacy dimension needs to be revised for replication of EGORA variable. In this study, self-efficacy dimension in EGORA was dropped due to cross loading in the EFA and construct validity problem in the CFA even though the dimension was derived from the existing scales, Ashford's (1988) change-specific self-efficacy based on social network theory. The items could be retained even if diagnostic information suggested that they were problematic (i.e., poorly performing) in order "to satisfy statistical identification requirements, to meet the minimal number of items per factors, or based on fact validity considerations" (Hair et al., 2010, p. 691). Although a dropout of self-efficacy could be plausibly explained by the conceptual redundancy with competency (Biddle et al., 2005; Maddux, 1986; Senecal et al., 2000), the relevant theories (e.g., social network theory)

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[40] Powley (2009) describe this rebuilding relationship mechanism as "relational redundancy" and suggested it one of factors activates resilience (p. 1318). The idea originated from Sutcliffe and Vogus's (2003) work. According to Sutcliffe and Vogus's (2003), as individuals and group reach across functional and organizational boundaries to help others and make important connections, they produce redundant actions through these interactions and thereby enlarge informational inputs in the form of new and critical information that enables organization to reorient itself to a new organizational reality.

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were considered in making model modifications. Therefore, developing or revising self-efficacy dimension should be considered for the next research to explain and replicate the concept of EGORA.

Second, this study emphasized employees as strategic internal publics but did not consider different types of public or stakeholder concepts that can explain how different publics or stakeholders emerge in crisis situations. Crisis situations may increase the salience of particular stakeholders as well as their potential influence on shareholder values (Frooman, 1999). More specifically, a crisis-triggered increase in stakeholders' salience may take at least three different forms: "1) dormant stakeholders may become dangerous, 2) discretionary stakeholders may become dependent, and 3) dominant stakeholders may become definitive" (Alpaslan, Green, & Mitroff, 2009; p. 41). Considering power, legitimacy, and urgency in a crisis, employees' salience can be identified differently. In addition, using situational theories, including situation theory of publics (STP) and situational theory of problem solving (STOPS), can be identified and segmented, considering publics' situational perception and cognition, as active, aware, inactive, and nonpublics (e.g., Grunig & Hunt, 1984; Kim, 2011). In the future research, the different concepts identifying internal publics should be applied to better understand employees in the crisis situations.

Third, findings in this study are limited to explain crisis communication and management related to multicultural environments in the organizations (Strandberg & Vigsø, 2016; Ravazzani, 2016). Employees have become more diversified than ever before because of "the expansion of operations into the global arena, immigration flows, and increased mobility of workers" (Mazzei & Ravazzani, 2012; Ravazzani, 2016, p. 73). However, the majority of existing studies on multicultural crisis communication has focused on external publics' reactions

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and standardized crisis response strategies (Taylor, 2000; Falkheimer & Heide, 2012). A few studies examining crisis communication in the context of multicultural background indicate its importance because cultural expectations shape employees' attitudes toward organizations and crises differently (Oliveira, 2013; Ravazzani, 2016). There needs to be more research to understand internal publics, especially employees from different cultural backgrounds through theoretical development and empirical investigation (Ravazzani, 2016). EGORA and its antecedents as well as the mediating role of OER between those variables should be retested by taking account of employees' multicultural background.

Relatedly, qualitative research methods, including in-depth interviews and focus groups, can be added to explore employees' multicultural background (Ravazzani, 2016). Qualitative interviews are useful to gather descriptions of employees' viewpoints and actual experiences related to multicultural background in times of crisis. The qualitative research methods in future research will provide more depth in to how employees act as cultural interpreters in the internal and external contexts and "play a role as active communicators and corporate ambassadors, especially in organizational crises involving a cultural or religious dimension" (Ravazzani, 2016, p. 85). Furthermore, an inductive method based on qualitative research will help to provide other possible factors and explanations that emerged from the data. In the paradigm of qualitative research, theory development is part of the data driven research process (Wimmer & Domnick, 2006).

Fourth, this study did not examine the outcomes of EGORA. To better provide the need of organizational resilience in the internal crisis communication, effects of EGORA should be investigated in future research. After crisis situations, for instance, employees' positive performance in terms of employees' discretionary behaviors (i.e., organizational citizenship

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behaviors: OCB) benefiting organization and its constituents can be considered. Previous research has not provided a direct effect of resilience on the intangible or tangible advantages (e.g., employees' performance within organization) in a crisis situation although the researchers speculate that effective crisis management and communication based on the management ability or leadership responsibility is an important factor in the organization science and business literature (e.g., Johansson, Dimofte, & Mazvancheryl, 2012; Knight & Pretty, 1999). In the future research, demonstrating how employees' resilience characteristics, as an organizational resilience asset, positively affect organizational citizenship behaviors in the context of crisis can be used as empirical evidence of organizational resilience for improving organizational efficiency, effectiveness, and adaptability (Williams & Anderson, 1991). The study can also provide a better rationale behind the need to apply resilience to effective internal crisis communication because the findings based on empirical evidence of internal crisis communication have been underrepresented thus far.

Lastly, the findings may be limited in generalizability because the data for this study were collected based on nonprobabilitiy sampling; that is, purposive online sampling. To offset the sampling bias from the nonprobability sampling, quota sampling was used by the survey firm (i.e., Qualtris.com). However, there may have been bias resulting from the selection of respondents within the quota by the survey firm (Brick, 2011). Although participants were drawn from a number of organizations, they were from 16 major industries in the United States as well as cannot be representatives of their organizations. In the online sample, in addition, all participants of the target population may have not had the same exposure to the invitation to the online survey, resulting in sampling bias (Brick, 2011). However, this research aimed to test theoretically hypothesized causal relationships between variables, not make generalizations of

the findings beyond the immediate sample. For this reason, the quota samples was used as an adequate sampling method (Judd et al., 1991). To apply the theoretical model proposed and tested in this study to broader contexts, including public sector organizations such as governments and communities with highlight the concept of resilience for crisis management, probability sampling methods should be adopted in future research (Brick, 2011).

CHAPTER 6
SUMMARY AND CONCLUSION

This study explored effective international crisis communication with the strategic management perspective. By doing so, the study attempted to not only fill the research gaps regarding internal crisis communication but also respond to the calls for a new direction in theoretical development beyond the symbolic approach. The results in this study provide meaningful insights into how organizational resilience can be measured by employees' confidence and communicative actions for sensemaking and sensegiving, conceptualized as employee generated organizational resilience (EGORA). In addition, the results of the current study highlighted how internal communication factors such as two-way symmetrical communication and transparent communication can be used strategically to communicate with employees for better organizational resilience. The results also revealed the important mediating role of the resilience and its antecedents, demonstrating that organization-employee relationships (OER) is a strong underlying factor in constructing why strategic internal communication and leadership can exert an impact on organizational resilience.

Through the results, this study aimed to offer a more comprehensive understanding of the dynamic nature of crisis, especially the complexity of internal crisis communication, by providing empirical evidence of the need for managerial efforts. Taking public relations theory in strategic management (i.e., excellence theory), theoretical new directions were discussed by integrating the findings into scenario building for more effective internal crisis communication theory beyond the symbolic approach. For the crisis communication practice, the results provided better explanations for why and how organizational listening and cooperation can and should be facilitated during the crisis situations.

However, there is ample room for future research to improve the theoretical and practical utility of EGORA and applicability of findings based on the proposed model. In the future research, retesting the validity of a self-efficacy dimension, including other concepts (i.e., different types of publics) and factors (i.e., multicultural background), examining outcomes of EGORA, and using other data collection (i.e., random sampling) and research methods (i.e., qualitative research) should be taken into consideration.

Thus, this study moves one step forward, encouraging crisis communication scholars and practitioners to strive for effective internal crisis communication. Considering employees as organizational resilience assets, scholars and crisis managers can improve the internal crisis communication within strategic management perspective beyond the symbolic approach.

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INFORMED CONSENT FORM FOR SOCIAL SCIENCE RESEARCH

Louisiana State University

Title of Project: Exploring organizational resilience asset and its antecedents for effective internal crisis communication

Person in Charge: Young Kim, 255 Hodges Hall
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Baton Rouge, LA 70803
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Hours available by phone: M-W 8 a.m. – 5 p.m.

Investigator (s): Dr. Andrea Miller, almiller@lsu.edu, 225-578-7380

1. **Purpose of the Study:** The purpose of this research is to explore effective internal crisis communication within the strategic management perspective. After measuring leadership, relationship, and internal communication factors of their organizations, individuals will be reading brief statements of hypothetical crisis and asked to complete questions measuring their resilience dimensions. By conducting this study, I hope to extend our understanding of individuals' resilience in organizational crises and make theoretical contribution to effective crisis communication.

2. **Procedures to be followed:** If you agree to take part in this research, you will be asked to do one of the following: You will be asked to complete an online questionnaire, at a location of your choosing, asking you to rate your perceptions of and feelings toward your organizations. You will also be asked to report your general attitudes, interests, and behavioral intentions toward your organization, as well as demographic information via questionnaire.

3. **Discomforts and Risks:** There are no risks in participating in this research beyond those experienced in everyday life.

4. **Benefits:**

   a. You might learn more about yourself by participating in this study. You might have a better understanding of how you can react and interpret your organization's crisis situation, thereby contributing your organization's effective crisis communication.

   b. The benefits of this study to society include a better understanding of crisis

communication through how the resilience of organizations as well as community members can be fostered and enhanced, which could help improve effective crisis communication in the organizations and community.

5. **Duration:** It will take about 20 minutes to complete the questions.

6. **Statement of Privacy:** All of your responses in this study are confidential . No identifying information will be included on any of the answers that you provide. If this research is presented or published, no information that would identify you will be included since your name is in no way linked to your responses. Your confidentiality will be maintained to the degree permitted by the technology used, if you participate in an online survey. Specifically, no guarantees can be made regarding the interception of data sent via the Internet by third parties.

7. **Right to Ask Questions:** You have the right to ask questions at any point in time about the research. The person in charge will answer your questions. Contact Young Kim at 989-400-2618 or ykim22@lsu.edu with questions. If you have questions about your rights as a research participant, contact Dr. Dennis Landin, Chairman, LSU Institutional Review Board, (225)578-8692.

8. **Compensation:** Participation is purely voluntary and no compensation will be provided for participation.

9. **Voluntary Participation:** Your participation is also voluntary. You are free to stop participating in the research at any time, or to decline to answer any specific questions without penalty.

You must be 18 years of age or older to consent to participate in this research study.

Completion and return of the survey implies that you have read the information in this form and consent to participate in the research.

Please print this page for a personal copy of this informed consent form.

Do you agree to participate?   Yes   No

Thank you for participating in this internal communication study. This survey is a critical part of a larger study that seeks to improve public relations and crisis communication. This survey will require 15-20 minutes to complete. Your answers will be completely anonymous and kept confidential. I appreciate your time and participation. If you have any questions or any concerns, please contact me at ykim22@lsu.edu. Once again, thank you so much for your input!

[Employment]
1. Are you employed full-time, part-time or not employed?
1) Full-time
2) Part-time
3) Not employed

[Organization information - size]
Organization Size
2. How many people are currently employed at all locations nationwide by your company?
1) less than 50
2) 51- 99
3) 100- 249
4) 250- 499
5) 500 – 999
6) 1,000 – 4,999
7) 5,000 – 9,999
8) 10,000 or more

Organization Size By Revenue
3. Please indicate the range that best approximates your company's annual revenue for the calendar year 2014?
1) less than $10 million
2) $10 to $49.9 million
3) $50 to $ 99.9 million
4) $100 to $249.9 million
5) $250 to $499.9 million
6) $500 to $749.9 million
7) $750 to $999.9 million
8) $1 to $ 1.9 billion
9) $2 to $4.9 billion
10) $5 to $9.9 billion
11) $10 billion or more

Organizational Tenure
4. How long have you worked at your company (i.e., current organization)?
          years   months

Job title & Department
5. Please specify your job title or position (please try to best describe your current position within your company; e.g., managing director, programmer, technology officer, project management, administrative manager, etc.) (   )

6. Please specify your department/unit (e.g., general administration, human resources, customer service, sales, marketing, etc.)
 (   )

[Industry]
7. Which of the following industry classification best represents the principal business activity of your company?
1) Agriculture, Forestry, Fishing and Hunting (e.g., crop production, animal production, forestry and logging, fishing, hunting, & trapping, and support activities for agriculture & forestry)

2) Mining, quarrying, and oil & gas extraction (e.g., oil& gas extraction, mining, and support activities for mining)

3) Construction (e.g., residential building construction, nonresidential building construction, utility system construction, land subdivision, highway, street, & bridge construction, other heavy & civil engineering construction, foundation, structure, & building exterior contractors, building equipment contractors, and building finishing contractors.)

4) Manufacturing (e.g., food manufacturing, beverage & tobacco product manufacturing, textile mills, apparel manufacturing, leather & allied product manufacturing, wood product manufacturing, paper manufacturing, printing & related support activities, petroleum and coal products manufacturing, chemical manufacturing, plastics & rubber products manufacturing, nonmetallic mineral product manufacturing, primary metal manufacturing, machinery manufacturing, computer & electronic product manufacturing, electrical equipment, appliance, & component manufacturing, transportation equipment manufacturing, furniture & related product manufacturing, and miscellaneous manufacturing)

5) Wholesale trade
(e.g., motor vehicle and motor vehicle parts and supplies merchant wholesalers, furniture and home furnishing wholesalers, lumber & other construction materials merchant wholesalers, professional and commercial equipment and supplies wholesalers, metal & mineral merchant wholesalers, electrical & electronic goods merchant wholesalers, hardware, plumbing, heating equipment, & supplies merchant wholesalers, machinery, equipment, & supplies merchant wholesalers, miscellaneous durable goods merchant wholesalers, / paper and paper product merchant wholesalers, drug & druggists' sundries merchant wholesalers, apparel, piece goods, & notions merchant wholesalers, farm product raw material merchant wholesalers, chemical & allied products merchant wholesalers, grocery and related product wholesalers, petroleum and petroleum products merchant wholesalers, beer, wine, and distilled alcoholic beverage merchant wholesalers, miscellaneous nondurable goods merchant wholesalers, and wholesale electronic markets, agents, & brokers.)

6) Retail trade
(e.g., motor vehicle & parts dealers, furniture & home furnishing stores, electronics & appliance stores, building materials & garden equipment & supplies dealers, food & beverage stores, health & personal care stores, gasoline stations, clothing & clothing accessories stores, sporting goods, hobby, book, & music stores, general merchandise stores, miscellaneous store retailers, and nonstore retailers)

7) Transportation and warehousing (e.g., air transportation, rail transportation, water transportation, truck transportation, transit & ground passenger transportation, pipeline transportation, scenic & sightseeing transportation, support activities for transportation, postal service, curriers & messengers, and warehousing & storage)

8) Utilities (e.g., electronic power generation, transmission, & distribution, natural gas distribution, and water, sewage & other system)

9) Information (e.g., publishing industries (except Internet), telecommunications, motion pictures and sound recording industries, Internet publishing & broadcasting, data processing, hosting, & related services, and radio and television broadcasting & cable, and other information services)

10) Financial activities (e.g., monetary authorities – central banks, credit intermediation & related activities, securities, commodity contracts, & other financial investments & related activities, insurance carriers & related activities, funds, trusts, & other financial vehicles, real estimate, rental & leasing services, & lessors of nonfinancial intangible assets.)

11) Professional and business services (e.g., management of companies & enterprises, professional, scientific, & technical services, administrative & support services, and waste management & remediation services.)

12) Educational services (e.g., elementary & secondary schools, junior colleges, colleges, universities, & professional schools, business schools, computers, & management training, other schools & instruction, and educational support services)

13) Health care and social assistance (e.g., ambulatory health care services, hospitals, nursing & residential care facilities, and social assistance)

14) Leisure and hospitality (e.g., arts, entertainment, and recreation – performing arts, spectator sports, & related industries, museums, historical sites, & similar institutions, amusement, gambling & recreation industries / accommodation and food services – accommodation and food services & drinking places)

15) Other services (except public administration) (e.g., repair & maintenance, personal & laundry services, religious, grantmaking, civic, professional, & similar organizations, private households, and membership associations & organizations.)

16) Public sector (e.g., federal, state, local government)

17) Others (specify:)

INSTRUCTIONS: Please indicate your level of agreement with the following statements using the provided 1 – 7 scale – 1 representing "Strongly Disagree" and 7 representing "Strongly Agree."

Strongly Disagree ---Strongly Agree
(1) ---------- (2) ---------- (3) ---------- (4) ---------- (5) ----------- (6) ---------- (7)

Transparent Communication
1. My company asks for feedback from people like me about the quality of its information. (Participative)
2. My company involves people like me to help identify the information I need. (Participative)
3. My company provides detailed information to people like me. (Participative)
4. My company makes it easy to find the information people like me need. (Participative)
5. My company asks the opinions of people like me before making decisions. (Participative)
6. My company takes the time with people like me to understand who we are and what we need. (Participative)
7. My company provides information in a timely fashion to people like me. (Substantial)
8. My company provides information that is relevant to people like me. (Substantial)
9. My company provides information that can be compared to previous performance. (Substantial)
10. My company provides information that is complete. (Substantial)
11. My company provides information that is easy for people like me to understand. (Substantial)
12. My company provides accurate information to people like me. (Substantial)
13. My company provides information that is reliable. (Substantial)
14. My company presents more than one side of controversial issues. (Accountable)
15. My company is forthcoming with information that might be damaging to the organization. (Accountable)
16. My company is open to criticism by people like me. (Accountable)
17. My company freely admits when it has made mistakes. (Accountable)
18. My company provides information that can be compared to industry standards. (Accountable)

Two-way Symmetrical Communication
1. I am comfortable talking to my manager about my performance.
2. Most communication between management and other employees in our company can be said to be two-way communication.
3. Our company encourages differences of opinion
4. The purpose of communication in our company is to help managers be responsive to the problems of employees.
5. Supervisors encourage employees to express differences of opinion.
6. Employees are usually informed about major changes in policy that affect our job before they take place.
7. I am comfortable talking to my manager when things are going wrong.

Authentic Leadership

1. My manager describes accurately the way others view his / her abilities. (Self-awareness)
2. My manager shows that he/she understands his/her strengths and weaknesses. (Self-awareness)
3. My manager is clearly aware of the impact he/she has on others. (Self-awareness)
4. My manager clearly states what he/she means. (Relational transparency)
5. My manager openly shares information with others. (Relational transparency)
6. My manager expresses his/her ideas and thoughts clearly to others. (Relational transparency)
7. My manager shows consistency between his/her beliefs and actions. (Internalized moral perspective)
8. My manager uses his/her core beliefs to make decisions. (Internalized moral perspective)
9. My manager resists pressures on him/her to do things contrary to his/her beliefs. (Internalized moral perspective)
10. My manager is guided in his/her actions by internal moral standards. (Internalized moral perspective)
11. My manager asks for ideas that challenge his / her core beliefs. (Balanced processing)
12. My manager carefully listens to alternative perspectives before reaching a conclusion. (Balanced processing)
13. My manager objectively analyzes relevant data before making a decision. (Balanced processing)
14. My manager encourages others to voice opposing points of view. (Balanced processing)

Employee-Organization Relationship

Trust: Dimensions Integrity, competence, dependability
1. My company treats people like me fairly and justly. (Integrity)
2. Whenever my company makes an important decision, I know it will be concerned about people like me. (Integrity; original dimension: faith).
3. My company can be relied on to keep its promises. (Dependability)
4. I believe that my company takes the opinions of people like me into account when making decisions. (Dependability)
5. I feel very confident about my company's skills. (Competence)
6. My company has the ability to accomplish what it says it will do. (Competence)

Control Mutuality

1. My company and people like me are attentive to what each other say.
2. My company believes the opinions of people like me are legitimate.
3. In dealing with people like me, my company has a tendency to throw its weight around. (Reversed)
4. My company really listens to what people like me have to say.
5. The management of my company gives people like me enough say in the decision-making process.

Commitment

1. I feel that my company is trying to maintain a long-term commitment to people like me.
2. I can see that my company wants to maintain a relationship with people like me.

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3. There is a long-lasting bond between my company and people like me.
4. Compared to other companies, I value my relationship with my company more.
5. I would rather work together with my company than not.

Satisfaction:
1. I am happy with my company.
2. Both my company and people like me benefit from the relationship.
3. Most people like me are happy in their interactions with my company.
4. Generally speaking, I am pleased with the relationship my company has established with people like me.
5. Most people enjoy dealing with my company

INSTRUCTIONS: Please imagine that your company faces a crisis situation as the following statements describe. After reading it, please the following questions using the provided 1 – 7 scale.

1) [Agriculture, forestry, fishing & hunting]
Today, it is reported that a tractor overturn incident occurred in the small town. The exact extent of injury and property damage is under the investigation. The cause is speculated by poor rolling system of the tractor produced by your company.

2) [Mining, quarrying, and oil and gas extraction crisis situation]
Today, it is reported that an explosion just occurred in a small coalmining (or oil and gas extraction) town where your company is operated. The exact extent of injury and property damage is under the investigation. The cause is speculated by poor mining (or oil and gas) safety conditions in your company.

3) [Constructing]
Today, it is reported that a mast climbing platform north of the mast collapsed at a condominium project under construction. The exact extent of injury and property damage is under the investigation. The cause is speculated by poor construction safety conditions in your company.

4) [Manufacturing]
Today, it is reported that a laptop produced by your company suddenly exploded into flames at a public conference, in what could have been a deadly accident. The exact extent of injury and property damage is under the investigation. The cause is speculated by your company's manufacturing defects.

5) [Wholesale trade]
Today, it is reported that a theft incident of goods occurred in your company. The exact extent of injury and property damage is under the investigation. The cause is speculated by your company's poor security systems including malfunction of locks lights and alarms.

6) [Retail trade]
Today, it is reported that an oil and fuel in one of your company retail stores leaked onto the roadway. The exact extent of injury and property damage caused by the incident is under the

investigation. The cause is speculated by your company's (the store's) poor maintenance systems.

7) [Transportation and warehousing]
Today, it is reported that a train operated by your company derailed and caught fire in the valley town. The passengers were forced to be evacuated, and the exact extent of injury and property damage caused by the incident is under the investigation. The cause is speculated by the train operator's in your company recklessness.

8) [Utilities]
Today, it is reported that an electrical-related house fire occurred. The exact extent of injury and property damage is under the investigation. The cause is speculated by your company's household wiring system that could range from overloaded circuits.

9) [Information]
Today, it is reported that hackers' multiple cyber-attacks occurred in the wired and wireless telecommunications companies that operate the security software produced in your company. The exact extent of property damage, including loss of data and theft of system resources, is under the investigation. The cause is speculated by your company's poor security system of information technology.

10) [Financial Activities]
Today, it is reported that your bank company has lost computer data containing personal information, including social security number and account information. The exact amount of property damage, including loss of data and theft of system resources, is under the investigation. The cause is speculated by the vulnerability of your company's banking program.

11) [Professional & Business services]
Today, it is reported that a steel storage tank at the site of your company collapsed, breaching a concrete bund spilling a mixed waste onto the site. The exact extent of injury and property damage is under the investigation. The cause is speculated by your company's poor maintenance management system.

12) [Education services]
Today, it is reported that a playground accident occurred in your school. The exact extent of injury and property damage is under the investigation. The cause is speculated by your school's dangerous physical conditions, especially unsafe playground equipment by poor maintenance.

13) [Health care and social assistance]
Today, it is reported that a violent act-related incident occurred in your health care center. The exact extent of injury and property damage is under the investigation. The cause is speculated by your school's neglect of workplace violence prevention for nurses.

14) [Leisure and hospitality]

Today, it is reported that a slip incident occurred in the swimming pool at your company hotel. The exact extent of injury and property damage is under the investigation. The cause is speculated by your school's failure to supervise the pool.

15) [Other services]
Today, it is reported that a machinery accident related to rotary hydro-extractors in laundries operated as one of your company branches. The exact extent of injury and property damage is under the investigation. The cause is speculated by your company's inadequate interlocking arrangement.

16) [Public Sector]
Today, it is reported that the victims who have applied for disaster assistance are frustrated by the approval process. The exact casual factor of the process is under the investigation. The cause is speculated by the government's inappropriate process on a case by case basis.

17) [Others]
Today, it is reported that an accident occurred in your company. The exact casual factor of the process is under the investigation. The exact extent of injury and property damage is under the investigation. The cause is speculated by your company's poor management.

Strongly Disagree --Strongly Agree
   (1) ---------- (2) ---------- (3) ---------- (4) ---------- (5) ----------- (6) ---------- (7)

Employee Generated Organization Resilience Asset (EGORA)
Competence
1. I am confident about my ability to do my job (competence 1).
2. I am self-assured about my capabilities to perform my work activities (competence 2).
3. I have mastered the skills necessary for my job (competence 3).

Competency (Competencies)
4. I would analyze complex problems in depth (Competency: Problem solving 1)
5. I would deal with problems or faults (which could be through my own work, someone else's work or equipment) (Competency: Problem solving 2)
6. I would spot problems or defaults (which could be through my own work, someone else's work or equipment) (Competency: Problem solving 3)
7. I would think of solutions to problems (which could be through my own work, someone else's work or equipment) (Competency: Problem solving 4)
8. I would deal with people and to interact with them (Competency: Professional relations 1)
9. I would persuade or influence others (Competency: Professional relations 2)
10. I would counsel, advise or care for others (Competency: Professional relations 4)
11. I would instruct, train or teach people, individually or in groups (Competency: Professional relations 4)
12. I would join a group effort (Competency: Team work 1)
13. I would help other members of my team (Competency: Team work 2)
14. I would listen carefully to colleagues (Competency: Team work 3)

Self-efficacy

1. Whatever this issue or crisis takes me, I am sure I can handle it.

2. I get nervous [that] I may not be able to do all that is demanded of me by this issue or crisis (R). (I think I will be able to do all that is demanded of me by this crisis)

3. I have reason to believe I may not perform well in my job situation following this issue or crisis (R). (I believe I perform well in my job situation following this crisis.)

4. Though I may need some training, I have little doubt I can perform well following this issue or crisis.

Sensemaking communicative action

1. I would meet and check with suppliers and government officials to collect new information.

2. I would voluntarily meet and check with those people who have grievances with organization.

3. I would voluntarily check people's feedback on this issue or crisis.

4. I would search for new information and subscribe to Listserv, newsletters, publications for organization.

5. I would even after working hours contact strategic publics and stakeholders for their complaints and new information and share the information with colleagues.

6. I would make extra effort to cultivate and maintain relationships with external stakeholders and strategic publics.

7. I would meet people who work for similar businesses and check rumors and news about organization or business.

8. I would start conversation or give information to relevant colleagues about new trends or unusual signals related to work.

Sensegiving communicative action

1. Employees are not afraid to speak up during meetings with supervisors and managers.

2. I would writing positive comments or advocating posting for my organization on the Internet.

3. I would say good things to friends and neighbors about positive aspects of the management and company.

4. I would recommend my organization and its service / products to people.

5. I would attempt to persuade people who have negative opinions about my organization.

6. I would refute prejudiced or stereotyped opinions about my organization.

7. I would argue with those who criticized my organization and business.

8. I would become upset and tend to speak up when encountering ignorant or biased opinions about my organization.

Demographic and socioeconomic variables

INSTRUCTIONS: You are almost finished! The following questions ask about your demographic information. Please answer by using scales varied for each question.

1. What is your gender?
(1) Male
(2) Female

2. What is your age? (please enter the numbers:)

3. What is the highest level of school you have completed or the highest degree you have received?
(1) Less than high school (Grades 1-8 or no formal schooling)
(2) High school incomplete (Grades 9-11 or Grade 12 with NO diploma)
(3) High school graduate (Grade 12 with diploma or GED certificate)
(4) Some college, no degree (includes community college)
(5) Two year associate degree from a college or university
(6) Four year college or university degree/Bachelor's degree (e.g., BS, BA, AB)
(7) Some postgraduate or professional schooling, no postgraduate degree
(8) Postgraduate or professional degree, including master's, doctorate, medical or law degree (e.g., MA, MS, PhD, MD, JD)
(9) I do not want to answer

4. Which of the following describes your race? You can select as many as apply. White, Black or African
American, Asian or Asian American or some other race.
(1) White (e.g., Caucasian, European, Irish, Italian, Arab, Middle Eastern)
(2)Black or African-American (e.g., Negro, Kenyan, Nigerian, Haitian)
(3)Asian or Asian-American (e.g., Asian Indian, Chinese, Filipino, Vietnamese or other Asian origin groups)
(4)Native American/American Indian/Alaska Native
(5)Pacific Islander/Native Hawaiian
(6)Hispanic/Latino (e.g., Mexican, Puerto Rican, Cuban)
(7)Some other race (please indicate:)
(8)I do not want to answer

5. Last year, that is in 2014, what was your total family income from all sources, before taxes?
(1)Less than $10,000
(2)10 to under $20,000
(3)20 to under $30,000
(4)30 to under $40,000
(5)40 to under $50,000
(6)50 to under $75,000
(7)75 to under $100,000
(8)100 to under $150,000
(9)$150,000 or more

You have reached the end of the survey. Thank you so much for your time. The crisis messages were fictional and had solely been created for the purpose of this study. Your organization did neither have any crisis nor problem. Please submit this survey by clicking "Finish." If you have any questions or any concerns, please contact us at ykim22@lsu.edu. Once again, thank you so much for your input!

MEDIATION EFFECT USING REGRESSION ANALYSIS

According to Baron and Kenny (1986), a mediating effect is created when the variable, as a third variable or construct, intervenes between two other related constructs. Baron and Kenny (1986) introduced a following path diagram as a model for depicting a casual chain in order to clarify the meaning of mediation:
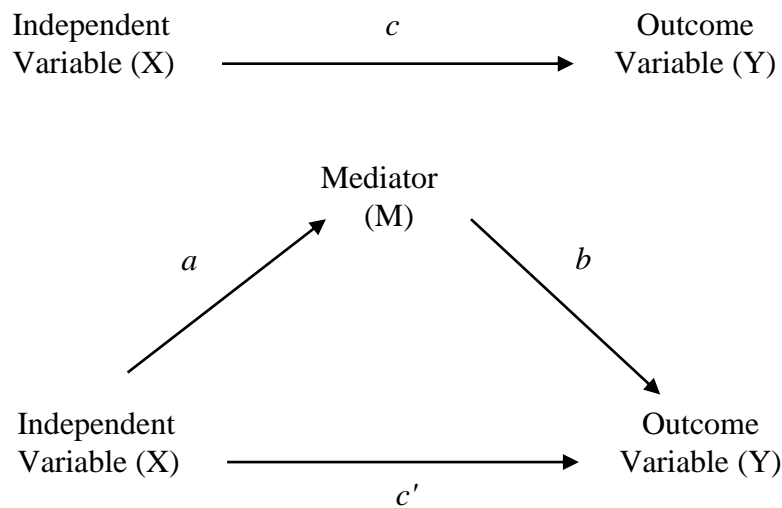
Figure 6. Mediational model (Baron & Kenny, 1986, p. 1676). Adapted from "The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical consideration," by R. M. Baron, and D. A. Kenny, 1986, *Journal of Personality and Social Psychology, 51*(6), p. 1676. Copyright 1986 by the American Psychological Association, Inc.

To establish the mediation effect (i.e., an independent variable affects an outcome variable through a mediator), Baron and Kenny (1986) recommended three tests[41]: "(a) variations in levels of the independent variable significantly account for variations in the presumed mediator (i.e., Path *a*), (b) variations in the mediator significantly account for

---

[41] Prior to the three tests, there should be a significant relationship between the independent variable (X) and the dependent variable (Y) (i.e.., unmediated model) (Tabachnick & Fidell, 2013).

variations in the dependent variable (i.e., Path *b*), and (*c′*) when Paths *a* and *b* are controlled, a previously significant relation between the independent and dependent variables is no longer significant, when the strongest demonstration of mediation occurring when Path *c′* is zero" (p. 1176). When a variable meets the above conditions, the variable can function as mediator (Baron & Kenny, 1986).

A sequence of two Paths (Path *a* and *b*) represented visually by multiple arrows on the above path diagram shows that the independent variable affects the outcome variable through a mediator (i.e., indirect effect). A single arrow represented by Path *c′* indicates that the independent variable directly affects the outcome variable (i.e., direct effect). Therefore, the indirect effects represent the mediating effect of the mediator on the relationship between the independent variable and the outcome variable (Baron & Kenny, 1986; Hair et al., 2010; Zhao et al., 2010). If there is only one indirect effect but no direct effect, it is called complete or full mediation that "the mediating construct completely explains the relationship between two original constructs" (Baron & Kenny, 1986; Hair et al., 2010, p 752; Zhao et al., 2010). In contrast, partial mediation can exist if "there is still some of the relationship between independent variable and outcome variable (Path *c′*) that is not explained away by the mediator" (Baron & Kenny, 1986; Hair et al., 2010, p 752) [42]. The paths can be explained by the following

equations:
$$Y = i_1 + cX + e_1 \qquad\qquad 3.1$$

$$Y = i_2 + c'X + bm + e_2 \qquad\qquad 3.2$$

$$m = i_3 + aX + e_3 \qquad\qquad 3.3$$

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[42] Zhao et al. (2010) pointed out that Baron and Kenny's (1986) classification of full, partial, and no mediation is somewhat coarse and misleading. They proposed a typology of mediations and nonmediations; "complementary mediation" (i.e., partial mediation), "competitive mediation," "indirect-only mediation" (i.e., full mediation), and "direct-only nonmediation" (Zhao et al., 2010, p. 200).

Mediating Effect $= a*b = c - c'$

$$\hat{a}*\hat{b} \pm \left(z_{\frac{a}{2}} \div \frac{\hat{a}*\hat{b}\sqrt{t_{\hat{a}}^2 + t_{\hat{b}}^2}}{t_{\hat{a}} \cdot t_{\hat{b}}} \right) \qquad 3.4$$

The equations 3.1, 3.2 and 3.3 allow researchers to capture and test the mediating effect of M. In other words, these steps can be tested by using multiple regression analysis (Baron & Kenny, 1986; Hair et al., 2010). Equation 3.4 can be used to build a confidence interval around the effect. If this interval includes 0, researchers can conclude that there is no mediating effect from variable M in the above formulation.

Full Path Diagrams of the Proposed Model*
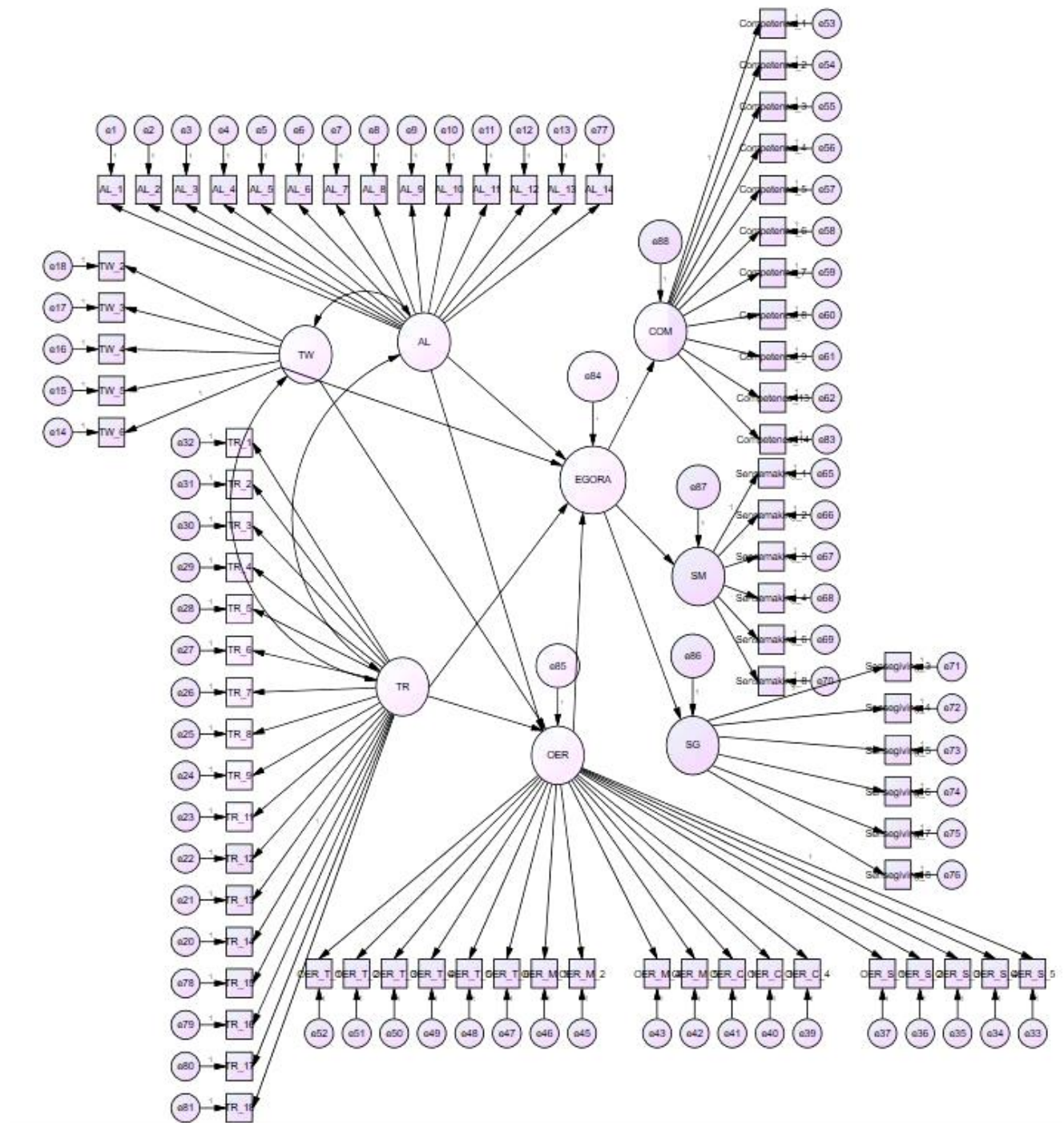
* estimates are provided in the table (Table 19) on the next pages due to legibility

Table 19. Full paths of the proposed SEM model

Parameters			Unstandardized Coefficient (b)	Standardized Coefficient (β)	S.E.	Critical Ratio (z)	p	95% CI
AL	→	EGORA	0.06	0.10	0.11	0.99	0.365	[-0.05, 0.17]
TW	→	EGORA	0.01	0.02	0.20	0.13	0.892	[-0.20, 0.21]
TR	→	EGORA	-0.02	-0.33	0.17	-0.20	0.917	[-0.21, 0.20]
AL	→	OER	0.12	0.13	0.05	2.89	0.006	[0.04, 0.22]
TW	→	OER	0.31	0.32	0.08	3.97	0.002	[0.14, 0.49]
TR	→	OER	0.59	0.55	0.06	8.97	0.002	[0.43, 0.66]
OER	→	EGORA	0.34	0.63	0.20	11.93	0.002	[0.66, 0.77]
EGORA	→	COM	1^	0.79	0.03	-	0.002	[0.74, 0.84]
EGORA	→	SM	1.54	0.84	0.02	12.54	0.002	[0.80, 0.89]
EGORA	→	SG	1.66	0.95	0.02	13.82	0.004	[0.90, 0.99]
AL_1	→	AL	1^	0.88	0.01	-	0.003	[0.86, 0.90]
AL_2	→	AL	1.06	0.89	0.01	33.25	0.003	[0.87, 0.91]
AL_3	→	AL	0.97	0.86	0.01	27.74	0.002	[0.84, 0.88]
AL_4	→	AL	0.95	0.85	0.01	26.81	0.003	[0.82, 0.87]
AL_5	→	AL	0.95	0.85	0.01	26.21	0.004	[0.81, 0.86]
AL_6	→	AL	0.97	0.84	0.01	27.80	0.004	[0.83, 0.88]
AL_7	→	AL	0.95	0.86	0.01	26.24	0.003	[0.81, 0.86]
AL_8	→	AL	0.87	0.84	0.01	26.39	0.002	[0.81, 0.86]
AL_9	→	AL	0.92	0.84	0.02	25.32	0.003	[0.79, 0.85]
AL_10	→	AL	0.91	0.83	0.02	25.57	0.004	[0.79, 0.85]
AL_11	→	AL	1.06	0.83	0.01	25.89	0.004	[0.80, 0.86]
AL_12	→	AL	1.03	0.89	0.01	29.40	0.002	[0.86, 0.90]
AL_13	→	AL	0.97	0.87	0.01	25.98	0.003	[0.85, 0.89]
AL_14	→	AL	1.03	0.84	0.01	26.54	0.003	[0.82, 0.87]
TW_2	→	TW	1^	0.85	0.01	-	0.002	[0.82, 0.88]
TW_3	→	TW	1.01	0.90	0.01	20.90	0.003	[0.88, 0.92]
TW_4	→	TW	1.14	0.91	0.01	25.06	0.003	[0.88, 0.92]
TW_5	→	TW	1.11	0.87	0.01	25.22	0.003	[0.85, 0.89]
TW_6	→	TW	1.12	0.80	0.02	23.77	0.003	[0.77, 0.84]
TR_1	→	TR	1^	0.73	0.02	-	0.002	[0.69, 0.77]

Table 19 (continued).

Parameters			Unstandardized Coefficient (b)	Standardized Coefficient (β)	S.E.	Critical Ratio (z)	p	95% CI
TR_2	→	TR	1.02	0.73	0.02	21.64	0.003	[0.68, 0.76]
TR_3	→	TR	1.24	0.86	0.01	21.66	0.002	[0.84, 0.89]
TR_4	→	TR	1.19	0.84	0.01	21.48	0.003	[0.81, 0.86]
TR_5	→	TR	0.94	0.81	0.02	18.71	0.003	[0.78, 0.84]
TR_6	→	TR	1.21	0.88	0.01	22.10	0.003	[0.86, 0.90]
TR_7	→	TR	1.20	0.89	0.01	20.83	0.005	[0.87, 0.91]
TR_8	→	TR	1.03	0.84	0.01	18.20	0.002	[0.81, 0.86]
TR_9	→	TR	0.97	0.84	0.01	19.36	0.002	[0.81, 0.86]
TR_11	→	TR	1.02	0.85	0.01	19.70	0.003	[0.82, 0.87]
TR_12	→	TR	0.99	0.84	0.01	19.35	0.003	[0.80, 0.86]
TR_13	→	TR	1.23	0.88	0.01	20.59	0.002	[0.86, 0.90]
TR_14	→	TR	1.25	0.90	0.01	21.04	0.004	[0.88, 0.92]
TR_15	→	TR	1.23	0.90	0.01	20.98	0.003	[0.88, 0.92]
TR_16	→	TR	1.17	0.90	0.01	20.60	0.003	[0.86, 0.90]
TR_17	→	TR	1.37	0.88	0.01	20.55	0.004	[0.86, 0.90]
TR_18	→	TR	1.32	0.88	0.01	20.88	0.004	[0.87, 0.91]
OER_1	→	OER	1.08	0.87	0.01	25.74	0.003	[0.85, 0.89]
OER_2	→	OER	1.14	0.87	0.01	25.57	0.003	[0.84, 0.89]
OER_3	→	OER	1.07	0.87	0.01	25.75	0.003	[0.85, 0.89]
OER_4	→	OER	1.25	0.89	0.01	26.84	0.005	[0.87, 0.91]
OER_5	→	OER	0.93	0.82	0.02	23.02	0.003	[0.78, 0.85]
OER_6	→	OER	0.80	0.78	0.02	21.36	0.004	[0.74, 0.81]
OER_7	→	OER	1.00	0.86	0.01	25.30	0.003	[0.84, 0.88]
OER_8	→	OER	1.14	0.90	0.01	27.04	0.002	[0.88, 0.91]
OER_10	→	OER	1.26	0.90	0.01	27.25	0.004	[0.88, 0.92]
OER_11	→	OER	1.23	0.87	0.01	25.39	0.004	[0.84, 0.89]
OER_12	→	OER	1.18	0.89	0.01	26.60	0.003	[0.87, 0.91]
OER_14	→	OER	1.19	0.89	0.01	26.43	0.003	[0.86, 0.90]
OER_15	→	OER	1.21	0.86	0.01	27.32	0.002	[0.83, 0.88]
OER_17	→	OER	0.98	0.84	0.01	24.38	0.003	[0.81, 0.87]
OER_18	→	OER	0.90	0.82	0.02	23.25	0.002	[0.79, 0.85]

Table 19 (continued).

Parameters			Unstandardized Coefficient (b)	Standardized Coefficient (β)	S.E.	Critical Ratio (z)	p	95% CI
OER_19	→	OER	1.02	0.86	0.01	30.02	0.002	[0.84, 0.88]
OER_20	→	OER	1.09	0.88	0.01	28.82	0.003	[0.85, 0.90]
OER_21	→	OER	1^	0.84	0.01	-	0.005	[0.81, 0.86]
COM_1	→	COM	1^	0.69	0.03	-	0.002	[0.64, 0.74]
COM_2	→	COM	1.03	0.74	0.02	25.84	0.001	[0.70, 0.78]
COM_3	→	COM	1.00	0.73	0.02	21.37	0.002	[0.69, 0.77]
COM_4	→	COM	1.00	0.80	0.02	17.64	0.003	[0.76, 0.83]
COM_5	→	COM	1.11	0.80	0.02	16.66	0.003	[0.76, 0.84]
COM_6	→	COM	1.07	0.77	0.02	15.99	0.002	[0.72, 0.80]
COM_7	→	COM	0.99	0.82	0.02	17.01	0.004	[0.78, 0.85]
COM_8	→	COM	1.07	0.84	0.02	18.63	0.002	[0.81, 0.87]
COM_9	→	COM	1.15	0.66	0.02	13.88	0.003	[0.60, 0.70]
COM_13	→	COM	1.02	0.79	0.02	16.51	0.004	[0.75, 0.82]
COM_14	→	COM	0.98	0.80	0.02	16.65	0.003	[0.75, 0.83]
SM_1	→	SM	1^	0.79	0.02	-	0.003	[0.75, 0.82]
SM_2	→	SM	1.00	0.84	0.02	23.63	0.002	[0.80, 0.87]
SM_3	→	SM	0.98	0.85	0.02	21.15	0.002	[0.81, 0.87]
SM_4	→	SM	1.01	0.81	0.02	20.08	0.002	[0.78, 0.84]
SM_6	→	SM	1.07	0.83	0.02	20.50	0.004	[0.79, 0.86]
SM_8	→	SM	0.99	0.84	0.02	20.62	0.003	[0.80, 0.87]
SG_3	→	SG	1^	0.88	0.02	-	0.002	[0.84, 0.91]
SG_4	→	SG	0.97	0.84	0.02	27.23	0.002	[0.80, 0.88]
SG_5	→	SG	0.92	0.77	0.03	20.03	0.002	[0.72, 0.82]
SG_6	→	SG	0.84	0.72	0.03	17.70	0.003	[0.67, 0.76]
SG_7	→	SG	0.88	0.66	0.03	16.23	0.003	[0.60, 0.72]
SG_8	→	SG	0.84	0.66	0.03	15.91	0.005	[0.59, 0.71]

Note. S.E.: bootstrap standard errors, CI: confidence intervals, AL: authentic leadership, TW: two-way symmetrical communication, TR: transparent communication, OER: the quality of organization-employee relationships, EGORA: employee generated organization resilience asset, COM: competence, SM: sensemaking communicative action, and SG: sensegiving communicative action. ^Paths were constrained to 1.

VITA

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