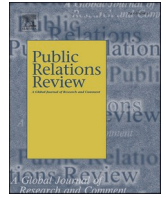


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Introducing the Co-oriented Scansis (CoS) model: A case of chatbot, Lee-Luda

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ABSTRACT

This study presents the Co-oriented Scansis (CoS) model, which provides a comprehensive understanding of scansis—a recently identified crisis type integrated into the Situational Crisis Communication Theory (SCCT). Using a crisis case of Scatter Lab, a South Korean AI company, as a model case, the study applies the CoS model to analyze the perceptions and meta-perceptions of both the organization and the public regarding the crisis. The data collection involved three official statements released by Scatter Lab and an analysis of 365 reviews from the Google Play users' reviews page of Science of Love—the app used by Scatter Lab to collect intimate conversations between romantic partners. The findings highlight the utility of the CoS model in explaining how Scatter Lab's AI crisis evolved into a scansis. Specifically, the organization's failure to accurately comprehend the public's perception of the crisis (second level co-orientation) and the resulting discrepancy between the organization and the public's perceptions (third level co-orientation) contributed to moral outrage, ultimately leading to a scansis. The study concludes by discussing the theoretical contributions of the CoS model and its practical implications for crisis management.

1. Introduction

At the beginning of 2021, South Korean Chatbot Lee-Luda faced a severe backlash when its parent company, Scatter Lab, was accused of “collecting intimate conversations between lovers without informing the users and then using the data to build [its] conversational chatbot (Jang, 2021, para. 1)”. The incident Scatter Lab faced was a crisis due to an Artificial Intelligence (AI, hereafter) failure, which Prah and Goh (2021) define as any instance of AI behaving in a way that reflects negatively upon an organization in such a way that demands an urgent response from the organization to its stakeholders” (p. 2).

The crisis faced by Scatter Lab was highly complex, and the organization's response strategies proved ineffective, further aggravating the situation. The public's anger intensified when Scatter Lab denied the incident, shifted blame onto the public, and tried to avoid responsibility through their statements that were supposed to be an apology. The moral outrage resulted in significant financial and reputation losses for the organization, including the shutdown of the service, removal of the database and the AI model used for the chatbot, a class action lawsuit against the company, and most of all, perilous damage on its brand reputation (for more details of the crisis, see Jang, 2021).

In response to the increasing number of crisis communication failures, this study introduces the Co-oriented Scansis (CoS) model. The CoS model utilizes the co-orientation model (Broom, 1977; Chaffee & McLeod, 1970) to illustrate how a crisis becomes a scansis—a new crisis type proposed by Coombs and Tachkova (2019). We demonstrate the usefulness of this model by applying it to a scansis case of an AI chatbot company in South Korea. By doing so, our study aims to enhance the understanding of scansis as a new crisis type, illustrating one potential path through which a crisis may evolve into a scansis. Specifically, the model elucidates how “stakeholder expectation violation (Coombs & Tachkova, 2019, p. 77)” can occur from a series of discrepancies between the organization's perceptions and meta-perceptions and those held by their publics regarding the crisis. The co-orientation model (Broom, 1977; Chaffee & McLeod, 1970) provides a useful lens for detecting different levels of perceptual disparities between the organization and their publics.

Furthermore, the field of crisis communication has witnessed numerous instances where PR managers have made less-than-ideal decisions when dealing with crises (e.g., Claeys & Ogenhaffen, 2016; Claeys & Coombs, 2020; Kim et al., 2009). The Co-oriented Scansis (CoS) model helps understand this challenge by providing a systematic

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framework for examining the role of perceptions and meta-perceptions in the development of a scansis, especially those that are due to mismatched co-orientation. Using co-orientation theory, the CoS model offers a step-by-step approach to comprehend how discrepancies between the perceptions and meta-perceptions of the organization and those of the public can lead to suboptimal choices in crisis response. As a result, this model can serve as a valuable tool for both practitioners and researchers in the post-crisis stage as they analyze the crisis and response strategies and identify potential areas for improvement. By providing a systematic framework for examining the role of perceptions in crisis communication, the CoS model offers a valuable contribution to the field of crisis communication research.

2. Literature review

2.1. The dynamic nature of crises and relevant concepts

Many definitions of crises have acknowledged the dynamic nature of crises. For instance, Seeger, Sellnow, and Ulmer's (1998) definition of an organizational crisis captured several characteristics of crises using words such as "unexpected," "nonroutine," and "high levels of uncertainty." Similarly, Coombs's (2007) definition of crisis also proposed the "unpredictable" nature of crises: "the perception of an unpredictable event that threatens important expectancies of stakeholders and can seriously impact an organization's performance and generate negative outcomes (p. 3)." Fink's (2013) definition of a crisis probably entails the most direct reference to the dynamic nature of crises, defining a crisis as "a fluid and dynamic state of affairs containing equal parts danger and opportunity (p. 7)." Even as early as the early 1990s, Rosenthal et al. (1994) proposed that "crises should be viewed as processes rather than concrete, time- and space-specific events. As the process unfolds, a crisis often takes on different identities (p. 201)."

For decades, crisis communication scholars have suggested a series of new crisis concepts that demonstrate the multifaceted and complicated nature of crises and address the changing and unpredictable nature of crisis situations. These concepts recognize that crisis events are often dynamic, rapidly evolving, and require an adaptive approach to effectively respond and manage the situation. Examples include Johansen and Frandsen's (2007) concept of double crisis, Grebe's (2013) concept of secondary crisis, Thompsons' (2000) concept of second-order transgression, Rosenthal et al.'s (2014) concept of crisis after crisis, Johansen et al.'s (2016) concept of crisis by association, multi-crises, paracrisis (Coombs & Holladay, 2012), host crises and global crises (Coombs, 2008), transboundary crisis (Ansell et al., 2010; Falkheimer, 2014), and—more recently—scansis (Coombs & Tachkova, 2019) and sticky crisis (discussed at the 2019 Crisis Communication Think Tank discussion, see Coombs, Holladay, & White, 2020) (see Table 1 for definitions).

These crisis concepts are not mutually exclusive. For example, a paracrisis can go through a crisis after crisis leading to a secondary crisis of another crisis type, ending as a double or even a triple crisis. This double crisis situation can also fall into a situation of a scansis if the crisis situation is scandalized in this process, which Grebe (2013) has also shown in their study. Using the case of AWB Limited, Grebe (2013) demonstrated how an inappropriate crisis response strategy to a corporate scandal (a specific type of crisis) can compound another crisis. AWB Limited's misguided belief to avoid full responsibility for its crisis led to inappropriate crisis response strategies, in which the response themselves became scandalized due to the public's perception that the organization is not taking the appropriate steps to respond to the crisis. Based on this study, Grebe (2013) argued that corporate scandals are different from other scandals in the sense that they can "easily descent into a secondary or double crisis if incorrectly managed, or even mismanaged (p. 70)."

Table 1

A Summary of Dynamic Crisis Concepts and Their Definitions.

Crisis Concepts	Definition
Double crisis	'[A] crisis where a communication crisis overlaps the original crisis in so far as the organization in crisis is not able to manage the communication processes that should contribute to the handling of the original crisis' (Johansen & Frandsen, 2007, p. 79)
Second-order transgression	A situation where attention is 'shifted from the original offence to a series of subsequent actions which are aimed at concealing the offence' (Thompson, 2000, p. 17).
Crisis after crisis	A concept that refers to crises that change their forms and identities multiple times over the process. This concept suggests that "crises should be viewed as processes rather than concrete, time- and space-specific events. As the process unfolds, a crisis often takes on different identities" (Rosenthal et al., 1994, p. 201).
Crisis by association	'A situation where a crisis to an individual, an organization or a group of individuals or organizations – through association – is perceived as a crisis (a threat, an attack or an insult) to another individual(s) or organization(s) who in different ways and for different reasons are related to or are affected by the crisis of the focal organization(s) or individual(s).' (Johansen et al., 2016)
Multi-crises Paracrisis	A crisis involving two or more organizations 'A specific type of crisis warning sign' that 'mimics a crisis itself' and 'appears in full view of stakeholders' (Coombs & Holladay, 2012, p. 408)
Host & Global crises	Host crises: a crisis breaks out in one or more host countries, in which an organization has assets, but not in the home country of the organization Global crises: the same crisis breaks out in both the home country and one or more host countries (Coombs, 2008)
Transboundary crisis	Crises that risk crossing not only geographical boundaries but also functional and/or time boundaries (Ansell et al., 2010)
Scansis	A crisis at 'the intersection between a crisis and a scandal' and 'characterized by the strong moral outrage it evokes within stakeholders' (Coombs & Tachkova, 2019)
Sticky crisis	Crises that are "particularly difficult to deal with or solve" due to their "complex and challenging" nature (Coombs, Holladay, & White, 2020)

2.2. Situational crisis communication theory (SCCT) and scansis

Situational Crisis Communication Theory (SCCT) (Coombs, 1995, 2007; Coombs & Holladay, 2002) provides a theoretical framework that systematically links crisis type and crisis response strategies. By doing so, this theory enables scholars and practitioners to identify appropriate crisis response strategies for different organizational crisis types. Before SCCT was proposed and widely used, most crisis communication theories focused on either crisis types or crisis response strategies.

Coombs and Holladay (2002) categorized crises into three clusters based on public attribution of responsibility and resultant organizational reputation. The crisis type of which people attributed the highest crisis responsibility to the organization and resulted in the lowest organizational reputation was referred to as *the preventable cluster* (e.g., technical breakdowns, product harms, and accidents with environmental damage). The crisis type that people attributed moderate crisis responsibility to the organization and resulted in moderate organizational reputation was termed as *the accidental cluster* (e.g., technical breakdowns, product harms, and accidents with environmental damage). Lastly, the crisis type that people attributed the least crisis responsibility to the organization and resulted in the highest organizational reputation was *the victim cluster* (e.g., human-caused accidents, organizational misdeeds, and management misconducts). Consequently, when the public perceives a crisis to fall into the preventable cluster, it means that people attribute high crisis responsibility to the organization by definition.

Recent studies have expanded on the crisis types within SCCT, which led to a revised list of crises (Coombs, 2020). Notably, scansis was introduced by Coombs and Tachkova (2019) as a new crisis type of the

preventable crisis cluster in SCCT. The term refers to a specific type of crisis that involves the public exposure of an organization's inadequate response to a crisis. Coombs and Tachkova (2019) define scansis as "an organizational crisis that the public appraise to be an injustice driven by greed (p. 73)," which is a scandalized crisis at the intersection of a crisis and a scandal. According to Coombs and Tachkova (2019), crises become scandalized when the situation provokes moral outrage due to "a violation of the accepted societal norms and moral codes (p. 75)." Moral outrage, deeper emotion than anger, originates from the perceived connection between the event and the organization's greed and unfairness (Antonetti & Maklan, 2016). Affected by a variety of situational and contextual factors, scansis is more complicated than other crises (Coombs & Tachkova, 2019).

Coombs and Tachkova's (2019) concept of scansis is useful in several ways. First, using the concept of scansis helps distinguish scandalized crises from the many meanings of scandals used in popular media and other types of crises in the crisis communication literature. According to the Collins dictionary (Collins, n.d.), scandals can refer to any event that is thought to be shocking or immoral. This is not how the term scandal is understood in the crisis communication literature. Before Coombs and Tachkova (2019) suggested the concept of scansis, scandals were used instead to refer to scandalized crises. For example, De Maria (2010) defines scandal as "the public exposure of organizations who have not responded well to crisis." From this definition, we can extrapolate two things about scandals: (a) a scandal comes after the crisis and crisis response take place and, as a result, (b) a scandal itself is part of a double crisis. Thus, De Maria's (2010) concept of scandal refers to a specific type of double crisis, where the second crisis, due to inappropriate crisis response strategy, engenders moral outrage and becomes scandalized. In addition, the term scansis effectively brings scandals to the crisis communication framework because the concept reflects the fact that scandals are also part of organizational crises. If crises are defined more narrowly in the organizational context of SCCT as "a violation of stakeholder expectations that can produce negative effects for stakeholders and the organization (Coombs, 2021, p. 166)," we also need a more narrowly defined term to refer to scandalized crises due to violations of stakeholder expectations in terms of crisis response. Hence, scansis effectively demonstrates that a scandal was previously a crisis before it provoked moral outrage. Going forward, the concept of scansis meets several conceptual and theoretical needs in the crisis communication literature. For practitioners and researchers, having a more narrowly defined term to refer to scandalized crises can help to better understand these types of crises as they arise in real-world situations. This is particularly important given the increasing complexity of scandalized crises that are likely to emerge due to the challenges posed by new media and technology.

Coombs and Tachkova's (2019) concept of scansis is broader than De Maria's (2010) concept of scandal. Specifically, they posit that a scansis can occur even before a crisis response strategy takes place, particularly when the nature of the crisis itself creates moral outrage and gains public attention. According to Coombs and Tachkova (2019, p. 76), there are two ways that a scansis can emerge: when the nature of the crisis engenders perceived greed and unfairness among the public that leads to moral outrage (Antonetti & Maklan, 2016) and when the organization's inappropriate crisis response to the original crisis triggers moral outrage (De Maria, 2010). In the second case, scansis is a special type of double crisis (Johansen & Frandsen, 2007), where the communication crisis engenders moral outrage, making it a scansis. Thus, hypothetically, it is possible for a scansis to emerge at either the crisis stage or the post-crisis stage, or even both (see Table 2). Our case study of the South Korean AI company Scatter Lab provides a unique opportunity to study a case where both the first and second crises are scandalized, which touches upon both possible ways of a scansis proposed by Coombs and Tachkova (2019).

Table 2
Possible Scenarios of a Scansis.

First crisis	Second crisis	Hypothetical example
Not scandalized	Scandalized	A first crisis happens due to a flaw in the product. Using an inappropriate crisis response strategy, the organization engenders public moral outrage, which leads to a scandalized crisis.
Scandalized	Not scandalized	A first crisis is scandalized upon occurrence due to a moral misconduct of the organization's CEO. While responding to this crisis, a second crisis occurs due to a fire at the company's headquarter, which is not scandalized.
Scandalized	Scandalized	The first crisis is scandalized upon occurrence due to a gender bias embedded in the product's design, causing moral outrage. While responding to this scansis, the organization uses an inappropriate crisis response strategy that becomes scandalized itself, leading to a second scandalized crisis.

2.3. The co-orientation model

Co-orientation refers to any level of perception in the co-oriented relationship. Co-orientation occurs when two or more individuals are oriented to one another and to some object X of mutual interest. Because the main assumption of co-orientation is that people behave toward others based on their perceptions of others' views on some mutual object X, whether there is consensus within the co-oriented relationship is the main interest of the actors. Scheff (1967) and McLeod and Chaffee (1973) both drew on Laing et al.'s (1966) study for conceptualizing and operationalizing co-orientation. Laing et al. (1966) developed a model for measuring three levels of the co-orientation model between marital couples. Although Laing et al.'s (1966) study was originally designed for marital couples, Scheff (1967) notes that the model can be generalized to groups of any size and co-orientation of any level. This model distinguishes agreement and consensus based on the status of the actors in different levels of consensus, providing clear definitions of co-orientation, agreement, and consensus.

At the first level of co-orientation, agreement is attained when two actors acknowledge the existence of agreement or disagreement. Second-level co-orientation, or first-degree consensus, is achieved when both actors understand each other's stances on statement X. The third level of co-orientation involves the realization of actor A that actor B understands or misunderstands their stance on statement X.

In communication studies, McLeod and Chaffee's (1973) co-orientation measurement model has been widely used and tested, thus improving the status of the co-orientation model from a suggested model to an established theory. Compared to Laing et al.'s (1966) model, McLeod and Chaffee's (1973) approach does a better job in connecting the perceptions of co-orientation to the purpose of communication and action. The essence of McLeod and Chaffee's (1973) model centers on reducing the gap between a person's cognition about some issue X and the person's perceived cognition of the other about some issue X, not the gap between the actual cognitions of both parties. The distinction McLeod and Chaffee aim to highlight becomes clearer when we consider the concepts of 'agreement' and 'congruency' suggested in their study (1973). According to McLeod and Chaffee (1973), agreement refers to the degree of similarity between the actual cognitions of person A and person B about issue X. Congruency, on the other hand, refers to the degree of similarity between person A's cognition about issue X and person A's perception of person B's cognition about issue X. Thus, if person A's perception of person B's cognition closely aligns with person A's actual cognition, efforts to adjust congruency become more effective.

Co-orientation literature in communication studies emphasizes that attributes of object X, rather than the object itself, serve as the core elements of orientation (McLeod & Chaffee, 1973). A person's summary

judgement of a presidential candidate (whether the person likes candidate A or not), for example, will be based on attributes of candidate A such as honesty, stance on war, or Supreme Court justice appointments (McLeod & Chaffee, 1973).

In the field of public relations, Broom (1977) adopted Chaffee and McLeod's (1970) interpersonal co-orientation model to public relations, underlying the importance of a cross-perceptual approach in public relations. According to Broom (1977), applying the co-orientation model to public relations can serve the following three major purposes. First, measuring mutual understanding (the degree of agreement between the two actors), congruency (gap between one's opinion and the perceived opinion of the other), and accuracy (gap between the other's actual opinion and the perceived opinion of the other) enables organizations to identify public relations problems that are related to issues of mutual concern. Second, co-orientational variables provide useful information for correcting organization-public relationships because mutual understanding and accuracy are required conditions for appropriate and meaningful relationships between the organization and the public. Lastly, measuring perceived meta-perceptions along with actual perceptions are important in assessing the impact of public relations efforts, and co-orientational measures can provide all the information needed for this process.

In organizational contexts, differences in direct perspective (level 1 consensus) between organizational management and the public are less concerning, as the organization can adapt its perspective when accurate understanding of disagreement exists. The real challenge surfaces when there is a difference in meta-perspective, indicating a misunderstanding of each other's stances. Organizational decisions made based on such misunderstandings can hinder the organization's reputation and status.

Co-orientation has been widely employed in PR research, demonstrating its usefulness in understanding organization-public relationships in various contexts (e.g., Seltzer & Mitrook, 2009; Grunig & Stamm, 1973). Scholars have applied the co-orientational approach to relationships between workers and managers (Kwon & Min, 2021), between PR practitioners and journalists (Verčić et al., 2017; Verčić & Colić, 2016; Sallot & Johnson, 2006; Shin & Cameron, 2004), between PR practitioners and bloggers (Walden et al., 2015), between NGOs and donors (Waters, 2009), between general publics of different nations (Verčić & Verčić, 2007; Verčić et al., 2019), between service providers and consumers (Lee & Jung, 2017), between public affairs practitioners and non-PR supervisors in the U.S. Marine corps (Mobilio et al., 2021; Kim, 2017) among others. The co-orientational approach allows researchers to better understand organization-public relationships by focusing on meta-level understanding or misunderstanding. Furthermore, studies on organization-public relationships have consistently recommended co-orientation as a monitoring strategy. In a content analysis of PR articles published between 1985 and 2004 regarding organization-public relationships (OPR), Ki and Shin (2006) showed that co-orientation was the relationship monitoring strategy most frequently recommended by researchers.

2.4. The Co-oriented Scansis (CoS) model

We propose the Co-oriented Scansis (CoS) model, where we adopt the concept of different levels of co-orientation (Broom, 1977; Chaffee & McLeod, 1970) to demonstrate how a crisis becomes a scansis. The CoS model shows how a scansis occurs when specific conditions of each level of consensus are met (see Fig. 1).

The proposed model visualizes the different co-orientational variables of both the organization and the public, centering around the object of mutual interest: crisis type. Co-orientation refers to any level of perception in the co-oriented relationship. Agreement is a concept related to the first level of co-orientation, or direct perspective. When the organization and the public both agree or disagree with the crisis type, then they have a high or low agreement. As mentioned above, agreement on a crisis type will be different from consensus on a crisis

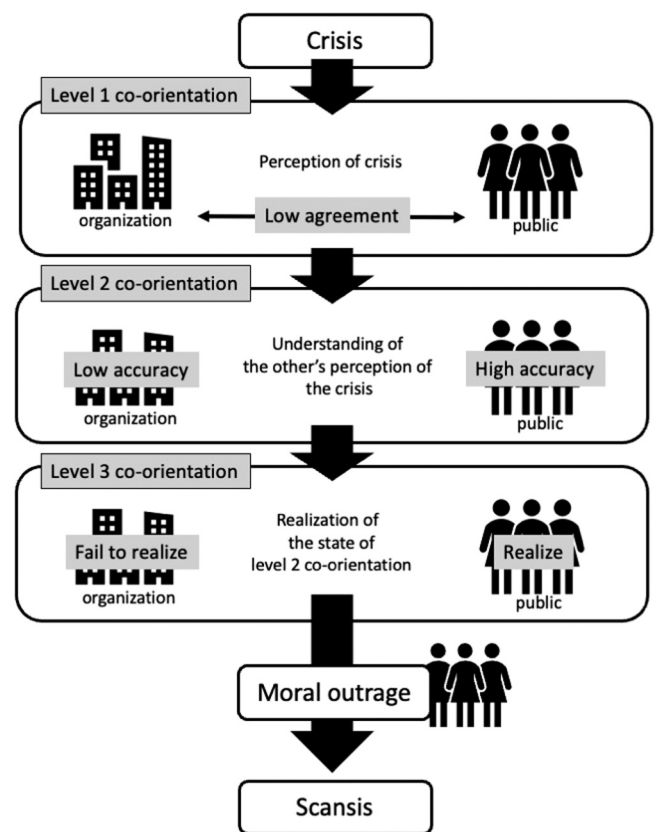


Fig. 1. The Co-oriented Scansis (CoS) model.

type because an agreement that exists without being acknowledged will not lead to action or behavior based on the agreement. So, simple agreement on the crisis type between the organization and the public does not automatically lead to crisis response strategies of the management team that satisfies the public.

Next, first-degree consensus (also called the second level co-orientation) is obtained when the organization and the public acknowledge the agreement or disagreement of the crisis type that exists. It means that both the organization and the public "understand" each other's perception of the crisis. The next level of consensus (the third level of co-orientation) occurs when the public "realizes" that the organization understands or misunderstands the public's stance on the crisis., and vice versa. The different levels of consensus conceptualized by the co-orientation model is helpful in visualizing the discrepancies between the perceptions and meta-perceptions of the organization and those of the public regarding a common crisis issue.

Scansis can be understood as a scandalized crisis situation resulting from moral outrage, which can be caused by a combination of discrepancies at three different levels of co-orientation. Using the co-orientation model, the CoS model illustrates a step-by-step walk through of these three co-orientation levels between the organization and the public. First, a disagreement exists between the organization and the public regarding the crisis type. The public would regard that the crisis falls into a crisis type with higher responsibility attributed to the organization, while the organization believes that it has lower responsibility to the crisis. Next, there is a mismatch between the public and the organization in the second level of consensus. While the organization *misunderstands* the public's perception of the crisis to be a crisis type of lower responsibility, the public *accurately understands* that the organization's perception of the crisis type is that of a lower responsibility. Lastly, when the public realizes that the organization misunderstands the public's perception of the crisis, moral outrage occurs. It is moral outrage that leads to a scansis. Unlike a crisis where the three levels of

co-orientation show mutual agreement and understanding between the organization and the public, which would lead to a faster closure of the crisis situation, this scandalized crisis engendered by moral outrage signals the beginning of a double crisis.

The main contribution of adopting the CoS model to study scansis lies in its power to explain the discrepancies between the public's perception of the crisis and that of the organization, which could lead to the public's moral outrage that leads to a scandalized crisis, which is harder to manage in short term (Coombs & Tachkova, 2019). Moreover, the CoS model allows researchers to examine the organization's meta-perception of the public: that is, the organization's perception of how the public perceives the crisis. Coombs and Holladay (2002) stated that "the crisis manager begins the selection of a crisis response strategy by identifying the crisis type, which we conceptualize as the frame that publics use to interpret the event" (p. 167). Crisis type is the public's perception of the crisis that the organization seeks to comprehend. In essence, the concept of 'crisis type' bridges the public's perception and the organization's understanding of that viewpoint. The CoS model provides an effective way to demonstrate this complicated relationship between the perceptions of the organization and the public centering around the crisis.

Scansis is a novel crisis type that has the potential to advance SCCT by adding a third dimension to analyzing crisis types, which is the perception of injustice and greed (Coombs & Tachkova, 2019). Acknowledging the theoretical and practical value of scansis as a crisis type, the CoS model attempts to provide a comprehensive framework for understanding the dynamics of a scansis. The core value of the CoS model lies in its ability to elaborate meta-level analyses between the organization's and the public's perception of the crisis. Organization's crisis response strategies rely not only on the crisis perception of the public but also on the accuracy of the organization's estimate of the crisis perception of the public. Likewise, people responds to the crisis based on both the crisis itself and their perception of the organization's stance of the crisis. Thus, the CoS model highlights the different co-orientations between the organization and the public toward the crisis type, the organization's crisis response, and the public's reaction, assisting researchers and practitioners in understanding how a scansis can unfold.

While the CoS model shares similarities with other dynamic crisis concepts that recognize the evolving nature of crises, it also distinguishes itself by providing a process-oriented perspective. Unlike concepts that focus on the outcome of a crisis case, the CoS model demonstrates the sequential unfolding of consecutive crises using the co-orientation model's notion of different levels of co-orientation.

2.5. Online product reviews as public's response to organization's crisis response strategy

While crisis communication research had initially tended to focus on message senders, receiver-oriented approaches since the early 2000s examined public perception and reactions to crisis communication messages (Choi & Lin, 2009; Coombs & Holladay, 2014). Online content provides both researchers and practitioners with invaluable insights into the public side of crisis communication because these contents are generated by the publics themselves, often including candid reactions regarding how they understand the crisis and whether they accept the organization's crisis response messages (Coombs & Holladay, 2014). Online spaces open up a rhetorical arena around a crisis, which is composed of smaller sub-arenas "where crisis publics may express and hear ideas about the crisis" (Frandsen & Johansen, 2010, p. 41). These arenas should be a major concern of crisis communicators because the communication of crisis publics in these spaces can shape the interpretations of different messages about the crisis, including those from the organization.

It is important to note that different online spaces attract different participants (Coombs & Holladay, 2014). An online reaction to an

organization's official blog could differ from online comments to news outlets, where there would be a more diverse set of people that are not necessarily supportive or favorable towards the organization. As a result, when a crisis occurs, there could be different public reactions from different online spaces. Public messages in these online spaces are influential to the interpretation of crises and relevant crisis messages, and organizations have shown increasing effort to manage these spaces and build better relationship with their publics (e.g., Dhanesh & Duthler, 2019; Bazi et al., 2020; Ewing, Men, & O'Neil, 2019).

Among many ways to engage in crisis communication, online product reviews have become one of the most important forms of electronic word-of-mouth for most consumers. Research has shown that consumers rely heavily on online product reviews, which are a form of electronic word-of-mouth written by consumers on the Internet, to make purchase decisions (Freedman, 2008; Park & Kim, 2008; Schlosser, 2011; Sen & Lerman, 2007). South Korean consumers heavily rely on online reviews when making purchase decisions. According to The Consumers Union of Korea's survey in 2021, 97.2% of South Korean adults answered that they check online reviews before purchasing a product (Kim, 2022). 82.4% of the respondents said that online reviews affect their purchase decisions, and 72.4% of the respondents said they often do not purchase products with no online reviews (Kim, 2022). Considering South Korean consumers' high reliance on online reviews, it is not surprising that the Scatter Lab's crisis publics decided to express their emotions and reactions to the Scatter Lab's crisis and crisis response in Google Play's online review, demonstrating their active engagement and high intentionality to interact with other consumers. The decision of Scatter Lab to close its app's community forum - initially the primary platform for public discourse on the crisis - further heightened the significance of these Google Play reviews as a crucial communication channel during the turmoil (Yonhap News, 2021).

2.6. Research questions

To demonstrate the usefulness of the proposed CoS model, this study posits the following research questions:

RQ1. Regarding the first level co-orientation, how did the public perceive the crisis?

RQ2. Regarding the first level co-orientation, how did Scatter Lab perceive the crisis?

RQ3. Regarding the second level co-orientation, did Scatter Lab understand the public perception of the crisis accurately?

RQ4. Regarding the second level co-orientation, how did the public perceive Scatter Lab's response to the crisis?

RQ5. Regarding the third level co-orientation, did moral outrage occur as a result of the misunderstanding?

3. Methods and Materials

Recent advancements in artificial intelligence (AI) technology, such as the language model ChatGPT and the image generation model Dall-E, have been impressive, yet the frequent failures of AI still pose a risk of organizational crises. Crisis communication scholarship have started to investigate AI failures. For example, a recent study by Prahl and Goh (2021) examined 23 international AI failure cases between 2015 and 2020 that involved AI technology from self-driving cars to predictive search engines to study the crisis communication strategies of AI companies.

This study uses Scatter Lab's incident of chatbot Lee-Luda as a model case for applying the proposed model of co-oriented crisis communication, the CoS model. Scatter Lab is a leading company of the South Korean AI chatbot industry, known for its advanced Korean natural language processing services. This case captured the authors' attention because it was the first incident in South Korea that alerted the South Korean public about how data collected without informed consent could be used to train an AI product, sparking a massive scale investigation on

privacy leaks and the imminent harm to society as a whole. Using Scatter Lab's incident of chatbot Lee-Luda required the collection of two different datasets: one for examining Scatter Lab's perceptions and meta-perceptions of the crisis and the other for examining those of the public.

To assess the perceptions and meta-perceptions of Scatter Lab regarding the crisis, we collected statements issued by Scatter Lab from its official blog, Scatter Lab Ping Pong blog (Kim, 2021a, 2021b, 2021c). There were three statements in the form of blog posts and were titled: (1) official FAQ regarding controversy over Lee-Luda (Jan 8, 2021), (2) Lee-Luda official statement (Jan 11, 2021), and (3) Lee-Luda 2nd Q&A (Jan 15, 2021), respectively. The first statement was organized in a question-and-answer format about the controversy over chatbot Lee-Luda's susceptibility to sexual harassment. Six questions were stated and answered. The second statement dealt with the company's stance on the following two issues: Chatbot Lee-Luda's discriminatory comments and controversy over personal information use. The last statement, Lee-Luda 2nd Q&A was another question and answer about the personal information use and the data on Github, with an apology statement attached at the beginning of the post. Seven questions were answered through the last statement.

To assess the perceptions and meta-perceptions of the public side, we collected Google Play users' reviews of 'Science of Love,' the app Scatter Lab used to collect intimate conversations between romantic partners. Reviews written between January 8, 2021 (the beginning of the crisis) and March 11, 2021 (the date of data collection) were collected, which summed up to 365 reviews. Except for four reviews, 361 out of 365 reviews gave 1 out of 5 stars when evaluating the app, which is more than 98% of the user reviews. Using inductive thematic analysis (Thomas, 2003), two researchers independently read all the documents and reviews, discussed to come to an agreement on re-emerging themes. The reviews were written in Korean and those cited in this paper were translated by a researcher (Korean-English bilingual) and back-translated by another Korean-English bilingual student to confirm the accuracy of translation.

Although these sources of information did not directly measure the perceptions of the management team and the public through survey, a common method of co-orientation studies, we believe that these data sources reveal the perceptions and meta-perceptions of both the company and the public. Scatter Lab's statements, for example, reveal the company's perception of the crisis because they include content about the company's stance and thoughts on the issue. Also, the language Scatter Lab chooses to talk about the crisis reveals parts, if not all, of how the company viewed the crisis. Moreover, two of Scatter Lab's official statements included parts that were written in question-and-answer formats, where they answer to what they think is the public's perception of the crisis.

Similarly, the user reviews of Science of Love are a valuable data source for looking into public's perception and meta-perceptions about the crisis because Scatter Lab currently closed its blog and app community forum. Google app review was one of the very few places that people could post their honest opinions about the company with the hope that both the organization's management team and the public read them. Although some people wrote tweets about this issue in Twitter, they failed to gain much attention from the organization, the public, and the news media because Twitter is not a social media widely used among young adults in South Korea (Statista, 2021). According to the data from Statista (2021), only 6.2% of the 5403 respondents used Twitter, while 23.7% used Facebook, 22.4% Youtube, and 22.3% Instagram.

4. Results

4.1. Disagreement of the crisis perception

The crisis was widely seen by the public as a result of preventable mismanagement and unethical practices, leading to a strong sense of

moral outrage. One user's review encapsulated these perceptions by stating, "They never managed the AI they created, so they are seriously exploiting it. However, the people so-called developers are sitting on the sidelines saying they knew that it would happen. Never use it." Moral outrage was a common sentiment expressed in many reviews. Another user expressed their discontent by saying, "You even made an AI using personal information without consent. I'll sue you. I'll not remain silent." Another user also recognized the crisis as a combination of mismanagement and a morally reprehensible event, stating, "the company pretended to be a good company when they were misusing personal information" which "makes me mad."

However, Scatter Lab's official statements showed that the company had different ideas about the crisis from the public. In both its first and second statement of clarifications, Scatter Lab used language that referred to the crisis as an unpreventable event that happened due to mal-intentioned users, and thus, a paracrisis (a crisis that is not a real crisis but arose because of people's word-of-mouth). For example, Scatter Lab referred to the crisis as "controversies that are arising due to (chatbot) Lee-Luda's popularity" (1st statement)" and that "it's a shame this kind of controversy happened" because "users who use bad language to (chatbot) Lee-Luda are only limited to very few people (2nd statement)." By employing such language, Scatter Lab sought to convey that the incident was not a crisis resulting from their actions but rather a mere "controversy" or paracrisis triggered by a small number of users with ill intentions. Throughout its statements, Scatter Lab insinuated that the incident should not be considered a crisis since "it is a fact that human beings interact with AI in socially unacceptable ways" according to their experience with the service, as mentioned in the second statement. The company repeatedly asserted that its collection of personal information was conducted within the bounds of the law and acknowledged shortcomings in communication with users during this process, as stated in the third statement. A similar position was conveyed in the company's second statement, where they pledged to update their algorithms to address even content that might appear sensitive to users, even if it is not explicitly identifiable.

4.2. Co-orientation accuracy and inaccuracy of crisis perception

The public's reaction to the company's perception of the crisis became evident through numerous reviews, revealing that the public's discontent grew stronger following the release of the company's official statements. One user expressed their skepticism by stating, "I cannot detect any sincerity in their apology; it seems like they are merely making excuses to evade responsibility." This comment shows that the public believes that the company feels minimal responsibility towards the crisis. Other comments showed distrust in the company's post-crisis response. For instance, a user questioned the company's assurance of data deletion, asking, "you said we should request for deletion, but how do we, as users, know if it would be completely deleted, or you will secretly save them behind our backs and use it for deep learning?" Additionally, criticism was directed at Scatter Lab's handling of the statement's publication: "If you intended to release a statement regarding Lee-Luda, why was it not posted on your homepage or social media? How can we see it when it's not even uploaded properly. If you're in the position of apologizing, you should've have thought about the readers when uploading the statements."

Scatter Lab's perception of the public's perception of the crisis, on the other hand, was implicit but totally neglected the anger and frustration the public felt toward the crisis. Although the statements that Scatter Lab published were not necessarily wrong, the company failed to address the victims' and public's anger and frustration in their official statements. Thus, Scatter Lab perceived the public's perception of the crisis as a paracrisis, which happened due to misunderstanding of the technology and the law related to it. This is explicitly shown in several sentences of the company's statements. For instance, in its second statement, Scatter Lab promised to "clarify the data use consent process"

and work harder on “the content that *may appear sensitive even if they’re already not identifiable* through continuous algorithm improvement (emphasis ours).” In its third official statement of clarification, Scatter Lab wrote:

“The method that was used by ‘Science of Love’ to obtain consent for the collecting and using of personal information is actually the same method adopted by other domestic and foreign services, and we have internally evaluated that there will be no legal problems. We deeply regret on the fact that we were not able to sufficiently communicate with the users during this process, causing concerns to users who have loved our service ‘Science of Love’, and we bow our heads in apology.”

Scatter Lab seemed to believe that the public perceived this situation as a crisis because the people misunderstood what they agreed on in terms of the user consent process and the nature of the data. Accordingly, the company’s crisis response statements highlighted the public’s misunderstanding and failed to specifically address the harm that they generated, the way how the victims and the public can do to mitigate the damage, and what the company apologizes for.

4.3. Realization of co-orientation accuracy and inaccuracy

The public’s secondary level of meta-perception regarding the crisis revolved around their realization that the organization had an inaccurate understanding of the public’s perception. User reviews uncovered a moment of realization where the public became aware that the organization misunderstood their viewpoint when the company’s official statements were released. Several reviews reflected people’s attempt to identify specific sections in the statements where the organization’s comprehension fell short, aiming to clarify the discrepancy. For example, one user emphasized, “You (Scatter Lab) shouldn’t claim that our personal information is secure when you’re admitting that you used our data. Wasn’t there just no piece of information stating that the data of Science of Love was going to be connected to (chatbot) Lee-Luda? It doesn’t change the fact that you deceived the users, so just get rid of the app before you face more controversies.” Here, the reviewer underscored the fact that the crisis made them angry not because the public had mistakenly thought that their personal information was unsafe, but because the organization deceived the public and violated moral norms. Another review stated, “I never agreed to sharing my personal information with everyone,” implying that Scatter Lab’s perception that the public agreed to sharing their personal information was wrong. Similarly, another review displayed a similar stance in more detail, saying “the reason people paid for and used the app was because they wanted the app they were using to further advance so they can earn more useful information. We never agreed to the part that [the data] could be used for some other place *like you guys think* (authors’ emphasis).” The reviewer clearly realizes that what the company thinks the public think is not accurate.

4.4. Moral outrage as a result of realization of misunderstanding

Moral outrage was a prevalent response among reviewers who came to realize the extent of misunderstanding by the organization. This moral outrage was attributed to the perception of injustice. One review exemplified this sentiment, even though the user had not personally used the app: “So the development company found amusement in exchanging conversations between lovers? I didn’t use the app, but I installed it specifically to leave this review. I bet you must have stolen home addresses and account numbers despite they are all personal information, hahahaha.” This comment reflects the belief that the company’s actions were not only invasive of personal information but also driven by malicious intent. Another review stated that “It’s really unethical” that “some men use [the chatbot] as a sex slave, but that’s all because it analyzed and used the conversations between ordinary

women and their boyfriends. It’s really creepy that you can stretch out and sleep even after doing such a thing. Furthermore, a reviewer expressed their desire for specific punishments to be imposed upon the company, stating, “All businesses and individuals involved should face legal action. I hope your consequences extend beyond mere fines and result in imprisonment. I am aware of an open chat room that is preparing for a class action lawsuit, and we will contribute any potential evidence to help maximize their case. Companies that handle personal information in such a manner should be barred from engaging in any related work.” This review illustrates a strong desire for accountability and severe consequences, emphasizing the need for legal actions against the company.

Furthermore, there was a recurring theme of moral outrage directed towards the company’s statements. One reviewer expressed their disappointment and moral outrage in an extensive review, stating:

“I’ve never left a review, but I really screamed after seeing the news. I’m really disappointed with the company’s response after the news report. You only posted a generic apology and promised to delete the data, but how are you going to delete data that have been already shared? The Lee-Luda chatbot service itself used the conversations between couples from Love of Science, which was a paid service. If it was known from the beginning that this data would be used for the development of such a service, no one would have used it, even for free. If you put yourselves in our shoes, you would understand the deep disappointment and betrayal we feel. It seems the developers failed to consider the users’ perspective and instead condemned and disrespected our private conversations. No matter how well-designed a program may be, if users turn away and abandon it, its value will remain hidden. Please, do not forget this.”

Another reviewer explicitly expressed their anger towards the company’s communication of their apology, stating: “Why did you write something that barely resembles an apology on the bulletin board? It only served to further fuel my anger. Oh, I understand now. You wrote it with the intention of making us even angrier, as if our feelings do not matter to you.” These reviews clearly highlighted the deep disappointment, moral outrage, and frustration felt by users regarding the company’s response. They convey a sense of betrayal and question the sincerity and empathy of the company in addressing the crisis.

5. Discussion

5.1. Theoretical contribution and practical implications

This study introduced the Co-oriented Scansis (CoS) model to explain the dynamics of a scansis, a new crisis type, by adopting the concept of co-orientation. The novel concept of scansis, which adds the dimensions of injustice and greed to the Situational Crisis Communication Theory (SCCT), contributes to the crisis communication literature by showing how crises can become highly scandalized, leading to public outrage and making them more challenging to manage. The CoS model, suggested by this study, shows how a scansis occurs when specific conditions of each level of consensus are met. The CoS model aimed to demonstrate that the discrepancies between different levels of co-orientation between the organization and the public can lead to the public’s moral outrage. Using three different levels of co-orientations, the model helps researchers and practitioners to understand how a scansis can unfold. The CoS model is beneficial to crisis management practitioners and researchers, as it assists them in comprehending the dynamics of a scansis, identifying the conditions under which a scansis can occur, and creating effective crisis response strategies.

The study analyzed a crisis case of Scatter Lab, a South Korean AI company, to demonstrate how the CoS model works in practice. The analysis revealed significant insights into the failure of Scatter Lab’s crisis response when viewed through the lens of the CoS model. Initially, Scatter Lab did not acknowledge that the public viewed the crisis as an

ethical crisis and tried to frame it as an unpreventable technological crisis, leading to its failure to acknowledge and compensate victims through its statements. In its crisis response, Scatter Lab had not explicitly apologized for its wrong doings. Using numerous technical terms and lengthy explanations, the company failed to acknowledge the damage to users and to directly address people's anger and frustration. The key principles of effective corporate apology such as explicit responsibility admittance, sympathetic expression, proper compensation, and trust gain by reassuring reform and change did not happen in this case. In doing so, Scatter Lab also used what [Prah and Goh \(2021\)](#) called the "mirror strategy," where they blamed the society and the users for the AI failure and subsequent organizational crisis. However, because publics viewed the crisis as an ethical crisis, they thought the company was 100% responsible for the crisis. In summary, Scatter Lab's failure to understand the public's viewpoint of the crisis intensified the public's moral outrage of the crisis, which led to a scansis.

The findings demonstrated the CoS model's effectiveness in explaining how a crisis can escalate into a scansis due to a misunderstanding of public perception by the organization and the subsequent realization of this disconnect by the public. Scatter Lab and the public disagreed on the nature of the crisis as well as the amount of responsibility attributed to the company. In its published statements of the crisis, Scatter Lab attempted to answer the questions that the public had about the crisis and resolve misunderstandings about the company and the product. However, these statements only revealed to the public that the company inaccurately understood the public's perception of the crisis, engendering even more outrage on top of the outrage that the crisis has already caused. Thus, incorporating the concept of co-orientation to understand how a crisis becomes a scansis is crucial, as this case study illustrates.

As AI technology becomes increasingly prevalent and organizations rely on it for profit, AI-related crises are likely to occur more frequently. In Scatter Lab's incident, for example, AI chatbot 'Lee-Luda' functioned as the window for people to look into the company's mismanagement, which led to a crisis. Other crises due to AI can include the company's social media bot uploading the wrong content, data mismanagement and other unethical decisions made while building an AI. PR practitioners are likely to face more clients with AI-caused organizational crises. Hence, it is important for scholars to provide research that can give a guidance of these crises.

PR scholars have pointed out that there is little guidance in the domain of AI for PR practitioners ([Galloway & Swiatek, 2018](#)). When researchers touch upon the topic of AI in PR, AI is often discussed in the context of how it can undertake PR activities that were originally done by PR practitioners ([Pavlik, 2007](#); [Theaker & Yaxley, 2018](#)). PR scholars have recently urged the need to study the multiple roles that AI is playing and will play in public relations ([Galloway & Swiatek, 2018](#)). One of the areas understudied is the role of AI as a cause of a PR crisis. This case study can serve as a starting point for scholarly discussions on AI not as a PR tool but a cause of crisis combined with managerial misjudgment.

5.2. Limitations and future work

There are several limitations of this study that should be acknowledged for future research. First, the perceptions and meta-perceptions of the public and organization are best assessed by directly asking them through surveys. However, this case study only used available resources and assessed perceptions and meta-perceptions indirectly. Yet, we believe that the official statements of the company and the user reviews were adequate resources for assessing the perceptions and meta-perceptions of the crisis because they allow us to see both the publics and the company's thoughts about the crisis and each other, which were sufficient enough for the objective of this case study.

Second, public reactions to Scatter Lab's crisis response was collected from a single source. Two potential resources that the researchers had

identified were the online community board posts of the Science of Love app and the Open KakaoTalk chat room for the class-action lawsuit. Unfortunately, these resources were inaccessible to the researchers at the time. Nonetheless, they would have served as valuable data points to consider. Scatter Lab had shut down its community board for the purpose of "preventing the spread of rumors." The Open KakaoTalk chat room only allowed victims of the crisis to join the group. Future studies will be able to draw a more holistic view of the victims of the crisis using more diverse data sources.

Third, future studies can broaden the scope of publics to provide a more comprehensive understanding of the AI crisis. While this study focused on the users of Science of Love who were directly affected by the crisis, there are other key stakeholders whose perceptions should be considered. Meta-level perceptions of publics such as employees, shareholders, the government, and local communities can offer valuable insights. Recognizing that end users are just one segment of the PR publics, including these additional publics in future research will contribute to a more holistic view of the AI crisis and its impact.

Lastly, while this study primarily aimed to comprehend the factors leading to a scansis, there is significant value in conducting future research to explore crisis response strategies specifically tailored for scansis situations. [Coombs and Tachkova \(2019\)](#) reported that their study results did not reject the null hypotheses regarding the impact of reputation, anger, purchase intention, and negative word of mouth in scansis situations based on the type of corrective response strategy used. Their results open up the need for further research to fully understand the effectiveness of corrective response strategies in scansis situations, including whether the current best practices of crisis communication theories could be applied to tailor effective crisis communication messages for scansis situations.

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Declaration of Competing Interest

The authors declare that they have no competing interests.

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