

# Gaining legitimation during environmental crises: an inquiry into the relationship between corporate social responsibility, reputation, and blame attribution

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## Abstract

**Purpose** – Responsible management of water resources is critical owing to its effects on the environment and society. This study aims to address customer perceptions of a water utility during a severe environmental crisis that affected northern Italy and aims to deepen the understanding of the relationship between corporate social responsibility (CSR), perceived crisis response and corporate reputation.

**Design/methodology/approach** – This study draws on legitimacy theory and attribution theory, adopting a quantitative design. In detail, a moderated mediation model is used to investigate the direct effect of CSR on reputation, the mediating effect of perceived crisis response on the relationship between CSR and reputation and the moderating effect of blame attribution on the relationship between CSR and perceived crisis response. In addition, the evolution of the crisis event and its management is traced through the analysis of the water utilities' sustainability reports published since the beginning of the crisis.

**Findings** – The findings show that CSR affects corporate reputation directly and via perceived crisis response. In addition, CSR improves perceived crisis response, especially when an organization is held responsible for a crisis. The analysis of the CSR report allows for understanding the evolution of CSR policies of water utilities, shifting attention from a merely informative role of sustainability disclosure to a more comprehensive approach to perfluoroalkyl substances risks in the struggle of contributing to sustainable development. Theoretical and managerial implications are also discussed.

**Practical implications** – The findings suggest some managerial implications about the usefulness of adopting CSR for crisis management and, furthermore, the importance of communicating CSR policies to all stakeholders overall – the customers of public utilities.

**Originality/value** – This paper focuses on the relationship between CSR, reputation and blame attribution. Literature on this topic is still scarce overall in the field of public utilities. Furthermore, this study is relevant because it faces one of the major European environmental crises that affected the water sector and provides helpful insights for all public utility sectors and, more generally, for environmental crisis management.

**Keywords** Corporate social responsibility, Public utilities, Customer perceptions, Environmental crisis, Corporate reputation, Blame attribution

**Paper type** Research paper

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## 1. Introduction

Water contamination is a major threat to the environment and society (Singh *et al.*, 2022), to the extent that the United Nations has included “clean water and sanitation” as one of the 17 sustainable development goals for 2030 (United Nations, 2015). A responsible management approach is crucial for water utilities (WU), as any crisis concerning water safety is a source of risk for the environment, human wealth and the quality of life of entire communities. Pursuing corporate social responsibility (CSR) practices (Figueroa *et al.*, 2022) and integrating CSR into corporate strategies enables corrective action during a crisis (Mattera *et al.*, 2021). More

broadly, pursuing CSR facilitates the creation of positive relationships with various WU stakeholders. These stakeholders have different institutional characteristics, different levels of influencing power and dissimilar interests in WU (Ahmadi *et al.*, 2020). It is acknowledged that stakeholder engagement is essential for effective, sustainable water management (Langsdale and Cardwell, 2022), including successful crisis management. Their engagement is crucial to ensure the necessary coordination during crisis management efforts and afterward to enhance the community's trust. As Langsdale and Cardwell (2022, p. 1095) stress, "decisions about water need to reflect that community's values," and this is indissociable from implementing stakeholder involvement strategies. Several institutions have emphasized the importance of involving stakeholders when dealing with issues that affect key natural resources. For example, laws in the USA require public participation in environmental decision-making. In particular, customers play a central role as the primary users of WU services. Therefore, while it is important to consider the point of view of organizations during an environmental crisis (Schmidt *et al.*, 2018), it is also crucial to investigate customer perceptions of crisis management (Gistri *et al.*, 2019). Customer demands and expectations of responsible management are even higher for companies operating in public services such as water services (Ison *et al.*, 2007). Recent studies (e.g. Olofsson *et al.*, 2023) highlight that stakeholder engagement in wicked environmental problem resolution (such is the case of water availability) is a vital and yet under-researched topic. Even if research has addressed the effects of crises on corporate reputation in different contexts (Dean, 2004), then the effect of environmental crises on corporate reputation in the context of WU has not been investigated. Corporate reputation can be described as the sum of stakeholder perceptions about an organization being "good" or "bad" (Tucker and Melewar, 2005) and reflects the way stakeholders assess the organization's capabilities, strategic characteristics and ability to further create value (Basdeo *et al.*, 2006). In other words, perceptions of the organization's past actions and prospects define its reputation (Baumgartner *et al.*, 2020). Research on WU has increased in recent years, mainly focusing on the water industry performance (Goh and See, 2021). Aligned with the perspective that technical experts and political leaders are not the sole agents in environmental crisis management, the current study captures the views of water consumers regarding how the water utility dealt with a water crisis event and thus contributes to narrowing this literature gap.

In many countries, public utilities still operate in a local monopoly regime and are subject to regulation. The lack of competition has likely contributed to the existence of limited empirical research about customer perceptions of public services, particularly regarding perceptions of CSR and the reputation of public utilities. Even though CSR and corporate reputation are "hot" topics in management studies concerning private organizations (e.g. Lin, 2024), research covering the effect of CSR on corporate reputation in the context of public utilities is still scant, and previous studies underlined how CSR strategies in public utilities are affected by meddling of public policies (e.g. Arena *et al.*, 2019; Jones, 2001), or, in any way, strongly conditioned by the will of public authorities.

However, recent literature has shown that public regulations (Zeng *et al.*, 2022) and government subsidies (Wenqi *et al.*, 2022) have positively stimulated CSR practices, even with questioned results in terms of the credibility of CSR politics (Marie Lauesen, 2014). In addition, CSR initiatives can reduce the negative effects of crises (Ashraf *et al.*, 2022), urging management scholars to improve their understanding of these concepts in the context of public utilities. Specifically, there is a need to deepen the understanding of customer perceptions regarding the role of CSR on the reputation of public utilities during environmental crises.

Although scholarly discussions on this topic are still scarce, customer awareness of the importance of environmental protection has improved during the last decades, as demonstrated by other industries (Kuokkanen and Sun, 2024). Similarly, governments increasingly require public utilities to enhance their CSR to safeguard customer welfare (Chen *et al.*, 2023). In fact, CSR and reputation have become increasingly important for WU in terms

of social legitimization and support (Ligorio *et al.*, 2022). Legitimacy theory, which has mainly been used in accounting and environmental disclosure studies (Lee and Raschke, 2023), provides a sound theoretical framework for understanding the effect of CSR on corporate reputation and perceived crisis response. Legitimacy theory implies that organizations will not undertake actions considered illegitimate in society. In this sense, CSR can be interpreted as a tool to increase legitimacy and corporate reputation (Pérez, 2015).

For WU, crises derived from internal or external causes such as natural disasters, major technical failures, ineffective management, or misbehaviors of other market players can pose severe threats to corporate reputation. This problem is magnified by how citizens nowadays communicate, with the internet and social media exacerbating the spread of information and negative word of mouth (Giacomini *et al.*, 2020). According to attribution theory (Weiner, 1985), customer perceptions of an organization during a crisis may differ depending on blame attribution – whether or not they hold the organization responsible for the crisis. Attribution theory has recently been adopted in crisis management studies to explain the role of blame and culpability in perceptions of CSR (Souiden *et al.*, 2022). However, to our knowledge, it has not been used hitherto in the context of public utilities.

This study drew on legitimacy theory and attribution theory. It combined them into a model to understand the relationship between CSR, perceived crisis response and corporate reputation in the context of a water utility during an environmental crisis caused by water pollution. Specifically, a moderated mediation model was proposed to analyze the:

- direct effect of CSR on corporate reputation;
- mediating effect of perceived crisis response on the relationship between CSR and reputation; and
- moderating effect of blame attribution on the relationship between CSR and perceived crisis response.

In addition, to gain deeper insights into how the water utility reacted to the crisis, the CSR reports published since the beginning of the crisis were analyzed.

This study was conducted following a major incident involving pollution caused by perfluoroalkyl substances (PFAS) in northern Italy. This caused an environmental crisis in a vast area of about 180km<sup>2</sup>, involving about 300,000 individuals, leading to severe adverse environmental and health effects (World Health Organization, 2017). Although each incident has its own circumstances and particularities, the current study can be relevant to institutions and organizations worldwide that deal with water crises. For example, similar crises have affected several European countries, including Austria, Belgium, France, Germany, The Netherlands and Sweden (European Environment Agency, 2023a, 2023b). The findings can shed light on how to design more effective communication strategies and implement successful crisis management principles to minimize the impact on corporate reputation and community trust. More specifically, the findings contributed to a better understanding of the relationships between CSR, perceived crisis response and corporate reputation in public utilities during an environmental crisis, according to different levels of blame attribution. The following section provides the theoretical background for the research and presents the model and hypotheses for the empirical study. The methodology is then described, and the results are presented, followed by the discussion, implications and conclusions.

## 2. Theoretical background and hypotheses

### 2.1 *The impact of CSR on corporate reputation and perceived crisis response: a legitimacy theory perspective*

Even though the term CSR has acquired different meanings over the years, one of the most used definitions (Dahlsrud, 2008) is proposed by the European Commission

(Commission of the European Communities, 2001, p. 6). According to the European Commission, CSR “is a concept whereby companies integrate social and environmental concerns in their business operations and their interaction with their stakeholders on a voluntary basis.” CSR refers to the positive effects of corporate behaviors and decisions on society and the environment (Carroll, 1991) by generating benefits for companies and collectivity and adapting or anticipating public policy (Preston and Post, 1981). In addition, CSR practices can have positive effects on companies’ financial performance (Lee, 2021). As shown by the seminal work by Garriga and Melé (2004), the approaches to CSR can be different and connected to an utilitarian view of the firm’s relationship with customers and the environment. Nonetheless, this short view of CSR can be considered outdated, and companies are pressed to turn to CSR to enforce their social legitimation. Indeed, CSR activities reinforce stakeholder perceptions about corporate image and reputation (Tevapitak and Helmsing, 2019) and allow corporations to integrate into communities. Conversely, negative CSR or corporate social irresponsibility (Valor *et al.*, 2022) can produce negative long-term effects among stakeholders. As suggested by Kotzian (2023), organizations that under-perform according to stakeholders’ expectations in terms of CSR “receive a punishment,” which may translate into reputational costs of a negative image.

Over time, CSR has become an established feature of the strategies of most companies (Orazalin and Baydauletov, 2020), and scholars have extended their attention to the struggle to integrate social and environmental concerns into a sustainable competitive strategy (Kudlak and Low, 2015). Different theoretical contributions have explored the motivation for this strategic integration. For example, some scholars affirmed that corporations have social concerns because their purpose is oriented toward the common good (Sison *et al.*, 2018), while studies using stakeholder theory focused on the strategic role of stakeholders in corporate strategy (Goyal, 2022). Among salient stakeholders, customers have increased their influence on organizations’ decisions during the last decades (Tian, 2023) in parallel with their social and environmental sensitivity and the affirmation of the principle of “voting with the dollar” (Neville and Menguc, 2006). Even though most WUs operate under monopolistic conditions and customers cannot choose their service provider, citizens nowadays are generally more aware of public utilities’ behavior than in the past. They require organizations to adopt sustainable orientation (Khizar *et al.*, 2022) and practices and be responsible for their social and environmental impact. Most public utilities in Italy are publicly owned businesses (Agovino *et al.*, 2020). Accountability requirements and obligations are higher in the public sector than in the private sector (Uyar *et al.*, 2022), and organizations owned by the state or local municipalities are required to make an explicit commitment to sustainability and to implement CSR practices (Garde-Sánchez *et al.*, 2018). Therefore, public utilities must be accountable in terms of social and environmental objectives to increase their legitimacy among customers. With specific reference to the type of event examined in this study, customers can be exposed to PFAS through water or contaminated products, such as food, food packaging, textiles, cosmetics and personal care products. In this sense, other stakeholders, such as local farmers, can also receive negative economic effects from PFAS pollution. Contamination can have negative effects on their health. However, polluting agents, such as industries, can expand the negative impact of their contamination on other economic activities; for example, farmers may be forced to destroy harvests in PFAS-contaminated areas (Cordner *et al.*, 2021).

Legitimacy theory starts from the assumption that “society grants legitimacy and power to business” (Davis, 1973, p. 314). Legitimacy theory has often been adopted to explain the relationship between CSR and corporate reputation. Some scholars have suggested that, through a legitimation process, an organization’s past actions (CSR) are transformed into future expectations in terms of corporate reputation (Pérez, 2015). Even if various interpretations of legitimacy are provided in the literature, an encompassing definition describes legitimacy as the perception that an organization’s actions are accepted and

considered appropriate and desirable “within some socially constructed system of norms, values, beliefs, and definitions” (Suchman, 1995, p. 574). According to this perspective, social actors have certain expectations regarding an organization’s behavior (Deephouse and Carter, 2005; Sharma and Narwal, 2006). Previous studies have shown that CSR and expectations of CSR affect perceptions of corporate reputation (Ijabadeniyi and Govender, 2024; Swaen *et al.*, 2021). Corporate reputation is a dynamic concept and can be defined as a stakeholder’s overall evaluation of an organization over time, resulting from the stakeholder’s direct experiences with the organization and any other type of communication that provides information about the organization’s actions (Nardella *et al.*, 2023). Tucker and Melewar (2005) highlighted the subjective nature of corporate reputation, which is based on stakeholder interpretation of what the organization does and how it communicates its actions. Corporate reputation is crucial for an organization because it can generate positive customer behavior (De Nicola *et al.*, 2024).

Furthermore, recent findings also support the importance of CSR in the context of public utilities. In this regard, Rothenhoefer (2019) conducted a study concerning perceptions toward large companies, including public utilities, in the USA. The researcher found that the absence of a high reputation for public utilities is associated with a pre-existing negative reputation and an absence of positive CSR activities. Therefore, a lack of attention to CSR might have important and negative consequences for organizations.

In addition, previous research has demonstrated that customers are less likely to believe negative information about an organization in times of crisis if they are aware of their CSR activities (Kang *et al.*, 2021). A recent article by Jung and Lee (2022) also suggests that investing in CSR can alleviate the negative consequences of a brand crisis. Pündrich *et al.* (2021) further emphasized the role of CSR in recovering corporate reputation in the post-crisis phase. These studies suggest that CSR is also important in the case of crisis, which is “a sequence of events that can have substantial negative consequences if not managed appropriately” (Pedersen *et al.*, 2020, p. 315). Among the different crisis types classified in the literature (Grunwald and Fischer, 2022), much research has focused on accidental crises, which occur when a company’s actions lead to unintentional outcomes. Challenges, mega damage, technical breakdown accidents and technical breakdown recalls are possible examples of accidental crises. Customer (and, in general, salient stakeholder) opinions became a crucial point in gaining legitimacy and survival, as argued by legitimacy theory (Deegan *et al.*, 2000), before and after a crisis that affects a single corporation, its industries or other similar corporations (Melé, 2019). Customers expect that companies will always act responsibly, even during times of crisis, by taking corrective actions that are adequate responses to the situations created (Coombs, 2006). Crisis management is a process designed to prevent or reduce possible damage from a crisis for the organization and its stakeholders (Coombs and Holladay, 2014). During a crisis, communication is vital to mitigate risk perception (Jiang *et al.*, 2022) and provide customers and citizens with information that might contribute to building an organization’s positive reputation. In this sense, any organization must make decisions regarding how and what to communicate with stakeholders during a crisis (Blasco-Arcas *et al.*, 2022) because this affects the overall perceived crisis response.

In line with legitimacy theory and based on the literature review, it can be assumed that CSR plays a crucial role in influencing perceived crisis responses and corporate reputations for WU. Thus, the following two hypotheses were formulated:

- H1. CSR has a positive effect on perceived crisis response.
- H2. CSR has a positive effect on corporate reputation.

## 2.2 The mediating role of perceived crisis response

Crisis response strategies play a central role in mitigating the effect of a crisis and producing a neutral or even positive impact on customer evaluation of the organization

(Raithel and Hock, 2021). Crisis response can be described as a set of coordinated communication activities that influence stakeholder perceptions of the crisis and the organization's behavior (Bowen *et al.*, 2018). According to Lim (2018), the overall effectiveness of a crisis response can be measured based on the organization's preparedness in handling the crisis. In addition, various studies show that perceptions of source and content credibility during a crisis affect corporate reputation (van Zoonen and van der Meer, 2015). In this regard, Holland *et al.* (2021) emphasize the importance of credibility for surviving current and future crises. Particularly, they suggest that transparency in a crisis will lead to more positive perceptions of the organization's credibility. Credibility is particularly important in situations regarding environmental sustainability (Balluchi *et al.*, 2021). Much of the existing research on crisis management focuses on the drivers of the organizational crisis response and its outcomes (Thakur and Hale, 2022). Marketing communication literature emphasizes the importance of timeliness and the transparency of a company's crisis response strategies (Kim, 2014; Ozanne *et al.*, 2020). Specifically, Dwiedienawati *et al.* (2021) show that corporate reputation is directly influenced by the perceived effectiveness of crisis management. Ozanne *et al.* (2020) highlight that the public sector and nonprofit organizations are still not well prepared for managing crisis events, even though, owing to their role in society, they face heightened media scrutiny. In the context of public utilities, research assessing the effect of perceived crisis response on reputation is still limited. Building on this prior research about the effects of CSR on reputation and the effects of crisis response on reputation, we hypothesized that a perceived crisis response could also have a mediating effect on reputation. Thus:

*H3.* Perceived crisis response mediates the effect of CSR on corporate reputation.

### **2.3 Blame attribution during a crisis**

The main dichotomy of blame attribution concerns whether the cause of the crisis is to be found inside or outside the organization's control (Heider, 1958). According to Weiner (1985), individuals explain events and behaviors depending on *locus*, stability and controllability. Locus refers to whether the event is perceived to occur owing to internal (personal) or external (situational) factors. Individuals tend to judge organizations more negatively when the cause is internally attributed (Schmidt *et al.*, 2023). *Stability of causes* influences expectations about future states, while *controllability* refers to the organizations' control over the event (Weiner, 1985). In terms of controllability, attribution theory suggests that blame attribution can vary depending on whether the crisis is outside the organization's control. If an event is outside the control of an organization, customers manifest dismay at irresponsible behaviors (Grunwald, 2023), responsibility judgments tend to be less negative, and the organization's perceived culpability is lower than it would be for controllable factors (Monga and John, 2008).

On the contrary, customers are less likely to forgive organizations for controllable factors (Bradfield and Aquino, 1999; Zasuwa, 2024). According to Hamilton (1978), social actors have social roles. Public utilities play a social role in improving people's lives by responding to essential needs such as energy or water services provision. Therefore, society expects public utilities to act consistently per their social role. From this perspective, responsibility judgments and blame attribution directed toward organizations concern what organizations should do according to specific standards or social norms, even in the absence of internal causality (Schlenker *et al.*, 1994). If stakeholders judge an organization responsible for adverse events, then this responsibility attribution can lead stakeholders to consider the organization negatively and consequently lower their trust in it (Brühl *et al.*, 2018). These adverse events can affect corporate reputation. Specifically, the reputational threat is more substantial in the case of events that are perceived to be intentionally committed or preventable by an organization (Coombs, 2007). A meta-analysis by Ma and Zhan (2016) found that blame attribution has a strong negative correlation with reputation.

Meanwhile, a study by [Yu et al. \(2018\)](#) shows that blame attribution hurts brand attitude intentions. In addition, the study suggested that people tend to attribute more blame when the negative information provided by the company causes severe problems such as injury or death. While several studies have investigated the effect of blame attribution on reputation, attitude and purchase intention, the moderating role of blame attribution on the relationship between corporate reputation and perceived crisis response in public utilities remains under-explored. Hence, it is important to understand how blame attribution could enhance or reduce the effect of CSR on customer perceptions about how well the organization is handling the crisis. Therefore, the following hypothesis is proposed:

- H4. Blame attribution moderates the effect of CSR on the perceived crisis response, such that the effect of CSR on the perceived crisis response is higher with high levels of blame attribution than in the case of low levels of blame attribution.

The moderated mediation model proposed in this study aims to enrich the literature regarding the mediating effect of CSR by specifically analyzing its effect on corporate reputation in the presence of blame attribution. In fact, while the mediating effect of CSR has already been examined in similar contexts, the use of a moderated mediation model rather than a simple mediation model enables us to understand how an external factor (blame attribution) influences the strength of this mediation. In fact, in the context of an environmental crisis, blame attribution can play a significant role in shaping stakeholders' views regarding the effect of CSR efforts on the perceived crisis response. A moderated mediation model allows for analyzing how this attribution of blame might either weaken or strengthen the mediating effect of perceived crisis response on the CSR–reputation relationship, thus providing a more comprehensive understanding of the situation.

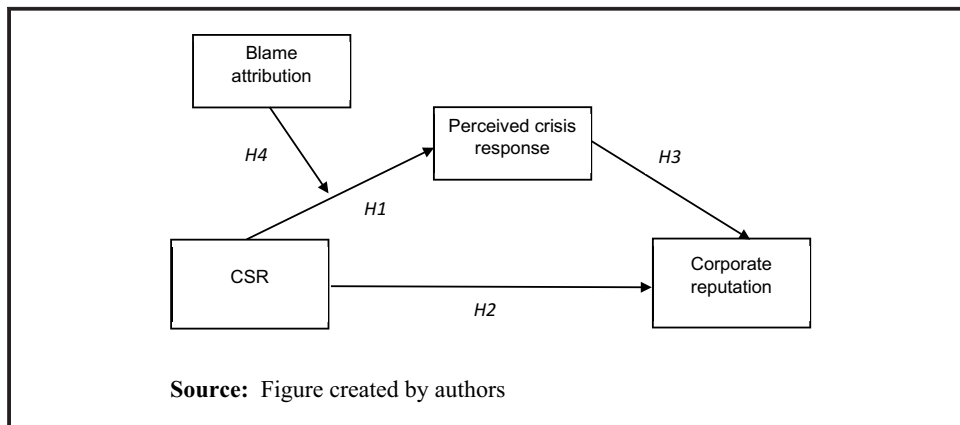
The study model is represented in [Figure 1](#).

### 3. Methods

#### 3.1 Context of the study

This study was conducted following a major incident involving PFAS pollution in northern Italy that caused an environmental crisis in a vast area of about 180 km<sup>2</sup>, involving about 300,000 individuals, with severe adverse environmental and health effects ([World Health Organization, 2017](#)). In 2013, following the outcomes of the European Perfluorinated Organic Compounds in the European Environment (PERFORCE) project, the Italian National Research Center (IRSA-CNR) conducted a study that revealed the high presence of PFAS in the waters and sediments of some river basins of northeast Italy ([World Health Organization, 2017](#)). Water pollution is related to sustainable development goal no. 6 and, in

**Figure 1** Theoretical research model



detail, to goal 6.3, which proposes to “improve water quality by reducing pollution, eliminating dumping, and minimizing the release of hazardous chemicals and materials.”

The primary contamination source was a chemical plant that had been producing PFAS compounds since the early 1960s (Ronco *et al.*, 2020). The contaminated area comprised 30 municipalities, with at least 140,000 people directly exposed to PFAS pollution by drinking tap water. This crisis caused serious concerns both among the population and public authorities. The WU management was urged to implement politics to reduce the negative effect of pollution despite not being responsible for the water contamination itself. National and regional health and environmental authorities, together with the WU, implemented several actions to monitor the spread of the contamination, reduce the PFAS concentration in the water, and thus mitigate the effects of the pollution on public health. Prevention and control measures were extended to the whole water supply chain. For example, WU installed active carbon filters in the water supply systems to reduce contamination. In addition, the Italian National Institute of Health and regional health institutions started one of the most extensive biomonitoring surveys, involving more than 90,000 people, to assess the potential links between exposure to PFAS compounds and disease (Ronco *et al.*, 2020). In addition, environmental authorities undertook a more comprehensive monitoring campaign to track the spatial evolution of the contamination plume. Moreover, a water safety plan was implemented through strict cooperation between WU and national and regional health institutions to monitor and manage the risks related to PFAS and other emerging compounds in drinking water.

This crisis was not only the first but also the worst PFAS contamination crisis in Europe. Therefore, even though this study addresses a limited area (the northern part of Italy), the empirical setting of this study constitutes an “extreme case” (Eisenhardt and Graebner, 2007) of a phenomenon that is of more general relevance from an international perspective. For example, several areas located near industrial production sites in Europe and the USA have been found to be particularly contaminated by PFAS. Consequently, drinking water contamination has occurred in Belgium, The Netherlands, Germany, Sweden and the UK, and other contamination events may occur. It is estimated that the total number of sites potentially emitting in Europe is about 100,000 (European Environment Agency, 2023a, 2023b). In the USA, about two-thirds of the population receives municipally provided drinking water contaminated with PFAS, and the water treatment burden is on public utilities (Cordner *et al.*, 2021).

### 3.2 Quantitative study

*3.2.1 Data collection.* With regard to the quantitative study, data were collected from customers of the water utility serving the Province of Verona (one of the areas most affected by the contamination). The water service provider is a company with entirely public capital. That is to say, by express statutory provision, only public entities or management companies that are wholly public may be part of it. The company is located in the northern part of Italy and serves an area of 77 municipalities and about 300,000 households. An online questionnaire was designed and sent to a mailing list of customers provided by the water utility. The questionnaire included a brief presentation of the research aims and assured customers of their privacy protection and the confidentiality of the information provided. Customers voluntarily participated in the survey, and no compensation was provided. Overall, we obtained 390 usable responses. Of the 390 respondents, 350 were aware of the PFAS pollution problem. Therefore, only these respondents were retained for data analysis. Most respondents were males (59.4%) with secondary school education, as reported in Table 1.

*3.2.2 Measures.* The key concepts for this study, which combines legitimacy theory and attribution theory, are CSR, corporate reputation, perceived crisis response and blame attribution as showed in Table 2. Specifically, CSR and corporate reputation were measured with three items derived from Hur *et al.* (2014). Perceived crisis response was then measured with three items adapted – to better fit the context of the study – from MacKenzie

**Table 1** Sample profile

<i>Characteristics</i>	<i>Frequency</i>	<i>%</i>
<i>Gender</i>		
Male	208	59.4
Female	141	40.3
Other	1	0.3
<i>Education</i>		
Elementary school	7	2
Middle school	34	9.8
Secondary school	181	52
Degree	105	30.2
Post-degree	21	6
<i>Occupation</i>		
Unemployed	9	2.6
Retired	33	9.5
Housekeeping	8	2.3
Entrepreneur/self-employed	86	24.6
Director	30	8.6
Employed/worker	176	50.3
Student	4	1.0
Other	4	1.1

Source: Table created by authors

**Table 2** Measurement scales

<i>Construct</i>	<i>Items</i>	<i>Mean</i>	<i>SD</i>	<i>CR</i>	<i>Factor loading</i>
Corporate reputation (adapted from Hur, Kim, & Woo, 2014)	CR1	4.58	1.67	–	0.941
	CR2	4.39	1.66	34.822	0.939
	CR3	4.58	1.69	35.452	0.944
CSR (adapted from Hur, Kim, & Woo, 2014)	CSR1	4.96	1.52	–	0.884
	CSR2	4.69	1.57	26.062	0.928
	CSR3	4.92	1.49	23.160	0.876
Perceived crisis response (adapted from MacKenzie and Lutz, 1989)	PCR1	4.31	1.68	–	0.897
	PCR2	3.87	1.67	19.171	0.806
	PCR3	4.26	1.58	21.579	0.867
Blame attribution (adapted from Brühl <i>et al.</i> , 2018)	BLAME	3.64	1.81	–	–

Source: Table created by authors

and Lutz (1989) credibility scale. Overall, blame attribution was measured with a single item, in line with Brühl *et al.* (2018). While multi-item measures are usually used, single-item measures are adequate for cases where the object and attribute are concrete – easily and uniformly recognized by the respondents (Bergkvist, 2015; Bergkvist and Rossiter, 2007). In this research, both the object (the water utility) and the attribute (blame) are concrete; therefore, using a single item was considered appropriate.

All the original items were translated into Italian and backchecked for accuracy. Slight adaptations were made when necessary to suit the study context. Responses were measured with a seven-point Likert-type scale ranging from 1 = “definitely no” to 7 = “definitely yes.” The questionnaire also included a sociodemographic section. The questionnaire is reported in the Appendix.

**3.2.3 Data analysis.** After running descriptive statistics for all items, confirmatory factor analysis was used to assess the measurement model. To estimate the proposed model, a

moderated mediation analysis was conducted using the Hayes PROCESS macro, which is based on path analysis and uses ordinary least squares regression (Hayes, 2022). Model 7, with the bootstrapping method of 5,000 resamples, was adopted to analyze the:

- direct and indirect effect of CSR on corporate reputation;
- mediating effect of perceived crisis response on the relationship between CSR and corporate reputation; and
- moderating effect of blame attribution on the relationship between CSR and perceived crisis response.

### 3.3 Qualitative study

The documental analysis based on sustainability reports published from 2017 and 2022 and available on the water utility's website served and outlined the evolution of CSR politics and disclosure since the beginning of the crisis. The qualitative analysis of these documents was useful in gaining an in-depth understanding of how the water utility responded to the crises in terms of communication activities, prevention and monitoring actions.

## 4. Results

### 4.1 Measurement model

Following Anderson and Gerbing (1988), the adequacy of the measurement procedures was assessed. Thus, confirmatory factor analysis was run, revealing an overall good fit. Specifically, the  $\chi^2/df$  ratio was 2.01, well below the cut-off value of 3. The comparative fit index was 0.99, well above the suggested threshold of 0.93 (Bagozzi and Yi, 2012). Finally, the root mean square error of approximation was 0.05, below the recommended level of 0.07 (Bagozzi and Yi, 2012).

All standardized factor loadings exceeded the 0.6 threshold (Bagozzi and Yi, 2012). Composite reliability (CR) and average variance extracted (AVE) of the constructs exceeded the 0.7 and 0.5 thresholds, respectively (Fornell and Larcker, 1981), thus supporting convergent validity. The minimum CR was 0.893, and the minimum AVE was 0.735. Next, discriminant validity was assessed by comparing the AVE for each construct with the squared correlation between any two constructs. Discriminant validity was confirmed since the square root of AVE was greater than the interconstruct correlations (Fornell and Larcker, 1981). The reliability, convergent validity and discriminant validity of the constructs are reported in Table 3.

### 4.2 Moderated mediation model

The analysis yielded a significant index of moderated mediation (Index = 0.0122, 95% CI [0.0003, 0.0267]) since the 95% CI interval does not include zero (Hayes, 2022). This evidence suggests that the conceptual model is robust. Specifically, the findings showed that CSR leads to more positive customer perceptions of crisis response ( $\beta = 0.706$ ;  $p < 0.001$ ), thus providing support to *H1*. In addition, CSR had a significant positive effect on

**Table 3** Reliability, convergent validity and discriminant validity of the constructs

Constructs	Mean	SD	CR	AVE	1	2	3
1. Perceived crisis response	4.15	1.487	0.893	0.735	0.858		
2. Corporate social responsibility	4.86	1.425	0.924	0.803	0.748***	0.896	
3. Corporate reputation	4.52	1.606	0.959	0.886	0.741***	0.845***	0.941

Note: \*\*\*  $p < 0.001$

Source: Table created by authors

corporate reputation ( $\beta = 0.676, p < 0.001$ ), thus supporting *H2*. Furthermore, as advanced in *H3*, perceived crisis response had a significant and positive effect on corporate reputation in the presence of CSR ( $\beta = 0.309, p < 0.001$ ). Hence, the mediating effect of perceived crisis response on the relationship between CSR and corporate reputation was supported. However, since CSR also directly affects corporate reputation, the results provided evidence for a partial mediation of perceived crisis response on the relationship between CSR and corporate reputation.

Before testing the moderating effect of blame attribution (Table 4), the product term of the independent and moderator variables was mean-centered, as recommended by Aiken et al. (1991). The findings showed that blame attribution did not have a significant direct effect ( $p > 0.05$ ) on perceived crisis response, but the interaction term was significant. Blame significantly moderated ( $\beta = 0.396; p < 0.05$ ) the relationship between CSR and perceived crisis response, thus supporting *H4*. Particularly, the conditional effect of CSR on perceived crisis response increased at higher levels of blame attribution ( $\beta = 0.635$  and  $0.778$  for low and high levels, respectively). Therefore, the findings suggested that the positive effect of CSR on perceived crisis response is higher for customers who put higher blame on the water utility for the adverse event of water contamination. Overall, the conditional effect of CSR on corporate reputation through perceived crisis response was assessed for low (1 SD below the mean), medium and high (1 SD above the mean) values of blame attribution (Table 5).

### 4.3 The evolution of CSR politics and disclosure

Even though the water contamination began probably in the 1960s, the crisis caused by PFAS contamination emerged in all its force during the 2010s, as disclosed by the report of the World Health Organization titled “Keeping our water clean: The case of water contamination in the Veneto Region, Italy” (World Health Organization, 2017). The year 2017 was crucial data in the evolution of public policies about the contrast to PFAS pollution because, in that year, the Council of Veneto Region issued two essential documents: Resolution 3/10/2017 N. 1590 that reduced the maximum permitted limits of some pollutants in water and Resolution 29/12/2017 N. 2232 that made mandatory the introduction of devices for filtering water supplied by public aqueducts in the event of emergencies owing to contamination of drinking water sources.

**Table 4** Moderated mediation analysis

Effect	coeff	SE <sup>†</sup>	T	LLCI <sup>‡</sup>	ULCI <sup>§</sup>
CSR on perceived crisis response	0.706	0.040	17.303***	0.626	0.787
Blame on perceived crisis response	-0.019	0.032	-0.614	-0.083	0.043
Moderation of blame	0.039	0.019	2.080*	0.002	0.077
Perceived crisis response on reputation	0.309	0.045	6.840***	0.220	0.398
CSR on reputation	0.676	0.047	14.340***	0.584	0.770

Notes: \*\*\* $p < 0.001$ ; \* $p < 0.05$ ; <sup>†</sup>SE = standard error; <sup>‡</sup>LLCI = lower-limit confidence interval; <sup>§</sup>ULCI = upper-limit confidence interval

Source: Table created by authors

**Table 5** Conditional indirect effects CSR → perceived crisis response → reputation

Blame	Effect	BootSE	BootLLCI	BootULCI
Low	0.196	0.044	0.117	0.289
Medium	0.218	0.046	0.134	0.314
High	0.240	0.050	0.148	0.345

Source: Table created by authors

Nonetheless, the analyzed WU adopted CSR policies from a proactive perspective before introducing the mandatory implementation of some environmental measures. Regarding the general policies of the WU, a risk management and prevention model was introduced in 2010, including a code of ethics where some general commitments to environmental protection are considered. Furthermore, the first environmental certification (ISO 14000) was obtained in 2012 and renewed periodically. Some specific CSR policies devoted to reducing the effects of PFAS water contamination and preventing further social and environmental problems related to this crisis were introduced in 2013.

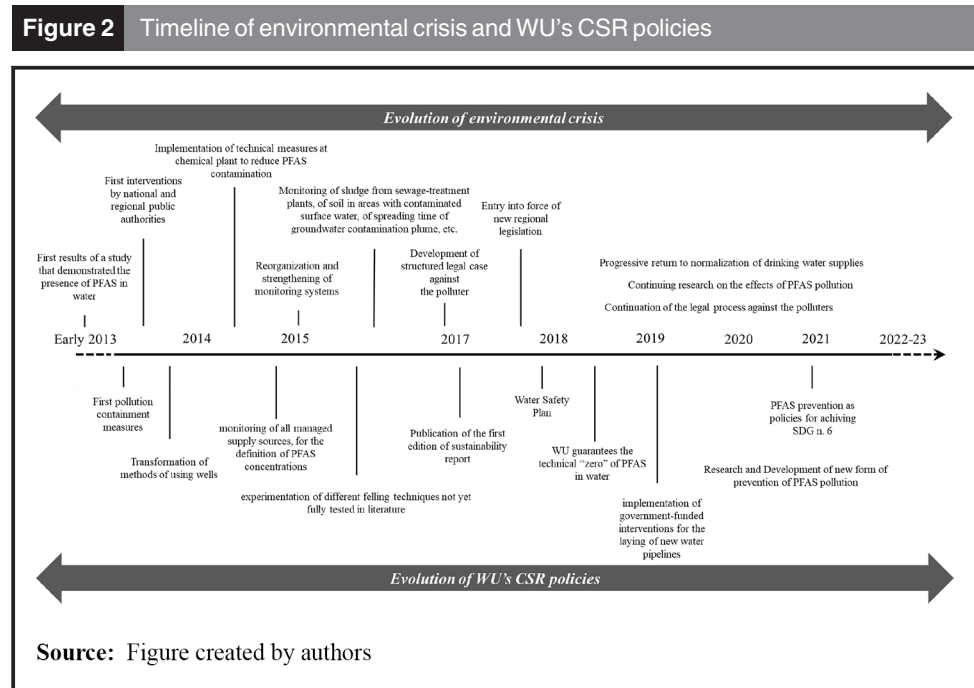
The documental analysis based on sustainability reports published by the WU from 2017 and 2022 allows the design of a timeline of CSR activities in parallel with the evolution of the environmental crisis, as shown in [Figure 2](#).

The CSR policies implemented by the WU can be divided into three phases:

1. in the early stage of the environmental crisis;
2. the WU was involved in solving the emergency and preventing more severe consequences; and
3. by anticipating public interventions, conditioned by the timing of research process and political decisions.

In the second phase of the crisis (2015–2017), the WU started autonomous research and development activities to identify the best technical solutions for water decontamination and detect the presence of PFAS in water. In the third phase of developing CSR policies, the WU started to publish a sustainability report informing all stakeholders about the PFAS and the activities implemented to prevent PFAS pollution and avoid other emergencies. Furthermore, the WU published a structured water safety plan in this last phase. Over the years, it improved its accountability by enriching the sustainability of reports and refining the communication instruments to reach a more significant number of readers.

Finally, the documental analysis focused on sustainability reports enlightened how the information about PFAS changed by shifting from information aimed at supporting customers during the



crisis and illustrating the activities implemented during the emergency to embodying the policies about PFAS pollution into a broader view of CSR policies to the point of making these activities emerge as part of the framework for pursuing the sustainable development goals.

## 5. Discussion

This study proposed a moderated mediation model, represented in [Figure 1](#), to explore the mediating role of perceived crisis response in the relationship between CSR and corporate reputation in the presence of different levels of blame attribution during a severe environmental crisis in a water utility context. Overall, the findings demonstrated the complex interplay between CSR, reputation, crisis response and customer perceptions. These results highlight how strategic investments in CSR initiatives can be considered important not only as a long-term investment in reputation but also as an effective resilience tool in times of crisis ([Koch et al., 2024](#)).

Specifically, the findings emphasized the importance of investing in CSR due to its positive impact on perceived crisis response (according to *H1*) and corporate reputation (consistent with *H2*) during a severe environmental crisis. This type of crisis can threaten WU's reputation and overall legitimacy, even if they are not directly responsible for the crisis. This finding aligns with previous research conducted in another service context ([Swaen et al., 2021](#)), which suggests that engaging in socially responsible practices can enhance a company's reputation. By explicitly examining this relationship in the context of WU, the study contributed to understanding how CSR initiatives can affect the reputations of companies operating in utility sectors.

In addition, the findings supported the partially mediating role of perceived crisis response in the relationship between CSR and corporate reputation, as suggested in *H3*. This finding provided empirical evidence of the link between CSR and customer perceptions of how a company handles crises. In other words, it can be argued that CSR influences customer perceptions of crisis response by showing stakeholders that the company is committed to ethical practices and accountability.

Finally, the findings suggested the importance of CSR even when an organization is held responsible for a crisis. Previous studies on blame attribution during crises have focused on understanding how stakeholders assign responsibility to organizations and how CSR affects blame attribution. For example, [Janssen et al. \(2015\)](#) propose that CSR affects stakeholder attributions about the crisis. Unlike their study, this study focused on the moderating role of blame attribution on the relationship between CSR and perceived crisis management, as proposed in *H4*. The findings demonstrated that at higher levels of blame attribution, the effect of CSR on perceived crisis response increases. In this sense, it can be argued that CSR can mitigate the adverse effects of an environmental crisis and increase positive customer evaluations of the overall crisis response of organizations. This is especially important in the context of WUs, where environmental crises can severely affect both the natural environment and people's health ([Renfrew and Pearson, 2021](#)).

The analysis of CSR reports, outlined in [Figure 2](#), illustrates the evolution of CSR policies from reactive management of a contingent situation to the systematic prevention of potential future crises. Sustainability reports and, in general, CSR disclosure can help firms by promoting transparency of corporate policies about risk management and legitimacy. This aligns with previous studies that demonstrate the potential role of sustainability reporting in preventing reputational risks (e.g. [Adams, 2008](#); [Ardiana, 2019](#); [Hogan and Lodhia, 2011](#)). Particularly, in recent years, there has been growing pressure on the accountability of both public and private organizations. As a result, WUs are now more inclined to disclose their social and environmental strategies to show their compliance with stakeholders' expectations ([D'Amore et al., 2024](#)). Furthermore, the findings are in line with previous research based on legitimacy theory that analyzed the risks related to the opacity of CSR

disclosure and greenwashing (e.g. [Hahn and Lülfs, 2014](#)), even after a severe crisis (e.g. [Corazza et al., 2020](#)).

### 5.1 Theoretical implications

To the best of our knowledge, this was the first study to combine legitimacy theory and attribution theory to understand the relationship between CSR, corporate reputation and perceived crisis response in the context of public utilities.

First, from a theoretical standpoint, this research contributed to the literature on CSR and reputation by extending studies conducted in other industries ([Bianchi et al., 2019](#)) to the context of public utility services. In particular, this study responded to [Figueroa et al. \(2022\)](#) call for further research on CSR, which has been hitherto studied mainly in the context of customer-oriented firms rather than in resource-oriented companies such as WU. In addition, this research reinforced the findings of [Rothenhoefer \(2019\)](#) by showing the direct effect of CSR on corporate reputation.

Second, while several studies have assessed the direct effect of CSR on reputation ([Tevapitak and Helmsing, 2019](#); [Swaen et al., 2021](#)), this study provided an original contribution to CSR and reputation literature by supporting the mediating role of perceived crisis response on the relationship between CSR and corporate reputation, particularly in the context of public utilities. Crisis management can thus benefit from customer perceptions about the organization's CSR and, in turn, can help maintain a positive corporate reputation even in times of crisis. According to legitimacy theory ([Davis, 1973](#)), organizations tend to align their actions with societal values and norms to maintain their social – and often political – legitimacy. This research shows that, during a crisis, CSR can secure an organization's legitimacy by enhancing its corporate reputation. The positive impact of CSR on reputation supports the idea that public utilities can strengthen their legitimacy through socially responsible behavior.

Third, the findings highlighted the importance of CSR during an environmental crisis, which can have a critical effect on WU. A water safety crisis is a primary concern for WU because of the possible adverse effects on consumer health ([Singh et al., 2022](#)). Per attribution theory, customers tend to apportion blame and responsibility during a crisis ([Brown and White, 2011](#)). However, previous studies did not explain how blame attribution might affect the relationship between CSR and perceived crisis response in public utilities. Specifically, the current study's findings suggested the importance of CSR when an organization is held responsible for a crisis, confirming previous studies not focused on WU ([Grunwald, 2023](#)) and thereby contributing to crisis management research. This result also reinforces the importance of organizational change for enhancing environmental and social sustainability and reducing risk ([Tipu, 2022](#)). Overall, this study provided an original framework for understanding the roles of CSR in environmental crises affecting public utilities.

Furthermore, the findings underlined how a public utility can formulate an autonomous path toward CSR without Government or other public administration intervention. While previous research focused on the public authorities' power of influence exercised by the corporate governance system or other mechanisms ([Galanti and Turri, 2020](#)), our study recognized the proactive capacity of public utilities' management to act in a socially responsible way like the private sector.

Finally, the findings of the qualitative study on sustainability disclosure provide a case of good practice in CSR reporting during crises by underling how reporting can contribute to risk management in terms of gaining legitimation. A key role is played by the evolution of reporting practices that accompany the crisis evolution from a mere informative capacity and a defensive role to a structure model of risks and policies reporting that contribute to connecting global goals of sustainable development and firms' action.

## 5.2 Managerial implications

This research may benefit the boards of directors and managers of public utilities as they should be aware of the relevance of CSR and corporate reputation. The findings encourage public utility companies to include CSR efforts in their missions and actions. This could help them mitigate the adverse effects of environmental crises on their reputation, even in the case of blame attribution. Although corporate reputation cannot lead directly to actual competitive advantage for WU owing to the lack of competition, it is of utmost importance that WU invest in CSR from a legitimacy perspective (Ligorio *et al.*, 2022) in a context where responsible behavior is seen as a crucial goal for firms. Investments in CSR can generate reputation gains that are important to public and private companies alike. Organizations should adapt and improve their CSR programs based on stakeholder expectations and reflect these changes in their reputation mechanisms. Furthermore, CSR can be viewed by water (and public) utilities as fully integrated into the crisis management system. In the absence of competitive pressures, the trustworthiness of the public mission and the strategic orientation to CSR can enforce crisis management in addition to technical tools.

Some managerial implications and recommendations can be derived based on these results. First, public utilities should prioritize social responsibility and consistently design and implement CSR activities as a “normal” part of their strategic and operational management. In this sense, as argued by Casalegno *et al.* (2023), there is a need for continuous learning processes within public service organizations to mitigate managerial and organizational shortcomings in times of crisis. Second, public utilities should invest in communicating CSR activities through their websites and other channels to increase customer awareness of the utilities’ commitment to social responsibility. Among the different channels helpful to communicating CSR activities and performance, public utilities can consider the opportunity to publish an annual sustainability report. Clarifying the link between their CSR initiatives and sustainable development goals, to which citizens are increasingly attentive, can also be a good strategy. Finally, public utilities should ensure that crisis management planning is visible to external stakeholders, including customers. Crisis management might directly impact corporate reputation, but could also contribute to a “fairer” attribution of blame when certain events occur. A lack of transparency and a culture of information disclosure concerning crisis management might lead customers to believe that the cause of the crisis lies in the public utility’s actions and that the company is attempting to hide its responsibilities when that is not the case.

Furthermore, the findings suggest the crucial role of transparent and dynamic CSR disclosure in gaining legitimacy during a crisis. Even though a crisis polarizes managers’ attention to the solution of practical matters related to environmental disasters, the study recommends not neglecting the importance of reporting.

## 6. Conclusions

The current study investigated the links between CSR, crisis management and corporate reputation in the under-researched context of public utilities by adopting the customer perspective. With this purpose in mind, a moderated mediation model was built to investigate customers’ perceptions of a water utility that faced a severe environmental crisis.

As expected, perceived crisis management was a significant mediator in the relationship between CSR and corporate image. Likewise, although not demonstrating a statistically significant direct effect on perceived crisis response, blame attribution moderated the relationship between CSR and perceived crisis response. The findings supported the importance of investing in CSR in the context of public utilities since positive perceptions of CSR enhance the reputation of public utilities, particularly during a severe crisis.

Despite these contributions, the current study was not without limitations. First, the data were collected from a single case in one country. Even though the findings may be of interest to other organizations and public utilities in areas affected by or at risk of PFAS pollution crises, such as

in Europe and the USA, future studies should be conducted in other countries, where cultural variables can play an important role in shaping customers' expectations and perceptions regarding public utilities' CSR, reputation and legitimacy in a crisis context. Second, some constructs that could interfere with the relationship between CSR and corporate reputation might have been ignored. Future studies could include other relevant constructs as mediators or moderators. Third, this study only assessed customer perceptions. It would be important to investigate more diversified perspectives to obtain a global view of corporate reputation, such as those of employees, managers, or municipalities. It would also be interesting to distinguish between different components of CSR, namely, legal, ethical and environmental, and investigate their potentially distinct effects on crisis management and corporate reputation.

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## Appendix

**Table A1** The questionnaire used in the study

<i>Construct</i>	<i>Item label</i>	<i>Items</i>	<i>Response scale</i>
Corporate reputation (Hur, Kim, & Woo, 2014)	REP1	This water utility is a company I have a good feeling about	Totally disagree/ Totally agree (1–7)
	REP3	This water utility is a company that I admire and respect	
	REP3	This water utility has a good overall reputation	
CSR (Hur, Kim, & Woo, 2014)	CSR1	This water utility is a socially responsible company	Totally disagree/ Totally agree (1–7)
	CSR2	This water utility is concerned to improve the well-being of society	
	CASR3	This water utility behaves responsibly regarding the environment	
Perceived crisis response (MacKenzie and Lutz, 1989)	PCR1	Do you trust how this water utility is managing the situation?	Definitely no/ definitely yes (1–7)
	PCR2	Do you think this water utility has provided information with transparency?	
	PCR3	Do you think this water utility has done all in its power to deal with the situation?	
Blame attribution (Brühl <i>et al.</i> , 2018)	BLAME	Do you think that this water utility is responsible for the situation?	No/Yes

Source: Table created by authors

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