

# **Crisis Communication and the Fukushima Nuclear Disaster: An Analysis in Light of the Situation Crisis Communication Theory**

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## **Abstract**

This paper examines the process of crisis management in the case of the 2011 Fukushima Nuclear Crisis. It applies Coombs' Situational Crisis Communication Theory to the event to analyze the relevance of crisis communication for the event and examine the efforts used to restrict the impact of the disaster. The main purpose of this study is to substantiate the basic rules of Coombs' theory and understand if the best course of action as recommended by Coombs was taken during the period of crisis in Fukushima. The focus of the study is mainly on the application of the Situational Crisis Communication Theory on crisis and post-crisis key learning. In addition, various communication environments and the utilization of social media in crisis communication are also highlighted in the thesis.

## **1- Introduction**

The purpose of this paper is to understand the extent and effectiveness of Situational Crisis Communication Theory (SCCT) in contemporary practical settings, in particular, the 2011 Fukushima nuclear incident. The key issues discussed in the paper include the government's role, the influence of social networking and mass media, the outcome of the event, the effectiveness or failure of SCCT, and its influence in crisis communication, future implications, and future implications, among others.<sup>1</sup> The main conclusion is that the primary rule of crisis communication – Act Fast – holds in contemporary nuclear crisis communication. At the same time, social media must be correctly incorporated into the entire crisis communication plan of the government and the various organizations involved in relief efforts. The best practices in crisis communication indicate that entities must follow

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communication trends, tools, technologies, etc., and optimize communication strategies and resources.<sup>2</sup>

Furthermore, there must be a clear level of transparency between the actions of the government and the parties involved in the incident and the masses; otherwise, a communication gap emerges that could have negative consequences for the people. Thus, the recent Fukushima incident is a good example of what to do and what to avoid in crisis communication during emergencies and why the government must follow Coombs' SCCT to restrict the influence of the disaster.<sup>3</sup> Therefore, to achieve the aims and objectives of this paper, the following roadmap will be followed.

The paper begins with an overview of the topic's background, purposes, and contributions to crisis communication literature. In the second segment, the theoretical foundation of the paper is discussed, which is the Situational Crisis Communication Theory or SCCT formed by Coombs, following its development since conception, key concepts within the theory, and response techniques<sup>4</sup>. The third segment of the paper provides the reader with a comprehensive understanding of the selected crisis – the Fukushima nuclear disaster in Japan, focusing on the crisis communication aspect of the disaster. The role of various stakeholders, including the government, the organization –Tokyo Electric Power Company or TEPCO, and media, and the efficiency of these three responses in crisis communication are noted. The fourth segment focuses on the role of social media in crisis communication in general and communication during the Fukushima nuclear disaster. In the fifth segment of the paper, the crisis communication during the Fukushima disaster will be compared and analyzed against the SCCT. Every aspect of communication during the disaster, including government, organization, public, and media roles, is evaluated. This paper concludes with conclusions and implications of the lessons learned in crisis communication through the Fukushima disaster and the way forward.

The accident that occurred at the Fukushima Daiichi nuclear plant was a tragedy that will be addressed for several years to come. After the extensive economic, social, and psychological impacts of the Fukushima accident, the nuclear safety organizations took into account that provisions must be identified to prevent and limit the potential for

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major accidents with offsite and long-term consequences. Therefore, it is the collective responsibility of the nuclear community, agencies like OECD and Nuclear Energy Agency (NEA), to make sure that there is no amount of complacency in the proper implementation of the approaches and practices that have been developed throughout the decades for the use of nuclear power to protect both the public and the environment from the adverse effects of radiation.<sup>5</sup> Therefore, crisis communication must play an integral role in the process. The Fukushima disaster enables us to understand to what extent communication can play a key role in mitigating the outcome of a crisis.<sup>6</sup>

The Fukushima nuclear disaster had far-reaching consequences in terms of its contribution to the available literature in the field of crisis communication. The disaster helped us consider a few challenges that need to be considered in the future. The most significant among them happens to be the role of social media in promoting a culture of preparedness. Social media can be used to overcome the delay in people's reactions and even contribute to the improvement of media literacy.<sup>7</sup> However, the information gap is constantly widening, so it is becoming harder for information to reach the most vulnerable.<sup>8</sup> During the Fukushima incident, the information, which was broadcast rapidly across social media circles and networking sites, was unable to reach critical sections of society – the elderly, the poverty-stricken, etc. As a result, all those who were in a position to move were evacuated by the government as soon as possible. At the same time, the most vulnerable sections of society were left without any source of food or means of transportation. Moreover, the evacuation of numerous health facilities throughout Japan led to several disaster-related deaths and shifted the focus to the government's poor crisis communication management techniques. It must be remedied as soon as possible, not just in Japan but throughout the world, to better deal with crises.<sup>9</sup>

The nuclear disaster at Fukushima served as an eye-opener for the Japanese government. The event brought the poor crisis communication methods of the nation into the limelight and exhibited how their response failed to abide by the fundamental principles of effective crisis communication. The situation was a fresh reminder that prior training and planning in crisis communication of all stakeholders

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is important to face immediate challenges.<sup>10</sup> The role of the stakeholders does not end here – according to Coombs, stakeholders offer attributions concerning the reasons for the disaster, and they analyze crisis responsibility. However, in the case of the incident at Fukushima, the stakeholders partially fulfilled their duties. The organization's focus was on containing the flow of information rather than the need for information from the public.

### **Research Problem**

The government organizations like the OECD and Nuclear Energy Agency (NEA) have the main purpose: to reduce the rising incidents or nuclear incidents like the Fukushima Nuclear Disaster. The Fukushima Nuclear Disaster is one of the world's incidents, which saw the loss of humans, money, and many other resources. The question here arises what communication system or effective communication methods could be applied during such incidents in reducing and saving the negative impact on the world<sup>11</sup>. Likewise, the Japanese government realized their communication and information transfer failure, which could have saved such an incident from occurring. The country not only faced criticism worldwide, but it faced problems internally, which is why it is important to analyze the lack of communication with the application of communication models like SCCT.

### **Research Questions/Objectives**

The following research objectives have been proposed for the study.

- To analyze the role of the Japanese government in failure or lack of communication during the Fukushima crisis.
- To analyze the Situational Crisis Communication Theory with respect to Fukushima nuclear incident.
- To analyze the role of social media during incidents like Fukushima and its impact on communication management

The research question based on the outcome and the understanding of the topic is the following.

1. Is SCCT one of the effective communication models to avert incidents like the Fukushima nuclear incident?

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2. What part does communication management play in decreasing or increasing the impact of the Fukushima incident?
3. What part does the government, social media, or other government organizations play in decreasing the risk of incidents like Fukushima?

### **Research Approach**

The research approach used for this study to analyze the cause and effect of Fukushima. The analytical research approach is an effective method to understand the research problem and understand the reasoning behind such aspects.<sup>12</sup> For example, the research report discussed problems like the communicational gap to analyze the incident of Fukushima. It helps in analyzing secondary data collected on the topic and focuses on historical issues like the topic in discussion. This research helps in collecting qualitative information from past studies and provides evidence for improvement.

### **2- Situational Crisis Communication Theory (SCCT)**

The theoretical framework of this study is based on the works published by W. Timothy Coombs, who received his Ph.D. in Public Affairs and Issues Management from Purdue University. Coombs is a professor at the Nicholson School of Communication at the University of Central Florida. He is an award-winning researcher in crisis communication and has published over 40 research articles and 30 book chapters on the subject of crisis communication. Several of his works, standalone and in collaboration with other scholars such as Sherry Holladay, have been used throughout this study, particularly for analyzing crisis communication during and immediately after the Fukushima nuclear disaster. Coombs first presented the Situational Crisis Communication Theory in 1995 as "the symbolic approach to CM/communication."<sup>13</sup> In fact, the term Situational Crisis Communication was not applied to the theory until 2002.<sup>14</sup>

Situational Crisis Communication Theory possesses three main aspects – crisis response strategies, the crisis, and a system for matching the crisis response strategies and the crises.<sup>15</sup> The success of the communication strategies seems to rely on the crisis features. Therefore, it is necessary to comprehend the crisis manager's crisis to

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select the most suitable response. Therefore, SCCT involves understanding, explaining, and providing prescriptive actions for crisis communication.<sup>16</sup>

Sturges, in 1994, mentioned Crisis Response Strategies or CRS to be internalizing information, which the stakeholders may utilize to assist in their formation of the idea of organizational reputation.<sup>17</sup> Crisis managers must use communication to address the psychological (or adjusting information) and physical (or instructing information) issues of the victims if they wish to be perceived as ethical.<sup>18</sup> SCCT supports the notion that instructing information is a requisite in every crisis<sup>19</sup> so that crisis managers can turn their attention towards reputational assets. Once they have fulfilled their primary responsibilities, crisis managers can seek guidance from SCCT to address concerns regarding reputation.<sup>20</sup>

However, the intensity of crisis management is somewhat weakened because it depends on untested assumptions and single case studies, which heavily limits the understanding of crisis response.<sup>21</sup> SCCT can be viewed as a substitute to case studies for assessing the best approaches towards safeguarding reputational assets in times of crisis. SCCT-based Research depends on social-psychological theory and experimental methods instead of case studies.<sup>22</sup> SCCT supports and tests hypotheses connected to how perceptions of the crisis impact the crisis response and the outcome of the crisis responses on emotions, reputation, and purchase intention.<sup>23</sup> In most cases, it is seen that this encompasses the specification of a single or several hypotheses. Since its origin, the SCCT has been subjected to numerous revisions and testing.

Several different approaches and theories inspired situational Crisis Communication Theory, but primarily Attribution Theory, which offers the foundation for the interaction between different Situational Crisis Communication Theory variables and creates an efficient framework for the conceptualization of crisis management. Attribution theory even acts as the basis to explain the relationships between crises and crisis response strategies.<sup>24</sup>

Coombs pointed out that two essential elements of crisis, including their unexpectedness and negativity, are logical situations for

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instigating an attributional approach. Coombs translated the main tenets of attribution theory into language suitable for organizations and crises.<sup>25</sup> According to Coombs, stakeholders will provide attributions regarding the reasons for the crisis and examine crisis responsibility.<sup>26</sup> The organization's perception is liable for the crisis stemming from controllability, internal locus, and stability. The reverse happens to be true when attributions seem unstable, external, and uncontrollable. Various kinds of crises promote specific attributes of organizational responsibility in times of crisis. The negative elements of crisis are more likely to cause damage to the organization if the attributions of organizational responsibility happen to be stronger. The image of an organization will be negative in the eyes of the stakeholders, and they will be likely to interact less with the organization.<sup>27</sup>

The attributions made about the crisis by stakeholders generate emotions about the organization, and these emotions will influence future interactions with the organization. Anger, sympathy, and schadenfreude – which derive pleasure from someone's misfortune - are believed to be the most powerful emotions from Attribution Theory for post-crisis communication application. Crisis responsibility bears relations to the effect formed by a crisis. The stronger views regarding crisis responsibility reinforce the negative impact of schadenfreude and anger, while the weaker perceptions of crisis responsibility are related to sympathy, which is the positive effect. The emotions may need particular CRS for the response to be useful and protect the organization's reputation.<sup>28</sup> One-way crisis-response tactics try to cure the damage caused by the crisis by transforming how the attribution dimensions are viewed by the public<sup>29</sup> or the consequent feelings connected to those attributions.<sup>30</sup>

The development of SCCT owes a great deal to relationship management. The theory of relationship management shifts the main focus of public relations to relationships rather than communication, which acts as a tool to initiate, maintain, and nurture organization-public relationships.<sup>31</sup> Coombs states that both the secondary and primary stakeholders have to maintain interdependent relations with an organization.<sup>32</sup> Both the organization and stakeholders possess a connection that holds them together, grounded in political, economic, or social concerns. Therefore, it is suitable to discuss the relationship

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that is shared between stakeholders and an organization. Coombs has successfully applied the relational perspective to the function of public relations for crisis management. He indicates that crises can be termed episodes that remain embedded in ongoing and larger relationships between stakeholders and an organization.<sup>33</sup>

Moreover, Coombs states both relational history and reputation are derived from previous interactions between the stakeholders and the organization<sup>34</sup>. Stakeholders use the relational history to view the current crisis. It is up to the crisis managers to anticipate how the ongoing relationship could affect how stakeholders consider the crisis and its effects upon the organization.<sup>35</sup> Therefore, a relational approach provides much-needed depth to the attributional analysis of the crisis. In contrast, the relational history between the organization and the stakeholders offers a valuable context for interpreting the current crisis. On the other hand, there is a fair chance that the relational history might taint the current crisis. Therefore, the suitable CRS varies from the ones indicated by attribution theory.<sup>36</sup>

The Neo-institutionalism theory cites how the forces constrain the actions of a corporate actor and message tactics within its field of organization: those stakeholders that are either affected or affect the corporate actor's overall operations and goals. Therefore, this is increased attention on the institutional environment of an organization. Neo-institutionalism happens to be a popular perspective for recognizing ways to manage the relationship between organizations and stakeholders. The relationship is then defined in terms of social expectations or rules, which indicates the perception of the stakeholders that organizations meet their requirements. Thus, the relational history turns out to be a function of events connected to either failing to meet or even meeting the stakeholders' expectations.

Crisis threaten the legitimacy of organizations, which could be considered a violation of the expectations or social rules held by the stakeholders and, therefore, a disruption of the connection.<sup>37</sup> From the perspective of neo-institutionalism, organizations need to support CRS, which denotes efforts to re-establish legitimacy. It should be the attempt of organizations to transfer focus from the exploitation of social norms, which indicates crisis, to the efforts to repair the violation and use



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strategies that highlight the organization's return to norms held by the stakeholders.<sup>38</sup>

CRS is used by organizational management to rebuild legitimacy to protect an organization's reputation in times of crisis. Since the crisis poses a threat to the legitimacy of an organization, it threatens to destroy the reputation of an organization at the same time, i.e., how the organization perceives stakeholders<sup>39</sup>. Thus, crises happen to be a type of reputational damage. Relational damage is a form of reputational damage since reputation stems from relational history. Therefore, any threat to relational history threatens to disrupt the reputation.<sup>40</sup> Between 1995 and 2007, Situational Crisis Communication Theory was developed into a more comprehensive and coherent theory by evolving various elements.

The threat posed by a crisis towards an organization's reputation is dogged by crisis managers using a two-step process. The first step involves assessing the basic crisis type. Second, it is the responsibility of a crisis manager to consider how the news media and other stakeholders are viewing the crisis.<sup>41</sup> The system of categorization of the SCCT crisis types has been refined numerous times since its introduction. At the primary stage, crises were presented in a two-dimensional matrix. Still, Coombs later suggested that crisis types can best be arrayed along a continuum, with the endpoints being high and low personal control. Crisis types, which are closer to the high endpoint of greater personal control, tend to produce stronger crisis responsibility reactions than those crisis types found near the lower end.<sup>42</sup>

Coombs, in 1999, synthesized various crisis typologies into a single master list, which was represented by nine separate basic crises, which could be grouped into five separate families with organizational responsibility acting as the sorting medium. Crisis belonging to the same family was believed to be connected with similar organizational responsibility views and managed by similar methods.<sup>43</sup> In 2002, however, the list was even more expanded and refined by a study by Holladay and Coombs to reflect two vital variations in crises.<sup>44</sup> Until 2007, only minor changes have been made to SCCT since identifying three crisis clusters in 2002.

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As stated by Coombs, the three crisis clusters include the victim cluster, accident cluster, and preventable cluster. The victim cluster includes types of crises like rumors, natural disasters, product tampering, and workplace violence, while accident clusters consist of technical-error accidents, technical-error product harm, and challenges. In the former, the organization and the stakeholders are believed to be victims of the crisis, and they produce minimal attributions of crisis responsibility, representing a mild reputational threat.<sup>45</sup> In the latter, however, all the crises represent the organization's unintentional actions. The final preventable cluster includes crisis types like human-error product harm, human-error accident, organizational misdeed management conduct, organizational misdeed with no injuries, and organizational misdeed with injuries. Thus, it consists of crises, which deal with either purposefully risking the stakeholders or knowingly taking inappropriate actions or human error, which could have been avoided.<sup>46</sup>

As of 2007, SCCT posits that each crisis type generates predictable and specific levels of crisis responsibility. By identifying the crisis type, it becomes possible for the crisis managers to anticipate how much responsibility will be attributed by stakeholders to the organization at the start of the crisis, thereby cementing the responsibility level of the initial crisis.<sup>47</sup>

Crisis responsibility not only results in affective reactions but is also a reputational threat.<sup>48</sup> For example, organizational misdeed crisis elicits the strongest feelings of schadenfreude and anger, while crisis from the victim cluster offered the greatest feelings of sympathy.<sup>49</sup> Crisis responsibility and anger, in turn, may influence purchase intention and negative word-of-mouth. This relationship between crisis responsibility, anger, and intended negative word-of-mouth is commonly called the negative communications dynamic.<sup>50</sup>

Evaluation of a crisis involves a second step in reviewing the factors that could intensify the crisis's reputational threat. These factors – damage, the integrity of evidence, and performance history – were believed to have relevance when stakeholders assigned attributions to a crisis.<sup>51</sup> However, from 1995 and 2007, the intensifying factors for organizational crisis shifted from the integrity of evidence, performance history, and damage to the non-victims and victims, prior relationship

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reputation, performance history, and crisis history. Thus, by 2007, SCCT was believed to focus on the crisis manager examining the crisis to examine the level of reputational threat presented by a particular crisis. The threat consists of the amount of damage that a crisis might inflict on an organization's reputation if no actions are taken. Three factors in the crisis mold the reputational threat viz: initial crisis responsibility, prior relational reputation, and crisis history.<sup>52</sup>

CRS has undergone various changes and development since 1995, and Coombs refined the actual list of crisis communication strategies from five and indicated that they need to be arrayed as per an accommodative-defensive continuum. Accommodative strategies take responsibility, adopt remedial action, or even both, while defensive tactics claim that there is no problem and try to blame the crisis.<sup>53</sup> This continuum reflects the focus of an organization in assisting victims or defending the interests of an organization.<sup>54</sup>

CRS would later be categorized into three different postures – diminish, repair, and deny.<sup>55</sup> Every posture stands for a separate set of strategies that share similar communicative goals, denoting the level of responsibility accepted by an organization for a crisis and the amount of aid that it offers for the crisis victims. Thus, CRS seems to be consistent with how respondents analyze CRS and that they viewed the response strategies as intended in terms of crisis responsibility and assisting the victim.<sup>56</sup> There were ten different strategies, and it was believed that they would cluster as per the three responses of diminishing, deny and deal, which they gradually did.<sup>57</sup>

Coombs' theory reframed CRS's categories to reflect the amount of responsibility that each strategy would become a crisis, which happens to be consistent with the roots of attribution theory in SCCT.<sup>58</sup> Crisis response strategies in 2007 belong to two categories – primary CRS and secondary CRS. Primary CRS is grouped into denying CRS, which includes denying, attacking the attacker, and scapegoat while diminishing CRS, including justification and excuse. Rebuild CRS encompasses apology and compensation. On the other hand, secondary CRS deals with bolstering CRS, consisting of ingratiation, victimage, and reminder.

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CRS is used to reduce the negative effects, repair the reputation and prevent negative behavioral intentions. There is a consistent belief that the more helpful strategies tend to be more effective at lowering anger and the dynamic of negative communications.<sup>59</sup>

### **3- The Disaster and Communication Crisis**

The application of the Situational Crisis Communication theory came into full-fledged effect in the field of disaster relief. The entire world witnessed the power of social media as Japan struggled to deal with the crisis, which took a tsunami and a subsequent earthquake. The Fukushima Daiichi nuclear accident took place in 2011. It resulted from the huge Tohoku earthquake - Richter scale magnitude 9.0 - and the ensuing tsunami that came ashore on the Pacific coastline of the country. The worst affected was the Fukushima Daiichi nuclear power plant run by the Tokyo Electric Power Company or TEPCO.<sup>60</sup> According to Coombs, the Situational Crisis Theory encompasses three main aspects, i.e., crisis response strategies, the crisis, and the system for matching the crisis response strategies.<sup>61</sup> Efforts to implement all the aspects of the SCCT were undertaken by the Japanese government and disaster relief organizations, but the rate of success varied throughout the country. One of the main reasons for this is that positive outcomes in communication strategies tend to depend on the crisis communication features. So, it becomes necessary for the crisis manager - in this case, Japan - to comprehend the situation and select an ideal response. However, the government's response went against the principles of SCCT since they were kept in the dark by TEPCO about many vital details, which hampered their understanding, provision, and explanation of prescriptive actions for crisis communication purposes.<sup>62</sup>

The government and national agencies rushed to provide adequate relief to the people, but in the process, the poor crisis communication tactics of the government were uncovered. As a result, they were ill-prepared for such an event and still chose to keep the people in the dark about many important details. This information gap later led to severe problems for the people in Fukushima and the adjoining regions.<sup>63</sup> Moreover, the actions of the government and TEPCO after the crisis could be summed up as per the three CRS categories indicated by Coombs' SCCT – diminish, repair, and deny. Thus, the authorities tried their best to "diminish" the extent of damage,

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attempted to "repair" some parts of Fukushima, which needed immediate attention, and made efforts to "deny" their involvement in the crisis, dubbing it a "natural disaster" instead.

Crisis communication in Fukushima certainly presented a fair share of challenges, but social media played an important role in compensating for the failure in communication. Comments under real names happened to serve as the most reliable form of information amidst the uncertainty of the situation.<sup>64</sup> However, it could not entirely prevent the outbreak of panic that led to secondary deaths in Japan.<sup>65</sup> Furthermore, the time scale must be considered, especially the urgency of the situation and the duration of the circulation of comments. Therefore, even though SCCT was applied to the situation by the media instead of the government, it could not entirely stop the tragedy but only limit the impact.

The Fukushima incident threw the entire nation of Japan into a state of complete panic and disarray. It is surprising because Japan has a long-standing history of nuclear disasters, starting with the atomic bombing of Hiroshima-Nagasaki during World War II and the Daigo Fukurya-maru incident of 1954. In the incident, a Japanese tuna fishing boat was exposed to nuclear fallout from the thermonuclear device test conducted by the United States.<sup>66</sup> Moreover, natural disasters, including earthquakes and volcanic eruptions, are a regular occurrence in Japan. Therefore, the island nation should have been better equipped to deal with the nuclear meltdown at Fukushima.<sup>67</sup>

There were various reasons why it was hard for the Japanese people to accept the crisis. Firstly, the Fukushima disaster was not voluntary, and no individual had any control over the event. Second, the extent of the incident was not distributed equally throughout Japan – some parts were exposed more to the harmful effects of the Fukushima incident than others. Third, the catastrophe was generated by an untrustworthy manufactured source, so details of the events leading up to the crisis were sparse. Finally, the Fukushima incident racked up a huge death toll – not even children were spared.

There was a great deal of damage to the region's infrastructure, but limited information could be found at the time of the disaster. Tools of communication were disrupted, and there were clear perceptions

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happened between the company and residents.<sup>68</sup> The government and TEPCO claimed that risk reduction was inadequate but categorized the incident as a natural disaster. However, residents stated that humans unknowingly orchestrated the entire disaster.

The culture of crisis communication has not significantly developed in Japan due to specific cultural factors, which form a key role in the lifestyle and outlook of the people. The first happens to be the influence of the teachings of Confucius, which promote loyalty to one's lord. It means that even if TEPCO withdrew vital information from the government and public, the employees had no choice but to support the decision. The government officials, too, tried to justify the poor actions of the government in the aftermath of the Fukushima incident.<sup>69</sup> These instances seem to be tied to Neo-institutionalism theory. It states how the actions of a corporate actor and message tactics happen to be constrained by forces within the organization that is affected or affect the overall goals and operations of the organization corporation. Therefore, the Fukushima incident serves to showcase the increased attention on the institutional environment of an organization. The fatalistic culture prevalent in Japan is another major cultural influence that downplays the importance of crisis communication.<sup>70</sup> The weak leadership in Japan has never bothered to highlight the spirit of mutual aid, which is a key component in times of crisis.<sup>71</sup> The poor media literacy in Japan is also liable for weakening the intensity of the risk communication efforts where the impact of the news on the general public is hardly taken into account. There are only a few people who doubt the validity of the content shown on the news. At the same time, the rest accept whatever information is fed to them by the government via different media outlets.

The mass media helped circulate real-time images of the explosion and offered vital reports to the residents of Fukushima. Mass media was the only valuable source of information for people ignorant about social media, especially the vulnerable groups in the population, such as the elderly and children. During the Fukushima nuclear meltdown, mass media helped reduce the panic level among the evacuees to a certain extent.<sup>72</sup>

Mass media in Japan helped spread the word about the poor crisis communication model followed by the government of Japan. They

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highlighted the inherent weaknesses in the system, including the clear flouting of the responsibility that the TEPCO staff had to inform the people about the dangers of the disaster. Instead, they chose to retreat from areas close to the plant, offering access to very few resources for direct information. However, the media itself released information as it saw fit and deprived the residents of the area concerning the actual scenario. The media avoided original comments to abuse by the public and, in some cases, followed only those reports presented by the government. Expert journalists and specialists provided only a few comments, so they effectively served to keep Japan's public in the dark about some crucial aspects of the crisis. Therefore, the mass media in Japan helped foster a widespread sense of distrust against the reasoning and statements by TEPCO, their partners, and the government. There was a clear delay in recovery due to the absence of cooperation between the residents and the government.

#### **4- Social Media in Crisis Communication**

Crisis communication studies and their interaction with social media are necessary to explore the methods that can be used to incorporate social media into crisis communication plans. Social media is a means to detect issues that can become crises<sup>73</sup>, a means to communicate in times of crisis, and a method to continue communicating following a crisis.<sup>74</sup> Discussions involving social media integration into crisis communication plans include using social media in crisis drills or exercises within the framework of an organization.<sup>75</sup>

The exploration of crisis communication and social media use in times of emergency and disaster have increased and are viewed as necessary fields of communication due to the prevalence of disasters throughout the world.<sup>76</sup> Social media helps disseminate information quickly to people in disaster situations and forms a standard crisis communication technique. However, to comprehend how a disaster and crisis are related, their relationship needs to be understood.<sup>77</sup>

The Research conducted in terms of current crisis communications and disaster tends to use the case study approach that during natural disasters has led to several results that influence best practices in times of disaster.<sup>78</sup> Thus, practices of best crisis

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communication have been established ideally for techniques, which find use in public crises or disasters.<sup>79</sup>

The new platforms for social media offer routes of information flow and a means to provide those in need in times of disaster, like volunteers, survivors, responders, and the public.<sup>80</sup> In addition, social media serves as an effective method of communication for the governments to reach communities and individuals and alert the responders to where and what sort of relief is necessary.<sup>81</sup>

In the last decade, the use of technology has expanded by leaps and bounds. Social media has been proven to be an effective method to promote and coordinate disaster relief efforts.<sup>82</sup> Responders to disasters can use social media in times of disaster to track volunteers, aid in reconnecting families, and disseminate vital information. Moreover, in times of disaster, social media is used as an alternative to phone calls for seeking assistance.<sup>83</sup> Social media offers a means for people to exchange partial information during a disaster, which has the potential to eventually offer a fuller understanding of a disaster via the continued addition of information via computer-mediated communication.<sup>84</sup> In times of disaster, social media platforms may be seen as awareness features, which alert others regarding the safety of those whose lives have been severely affected by the crisis. Social platforms may even serve as sources of peer information as well as resources for information gathering.<sup>85</sup>

In times of crisis, social media plays a framework that enables us to understand what sort of emergency has taken place and the magnitude of the severity of the ongoing event.<sup>86</sup> Social media in a crisis allows people to gain more information regarding the disaster, irrespective of whether or not they are local to the disaster.<sup>87</sup> Social media has several strategic roles in organizations, especially national and federal agencies, during disaster periods. Social media can be effective, but there is not much information to accounting for the cause of this effect during disasters.<sup>88</sup> Even though a sufficient amount of literature exists on the use of social media in disaster events, only a few present the best practices.

One of the most important steps in disaster relief happens to be the inability to understand where help is required, especially in areas



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where maps have become outdated or have not been created.<sup>89</sup> The issue can be resolved through mapping. In addition, social media applications and maps can offer information to people affected by natural disasters and the ones coordinating disaster relief efforts, irrespective of their proximity to the disaster.<sup>90</sup>

Mapping and other ICTs or information communication technologies have several benefits in terms of disaster response through information management. However, they are not able to manage all of the mapping and the details they gain when trying to assist an area in need.<sup>91</sup> This issue stems from more advanced and progressive computer technologies such as mapping and a rapid increase in cell phone use, which has increased the amount of information obtainable by disaster responders by an incredible amount. As a result, new information gained through mapping and gathering proves overwhelming for the disaster relief community even though it can improve disaster response by a significant degree.<sup>92</sup>

These struggles can be combated via crisis management tools, which aid communities and peoples during crisis periods by supporting the "use of open data and volunteer technologies to catalyze innovation in crisis management and global development."<sup>93</sup> But, unfortunately, even though the current studies on mapping help explain the growing field and how it works at present, the studies are unable to provide much detail on the best ways these tools might be used through social media practices.

The world widely saw the impact of social media in the field of disaster relief during the tsunami and earthquake, which hit Japan in early 2011. The earthquake had a magnitude of 9.0. It was quickly followed by a nuclear accident and a massive tsunami, the repercussions of which have still not dissipated entirely.<sup>94</sup> During the entire period that the disaster occurred, social media was instrumental in disseminating information regarding the quake faster than conventional news sources. News reports, videos, and response efforts flooded the popular social media sites within a few hours of the quake.<sup>95</sup>

The disaster in Japan highlighted the important role that social media that play during crises. Social media made significant contributions to increasing awareness and, subsequently, donations

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regarding the disaster through text messaging campaigns and social networking sites. Social media was also responsible for increased victim awareness and assistance with social media tools.<sup>96</sup>

The power of social networking and media sites was harnessed at the time of the Fukushima crisis. It was instrumental in limiting the negative effects of the disaster across the region. One of the biggest strengths of social media was access to timely and updated information. Users of social media could instantly check daily radiation levels and be made aware of the health risks resulting from exposure to high levels of radiation. As soon as news of the disaster that hit the World Wide Web, specialists uploaded relevant presentations on YouTube to benefit the people.<sup>97</sup> Another important advantage that social media provided during the Fukushima incident was mutual communication with cross-cutting specialists. Residents of Fukushima who had access to social media could direct their queries to be answered instantly by the professionals. The role of the influencer was fully exploited during the situation. Influencers are individuals who have many followers on social media sites. They did their best to promote news about the event so that more people in the region would know about it and take necessary precautions to limit the impact of the crisis. During the Fukushima crisis, the flexible reaction by the mass media in social media came in handy, especially the NHK news on Twitter and Ustream.<sup>98</sup> However, it was not all smooth sailing, and social media in times of crisis presented its share of weaknesses in spam and slandering messages along with the circulation of old information for several days.

The influence of social media contributed significantly to the development of crisis communication literature by offering some vital lessons, which could be put to good use in the long run. The first lesson was that real names should always be used during tweeting about disasters, especially for professionals and specialists who had valuable information to share with the people.<sup>99</sup> Second, social media helped highlight the importance of influencers in crisis communication and presented opportunities to be used effectively. Finally, another important crisis communication lesson that the Fukushima incident taught the masses via social media was that the government and the mass media could spread both uncertainty and timely data.

### **5- Disaster Analysis against SCCT**

One of the strongest arguments forwarded by the Japanese government and TEPCO in support of their decision to withhold information regarding the events leading up to the crisis from the public, which went against the principles of SCCT, is that the people did not need to know since they would have been unable to manage the situation and would have stirred up panic.<sup>100</sup> This step of the government bears traces of the Attribution theory, which explains how the interaction between certain variables in SCCT creates a practical framework for the conceptualization of crisis management.<sup>101</sup> From the government's standpoint, they did nothing wrong in the process, but the relationship between crises and crisis response strategies was obstructed as a result.<sup>102</sup> It shifts the focus to the aspects of negativity and unexpectedness present in the situation, a vital element of crisis as per Coombs' theory.<sup>103</sup> Moreover, the authority stated that society would descend into anarchy and chaos if accurate information were provided. There would be no way for the government to manage the situation during the disaster.<sup>104</sup> It goes directly against the principles of crisis communication mentioned by the U.S. Department of Health and Human Services,<sup>105</sup> which states that panic is rare among risk communication experts. Another wrong notion that the Japanese government harbored about crisis communication was the wrongness of speculation. However, discussing the risks connected with an event and communicating them is necessarily speculative.

A minimal amount of effort on the part of the government would have been necessary to limit some of the effects of the Fukushima disaster in Japan. The primary aspect is poor pre-crisis communication. The government and the business officials had created a myth and circulated it amongst the people regarding the safety of the nuclear power plants. As a result, the culture of evacuation drills and counseling sessions was sorely missing. The authority significantly downplayed the risks of the event.<sup>106</sup> It was almost a month after the incident that the government saw no option but to upgrade the initial rating of the Fukushima accident from Level 4 to Level 7.

On the other hand, it took TEPCO more than two months to reveal to the Japanese public that a meltdown had occurred in the Unit 1 reactor on the first day. The lack of effectively organized crisis

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communication methods in Japan failed to warn about the worst scenario. The region's people were not informed about probable outcomes and events, and there was no speculation about worst-case scenarios. The government could only apologize to the people following the Fukushima nuclear disaster, but they did not take the initiative to implement a concrete plan of action. There has been little effort to improve communications following the incident on the part of the government.

The stoicism and resilience of the Japanese people were much admired in the international arena in the aftermath of the Fukushima Daiichi power plant incident. However, global crisis communication experts were displeased with how the Japanese government attempted to handle the incident since their actions appeared to run counter to the main elements of proper crisis communication. The government admitted that several systemic factors native to the region led to mishandling the communication between the public and the government. The presence of the professed "iron triangle" – the shady and associative relationships between politicians, bureaucrats, and business executives who utilize their old-boy networks to achieve their goals, sometimes flouting regulations and rules – can be noted in the Fukushima incident. The contemporary Japanese Prime Minister, Naoto Kan, had never shied away from publicly criticizing these networks. Still, he was unable to access the resources of the triangle, which may have helped the government handle the crisis in a better way. It subverts the SCCT theory of neo-institutionalism, which indicates the perception that stakeholders maintain regarding fulfilling their requirements by an organization. According to Coombs, both the primary (TEPCO) and the secondary (government) stakeholders need to maintain interdependent relations with the organization<sup>107</sup>, which indicates relationship management, one of the major theories that led to Coombs' development of SCCT.

Disaster mapping happens to be one of the essential steps of SCCT, enabling us to understand when help is required, especially in areas like Fukushima, which are on the outskirts and do not draw much public attention. It is possible to resolve this issue via mapping.<sup>108</sup> Social media apps and maps can offer details to affected individuals and volunteers for disaster relief activities.<sup>109</sup> However, the Fukushima

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incident proved just how ineffective and out of touch with the methods of the SCCT the government of Japan was in times of nuclear crisis. They had made no attempts previously to map the disaster, mainly due to the withholding of information by TEPCO, and so when the crisis struck, they found it difficult to cope. They had no precise plan of action and could get new information from social and mass media sources.

The disaster in Fukushima was quite limited in scope and did not greatly affect the regions outside its immediate vicinity. The result was Fukushima was greatly stigmatized. While the government claimed that information was insufficient, they would have found good sources for details if they had searched the area more thoroughly. Instead, they were greatly reluctant to allot resources and time to find and efficiently share valuable information. One of the most prominent successes of the incident was the increase in the self-defense capacities of the residents. They realized the inefficacy of the government in some areas, but this led to reduced integration of policy, information, and projects.

Apart from its emergency response procedures, TEPCO has received strong criticism for its communications methods after the tragedy. Sturges in 1994 said in the context of SCCT that communication needs to be used by the crisis managers to handle severe physical and psychological issues of the victims to be perceived as ethical, and the organization seems to have taken the mantra to heart. They have accepted their share of the blame. They have repeatedly tried to remedy the situation by communicating with specialists worldwide like John Murphy and Jeff Hunt, who advise TEPCO on the science and art of crisis communication. In the process, they have managed to show that proper crisis communication does not simply indicate deflecting criticism but encompasses other aspects like keeping the public well prepared, informed, and safe to guide public policies in the context of nuclear power. TEPCO now focuses on maintaining security protocols for six stages of crisis viz. surprise, insufficient information, escalating flow of events, thorough scrutiny by the public, a flight-or-flight/siege mentality, and the tendency to retreat instead of tackling the situation. The organization has finally come to terms with the fact that a minute of hesitation can cost an eternity in communication. However, they will still need to continue their efforts to improve their image in the global arena since SCCT supports the notion that instructing information is

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one of the most important elements for every situational crisis.<sup>110</sup> Only after such a foundation has been established can companies turn their attention towards their reputational assets, but TEPCO has chosen to progress in both aspects, so they need to get their priorities straight. As soon as they complete their primary responsibilities can crisis managers look for guidance from SCCT to address any problems or issues they have concerning reputation.<sup>111</sup>

The intensity of the crisis management efforts after Fukushima has somewhat been weakened because it is based on single case studies and untested assumptions that limit the crisis response understanding.<sup>112</sup> Moreover, since its inception, SCCT has been subjected to several tests and revisions.<sup>113</sup> Though the government did not follow SCCT per se, the effectiveness of their efforts was undermined significantly due to these factors. The government could still have organized its information sharing and processing for good communication if it had been more thorough in its preparation. The authorities should have picked an approach that was forthcoming, transparent, and truthful throughout the crisis to maintain the trust of the masses and remove their doubts and fears.<sup>114</sup> Instead, both the company in charge of the nuclear power plant, TEPCO, and the government attempted to reassure the panicked population and conveyed details in bits and pieces, strongly against the accepted practices in crisis communication.<sup>115</sup>

## **7- Implications**

In retrospect, the government of Japan committed three main errors while managing the event viz. message content, formal organization, and improper synchronization of crisis management actions with objectives of crisis communication.<sup>116</sup> Firstly, the message content of the public authorities was full of inaccuracies and unclear information. In terms of formal organization, the government's communication system was inadequate and lacked speed and coordination. TEPCO was liable for withholding details from the public as well as the government.<sup>117</sup> Moreover, government officials underplayed the significance of the situation by making contradictory statements. Thirdly, crisis communication and crisis management were

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not entirely synchronized. Several important details were left out of the government message, which fueled confusion and speculation among the citizens and aggravated the situation.

The disastrous effects of the Fukushima nuclear crisis could have been decreased to some extent through advanced preparation.<sup>118</sup> But, of course, each crisis tends to differ in terms of challenges. So pre-designed communication plans are not always successful in offering answers to questions that may arise in times of emergency. However, prior preparation could have been instrumental in providing a plan as a point of orientation. It may have even empowered qualified leaders and staff to adopt the roles of versed crisis managers who were aware of the principles of good crisis communication. Lastly, it may have enabled them to take the crucial steps – steps that may often seem counterintuitive. In the end, planning and training for possible emergencies enhance sensitivity and allow the entities in charge to apply their knowledge in creative ways to manage a crisis.

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