

Crisis management does not happen in a vacuum:
Analysis of the influence of a company's contextual
factors on the stock returns in times of organizational
crises.

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Aurelia Belvaux

Victor Marichal

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Carlos Desmet

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Chapter 1

Introduction

1.1 Context description

In the modern world, companies are facing a paradox: on the one side, they are under great pressure to perform in a globalized environment and continuously increase their profits while they are asked on the other side to be socially responsible and have a transparent governance (Hayes, 2001). Regrettably, in this context numerous crises are emerging in organizations. This statement supports Lerbinger (1997) and Coombs' (2014) powerful opinion that no company is immune from these threats. Recently, examples like the Volkswagen emissions scandal, Uber's self-driving car fatal crash or Facebook's data breach showed that even the biggest companies sometimes failed to accomplish their societal role. Those illustrations also proved that every company should be prepared to face crisis events.

On the grounds of the rising size and increased complexity of today's companies, crises also seem to be more disastrous (Lerbinger, 1997). The emergence of new technologies enables crises to escalate rapidly while being potentially more harmful to businesses. Gonzalez-Herrero and Smith (2010) further claim that Internet acts as a catalyst that accelerates the dissemination of information and increases the speed of new crises cycles. Hence, in the digital era, there is no hiding place for companies (Hayes, 2001). Organizations need to be prepared to come up against crises as "it's no longer a question whether a major crisis

will strike any organization, it is only a matter of when, which type and, how" (Regeester & Larkin, 2005, p.163).

1.2 Research question

Numerous research exists on crisis management. Most of them strive to provide a framework for managers to improve their preparedness and their responsiveness to crises. Others analyze the nature of the crisis to find the best strategic response. In short, the impact of a crisis has already been articulated with the type of the crisis or with the organization's reaction. However, very few papers exist on the correlation between crisis impact and factors linked to the environment and the stakeholders of the organization. This paper therefore aims to bridge the gap in the literature by testing the influence of contextual factors on the impact of a preventable crisis faced by an organization.

Undoubtedly, companies do not exist in a vacuum. Further, "environments are dynamic, not dependable, nor particularly stable because they are changed by what organization do and how people perceive their organization" (Diers & Tomaino, 2010, p.23). A firm needs to devote great attention to the context into which it exists and to its inherent characteristics in order to thrive and ensure its sustainability. As a matter of fact, context, situations and crisis experience differ from each other. This reinforces even more the argument that a comprehensive insight into the factors influencing a crisis situation is indispensable to understand the crisis and its impact. The purpose of the study is therefore to give both companies and investors acumen on how organizations should be prepared to crises, and on the magnitude of the impact, according to components of their identity.

Based on the defined purpose, the following question arises: "*Which contextual factors of the organization influence the impact of an organizational crisis on the stock returns?*"

To answer this general question, four factors have been chosen: (1) the industry, which have been clustered into crisis-prone or non crisis-prone; (2) the relationship with the client, business-to-consumer or business-to-business; (3) the level of commitment to corporate social responsibility; (4) the national score on two cultural dimensions, individualism and uncer-

tainty avoidance. To examine the influence of these factors, the approach will empirically investigate the effect of a corporate crisis on the stock prices of listed companies. This implies that the population of the study will consist of companies that have enough means to be traded on a stock exchange, which limits the applicability of the study. However, corporate events and crisis are usually more visible for companies liable to public investors.

Finally, the study is limited to the study of crises that could have been prevented and for which the company can be blamed. Diers & Tomaino (2010) define them as organizational transgressions in the crisis typology they built based on Lerbinger and Coombs research. Consequently, crises such as natural disasters or economic downturns are not analyzed. The rationale behind is the willingness to analyze the perceptions and reactions of stakeholders when the company can be held liable.

1.3 Disposition

To address the research problem, the thesis will guide the reader through a chapter on relevant concepts and motives of crisis management. Subsequently, a section on the relevance of stock returns in the assessment of a crisis impact is reviewed. Finally, a section on existing research on contextual factors and their relationship with crises will compose the theoretical framework. Based on the literature and theoretical review, the model and hypotheses are outlined. Thereafter, the methodology will be developed, followed by a section presenting the study's results. Lastly, a discussion will succeed where the theories are applied to the findings.

Chapter 2

Literature review

2.1 Introduction to crisis management

2.1.1 Organizational crisis

Giving a specific definition of what can be described as an organizational crisis is of crucial importance. This will indicate the way we are conducting our research. In the past, multiple authors tried to define the term organizational crisis but it appears that various perspectives exist in the crisis literature. However, common aspects are present in the crisis description.

Experts (Bernhardsdóttir, 2015; Coombs, 2014; Lerbinger, 1997; Pearson, & Clair, 1998) first agree that albeit there is a low-probability that those situations appear, when they do, they can significantly damage the reputation or even represent a threat to the survival of companies. They also agree that those events are unpredictable. Coombs (2014) however argues that this doesn't mean that decision-makers shouldn't expect them. Indeed, companies should be aware that at some point a crisis is going to hit them.

Organizational crises are also commonly defined as events where decision-makers need to make decisions swiftly and act under time pressure (Bernhardsdóttir, 2015; Lerbinger, 1997; Pearson, & Clair, 1998). Lerbinger (1997) adds that this time compression increases the stress among decision makers. They need to be able to handle the situation with the anxiety and need to rapidly answer to the crisis in order to regain control over the situation before

it further deteriorates.

To sum up those aspects, Coombs (2014, p.3) did a synthesis where he described organizational crisis as "the perception of an unpredictable event that threatens important expectancies of stakeholders [...] and can seriously impact an organization's performance and generate negative outcomes." This definition highlights the role of stakeholders and the perceptual nature of the crisis. The way a stakeholder perceives the event will determine if it becomes a crisis or not. Indeed, when it becomes public, it will trigger the stakeholder's adverse reaction (James, 2005). Furthermore, a crisis has a potential impact on both the organizations and the stakeholders. It can disrupt the organization's operations, and poses a financial and reputational threat. But more important are the negative outcomes for the stakeholders that include any physical, psychological and financial harm to them. Finally, an important point in this definition is the use of potential to qualify the impact. Indeed, managers can take actions to prevent or reduce the damages. As it will be explained later, crisis management is also about crisis preparation (Coombs Holladay, 2010).

2.1.2 Crisis classifications

Researchers came up with classifications to define the types of crises. Identifying the nature of the crisis is important for decision makers as this is going to be determinant in choosing the appropriate response strategy (Coombs, 2007; Coombs & Holladay, 2002). Crises can be originated by a multitude of factors, would they be external forces or by management failures. This paper highlights the work of three authors which greatly contributed to classify the crises in different types.

a) Lerbinger's classification (1997)

Lerbinger first came up with a classification where he divided the organization crises into seven categories (Lerbinger, 1997) which respectively are: natural disasters, technological crises, confrontation crises, crises of malevolence, organizational misdeeds, workplace violence, and rumors. A few years later, Lerbinger came up with a new classification where

crises were first divided in three groups: physical, “human-climate” crises and management failures (Lerbinger, 2012). The three categories are further declined into sub-groups of crises.

- The *physical crises* refer to situations caused by external factors to the companies. Those crises typically are natural disasters, biological or technological crises. While the first example appears to be uncontrollable for the company, the two last ones can be managed to a certain extent by the members of the organization or at least efforts could be made to decrease their occurrence.
- The “*human-climate*” crises are generated by external stakeholders. At best, they refer to actions of labours or other groups targeting companies by engaging them in confrontation crises. At worst, “human-climate” crises refer to malevolence crises in which groups use violence and want to harm the organization and its members.
- The last category deals with *management failures*. Unlike the two previous types, this group describes the internal crises that result from poor or misguided management. They can mainly be caused by unethical decisions, inactions of the management or by illegal behaviours. Those crises can appear due to the negligence of managers, the violation of important societal values or laws in the society.

b) *Coombs’ classification (2007)*

Coombs (2007) elaborates another classification for the crises by dividing them into different categories according to the degree of responsibility of the management in those situations. The first category, the *victim crises*, regroups crises with minimal responsibility attributed to the management. Illustrations of those crises are natural disasters, rumors or attacks from external agents. The second group, the *accident crises*, gathers situations with low responsibility of managers. In the last category called the *preventable crises*, the managers either did errors which resulted in creating defaults of the commercialized products, triggered industrial accidents or simply violated laws and rules.

c) *Dier and Tomaino's classification (2010)*

This last classification is interesting as it tries to avoid mixing situations where companies are faulty with events in which they are not. Like the two previous classifications, the authors divide crises into three groups. *Organizational transgressions*, the first one, describes situations in which the blame is attributed to the company no matter whether the organization did it intentionally or not. The second category called *organizational events* refers to “incidents either in or outside of the organization’s locus of control but that emerge as crises” (Dier & Tomaino, 2010, p.5) such as mergers, strikes, and workplace violence. Finally, the authors consider that all the *external events* harming the organization’s image and that appear outside the company’s locus of control should be placed under a third category.

Those three classifications help managers understand and differentiate the types of crises an organization can face. When decision makers perceive the nature of the crisis, they need to start building a response plan according to the type of the event.

2.1.3 Crisis management

As we have explained before, the companies are not immune to crises. Khodarahmi (2009) supports this point but argues that even though organizations cannot escape from these problems, it does not mean that those issues cannot be surmounted. According to this author, organizations should expect the unexpected. Thus, after identifying the potential types of crises, managers should deal with the management of the crisis.

The term crisis management has been defined by multiple authors in the literature. As stated by Coombs, it refers to the “process designed to prevent or lessen the damage a crisis can inflict on an organization and its stakeholders” (Coombs, 2007, p.1). Bernhardsdottir (2015) adds to this that in this process, managers plan the steps to respond and manage the potential risks for the company.

Coombs divided crisis management into three phases: (1) pre-crisis phase, (2) crisis response, and (3) post-crisis. Pre-crisis phase encompasses preparation and prevention. It implies to prepare a crisis management plan, to have in place crisis management teams that

must be regularly trained, and to create pre-draft crisis messages. Crisis response refers to actions and messages done by managers and organization's representatives when the crisis strikes. The post-crisis phase involves the fulfilling of promises made to stakeholders during the crisis phase, but also the delivering of information about the recovery process of the company and, last but not least, the acknowledgement of a crisis as a learning experience. Managers should seek to evaluate what needs to be improved and should integrate the lessons into the system. (Coombs, 2007).

2.1.4 Crisis response strategies

When a crisis strikes, the main aspect of its management will be about communication. The first response of the organization should be to ensure that "the situation is brought under control and that all the facts are gathered" (Dougherty, 1992, p.56). Coombs (2006) qualifies this first reaction as the *instructing information* which includes facts about the situation, consequences for the stakeholders and possible solutions to protect themselves, and finally actions taken by the company to rectify the problem and prevent a repetition of the crisis. In the initial response, authors usually advice to be fast, honest and consistent because it helps to control the message and therefore to control the crisis (Coombs, 2014 ; Fink, 1986). It is recommended to leverage every communication channel such as the press, the Internet, and the social media (Coombs, 2014). But besides this external communication, it is imperative to take into account employees. During the crisis, employees should be informed via internal company press statements and they should have the opportunity to ask questions (Regester & Larkin, 2008). If they are aware of the situation, they will be able to convey consistent information around them (Coombs, 2014).

Another aspect of the initial response of a company in times of crisis will be the choice of a crisis response strategy. Indeed, when a crisis occurs, stakeholders search for a cause of the event and therefore make attributions about crisis responsibility, which leads to reputational damage. The objectives of crisis response strategies will be to shape these attributions, to change stakeholders' perceptions, and to lessen the negative impacts of the crisis. (Coombs,

1995). Indeed, it has been proved that tactics used by companies during a crisis shape customers' trust and behavioural intentions. However, one has to bear in mind that these strategies only provide a frame, and that most of the time, public will in the end rely on the news media to frame the event into a crisis (Coombs, 2007).

To better understand the immediate influence on stakeholders of the organization's actions after a crisis, researchers often use the Situational Crisis Communication Theory (SCCT; Coombs, 2006). This theoretical framework suggests crisis managers matching strategic crisis responses to the level of crisis responsibility and reputational threat. The SCCT's reputation repair strategies are grouped into three options: (1) Deny, (2) Diminish, and (3) Deal.

The *deny response* option seeks to prove that no crisis exists (attacking the accuser, denial, scapegoating). The *diminish response* strategy accepts the involvement of the organization in the crisis and tries to lessen the negative impact (excusing, justification). Finally, the *deal response* (or rebuild) strategy strives to repair its reputation and restore legitimacy by directly addressing the stakeholders' perception of the organization (ingratiation, apology, compassion, regret) (Coombs, 2006).

According to Coombs, stronger attributions by stakeholders of crisis responsibility increase the negative emotions, and therefore the rebuild response is the most suitable strategy to restore the damage reputations. Regarding the denial strategy, it will be forceful only if the stakeholders genuinely believe that the organization is not involved at all in the event (Hegner, Beldad, & Kraesgenberg, 2016). Nonetheless, managers should bear in mind that the rebuild strategy is not always the best option. Indeed, accommodating strategies are the most expensive ones, and moreover, they can deteriorate the crisis even more as it will worsen stakeholders perceptions of the state of the situation (Coombs, 2007).

2.2 Stock market reaction

2.2.1 Market efficiency and its criticism

People are rational in standard finance; they are normal in behavioral finance (Statman, 1999, p.26).

The efficient market hypothesis (EMH) constitutes a pillar in the study of stock market reaction to corporate events and belongs to the standard finance's school of thought. This theory claims that the market is efficient, meaning that stock prices fully reflect all the information available. Fama (1996) argues that the market reacts immediately when information emerges and that share price return to its equilibrium after having absorbed the information. The rationale behind is that, on average, investors are unbiased in their response to information and act rationally. In addition, irrational investors will not influence security prices because their trades are either random or eliminated by rational arbitrageurs (Shleifer, 2000 cited in Berthelsen & Schade, 2015). However, there have been controversies and many authors came to question the EMH theory (Hu, 2014).

Recent empirical studies found that market efficiency cannot fully explain stock price behaviors, and additionally, identification of anomalies proved that it is possible to observe abnormal returns (Berthelsen & Schade, 2015 ; Hodnett & Hsieh, 2012). This competing school of thought, called behavioural finance, includes human factors into financial models of stock market reaction. It argues that investors are not completely rationale but instead they can be biased by psychological emotions when making decisions, and this has an impact on the pricing of stock (Hodnett & Hsieh, 2012).

Authors develop overreaction and underreaction theories that contradict the EMH. For instance, Debondt & Thaler (1985) prove that in the short term, some investors become exceedingly optimistic following good news, and contrarily, exceedingly pessimistic following bad news. This short-term overreaction will be correct in the opposite direction in the long run (Overreaction Hypothesis). Bloomfield, Libby & Nelson (2000) on the other hand claim that investors usually underreact to new information (Underreaction Hypothesis).

Besides, a third theory that does not contradict the EMH hypothesis appears. It states that the appearance of uncertain information, represented by daily stock price changes, affects the risks and expected returns of the impacted securities. Thus, rational investors cannot correctly react to uncertain information and are expected to underreact to good news and overreact to bad ones. But a posteriori, there will always be a positive correction by the market, which confirms the idea that the market is efficient (Uncertain Information Hypothesis) (Brown, Tinic & Harlow, 1988).

Behavioural finance also finds links between investor's sentiment and contextual determinants. For instance, Chui, Titman & Wei (2010) provided evidence that cross-country cultural differences can influence stock patterns. The reason stated is that investors interpret information and are subject to different psychological biases across cultures. Another factor that characterizes the context in which an organization belongs is sector and industry. It has also been proved that investor's sentiments have different repercussion on stock volatility for different sectors. Uygur & Taş's (2014) results show that investor's biases have a higher explanatory power for banking, industry and food and beverages sectors than for those in telecommunication and retail.

Nonetheless, some experts proved that the EMH hypothesis can co-exist alongside behavioural finance. The adaptive market hypothesis (AMH) proposed by Lo (2004) reconciles the two perspectives. According to this new paradigm, market efficiency is not an exclusive condition but a feature that evolves over time. Self and Mathur's explanation is that "the true underlying market structure of asset prices is still unknown. However, we do know that, for a period of time, it behaves according to the classical definition of an efficient market; then, for a period, it behaves in such a way that researchers are able to systematically find anomalies to the behaviour expected of an efficient market" (Self & Mathur, 2006, p.3154). All the biases claimed by behaviorists are actually consistent with the evolutionary approach sustaining the individual adaptation to change (Lo, 2004).

2.2.2 Crisis impact on share price

Although it is almost impossible to measure the long-term damage of a crisis on an organization, the short-term impact can be quantified rather easily. When a crisis becomes public, the financial value of the organization is impacted. Therefore, the stock price also changes as investors reassess its value by adding the expected costs (Davidson & Worrell, 1992).

It is widely agreed that stock price is an important strategic variable as it is related to capital raising and to corporate reputation. Hence, to assess the impact of a crisis, a common method is the event study built in 1969 by Fama, Fisher, Jensen and Roll. This methodology is based on the efficient market hypothesis which assumes that information available to the market is incorporated in stock prices. Central to this technique is the calculation of abnormal returns, a metric that attempts to isolate the effects of the event from other market movements (MacKinlay, 1997).

Chapter 3

Theoretical framework

3.1 Role of industry

In this section, the aim is to determine if research in the crisis management field has proved that the industry is a factor explaining the impact's severity of a crisis. As very few literature exists on its effective influence on the crisis impact, the upcoming argumentation will be divided into different parts. The first part outlines the influence of the industry on the way an organization is responding to a crisis, thus not yet on the aftereffect. Then, the second part provides evidence that a better crisis-prepared organization will better recover from a crisis. The rationale behind this is that organizations belonging to industries that are structurally more exposed to crises have acquired experience and are subject to peers' influence, which should foster an environment where crisis preparation is rooted. This part strives to determine if crisis-familiar industries, due to their experience and preparation, are facing in average a lower severity impact and recover better than industries which are less crisis-prone.

3.1.1 Influence of the industry on a company's response

The fact that the industry should influence the crisis response of an organization is supported by several authors. Glynn (2000) showed that the identity of an organization will determine

the perceptions of its core competencies and of its resources needed. Additionally, de Brooks and Waymer (2009) argue that the context where a firm is established influences its way of reacting to a crisis, and Diers (Diers, 2009 ; Diers, 2010) proved that the industry of an organization has a significant influence on its crisis response.

Companies of the same industry are similar in terms of types of work performed, routine procedures and organizational structures. The similarities shared by the organizations within an industry allow to cluster them in groups that have same needs and functions (Glynn, 2000). Additionally, the study of Chatman and Jehn (1994) offers empirical support for similarities in the culture of firms operating in the same industry and showed that features characterizing an industry (i.e. growth rate and technology used) have an influence on organizational culture. Nevertheless, one should be cautious that other factors must be taken into consideration. For instance, the size of a company has a meaningful influence on organizational behavior (Ahire & Golhar, 1996). Indeed, small and large firms show major differences in their structures, procedures and processes, behaviors, people and relations (Weitlaner & Kohlbacher, 2015). However, although there are some notable differences between each firm, we believe that it is reasonable to state that companies from the same industry should react and handle a crisis in a way sharing many similarities.

Industry identity refers to a collective set of beliefs widely held by members of an industry about what constitutes the central, enduring, and distinctive characteristics of the industry as a whole and its members (Whetten, 2006). A strong industry identity is defined by Dhalla and Oliver (2013) as one in which “consensus surrounding shared beliefs about core industry characteristics among industry members is high”. Those characteristics are context and history-specific (Ruef, 2000). More precisely, how firms view themselves as a collective is influenced by the industry concentration, the regulatory infrastructure, the degree of interconnectedness and their history (Dhalla & Oliver, 2013).

For instance, in industry structures closed to perfect oligopolies (e.g. cement, steel, aluminum), industry identities are usually stronger, whereas in more differentiated or imperfect oligopolies (e.g. consumer product such as soft drinks, cell phones, automobiles and music), they are usually weaker. The interconnectedness of firms in an industry is also impacting a

lot the nature and the strength of the industry identity. It is common knowledge that when firms of an industry interact a lot, it leads to a high inter-firm observability, homogeneity and learning.

The environmental, economical and social responsibility of a firm is influenced by the industry identity. Therefore, their prioritization of external issues, their reactions to pressure from stakeholders and the strategy are shaped by this unanimous collective identity. To be more explicit, this identity makes a firm categorize which external issue they will tackle and how they will manage it. As a matter of fact, in high-level of interconnectedness industries, the most relevant way to learn how to face a crisis is to observe other firms and try to copy them (Dhalla & Oliver, 2013).

It is important to note that a strong industry identity makes firms unwilling to adapt to change. Indeed, firms with a strong sense of collective identity are less taking into account stakeholders requests and needs and they are almost only oriented to their direct competitors. This hinders change, innovation and improvement. Therefore, firms characterized by a strong industry identity are facing a long-term risk to performance. The tendency to not take into account pressure from stakeholders is reinforced for firms that are present in an oligopolistic industry on top of having a strong industry identity. A good illustration is undoubtedly the banking industry. The qualitative study of Dhalla & Oliver (2013) of the Canadian banking industry response to institutional pressure from government, clients and media proved this statement. Banks did not consider some alternative responses to external pressure (negotiation, or compliance for example) because of their perception of superiority and expertise. Consequently, we can conclude that an industry identity influenced the response of firms to external pressure.

Moreover, authors showed that the industry definitely influences the strategy of the crisis response. A study of Diers & Tomaino (2010) evaluated the influence of several factors on the selection of tactics used by organizations when strategically responding to crises. Although this study covers especially the crisis response message strategies, i.e. the way organizations communicate to external stakeholders, we believe that communication is predominant in crisis management and that it is acceptable to make a link with the internal management of the

crisis. Strong findings identify industry as significantly influencing this choice. The automobile (manufacturing) industry and the publishing industry react to crises in the relative same way. First of all, they use a defensive strategy. The explanation of Diers & Tomaino is that these industries have gone through serious challenges on top of the economic downturn last years. Indeed, the automobile sector faced a large number of massive recalls and publishing sector faced the expansion of social media. But then, the two industries are also characterized by broadening their choice of tactics (e.g. present-oriented, defensive, corrective) as time is progressing. One possible explanation backed the lessons learned after Hurricane Katrina of Cowen and Cowen (2010). The article outlines that organizations are tied to several communities, characterized by specific and local conditions, and that leaders and strategic plan should acknowledge these relationships cultivate them around shared interests and objectives. Therefore, as organizations have to manage multiple contexts when responding to challenging events, we should expect many strategies from their industry. Finally, it is commonly agreed that local adaptations characterize well the automobile and publishing industry. Humanitarian aid organizations shared the similarity of broadening its choice of tactics. Firstly, they develop present-oriented and defensive strategies and then, more explanatory and corrective strategies. The reason explained by Diers & Tomaino (2009) is that, when they are facing a challenge, they first want to educate stakeholders about the situation and obtain support from them, and then later on, they want to show their progress and their success. The last industry analyzed, professional sports organizations, distinguished itself from the other ones by using a single tactic at the end of the crisis, which is self-enhancement (i.e. emphasize on quality, provide information to make the organizations look positive (Heath, 1994)). More research is needed to explain this difference.

3.1.2 Influence of crisis preparedness on crisis impact

First, it has been proved that crisis preparedness has a positive influence on the impact of a crisis on an organization. “Organizations which are crisis prepared are generally considered better equipped to anticipate, detect, manage and make adequate decisions in times of crisis.”

(Labas, 2017, p.77). Furthermore, Coombs & Holladay (2006) explained that it is crucial to be crisis prepared and to build a positive pre-crisis reputation to protect the brand or organization's reputation from the crisis.

Crisis preparedness is a concept that is encompassed in the crisis management definition (Parnell, Koseoglu & Spillan, 2010). Organizational crisis management can be defined as a “systemic attempt by organizational members with external stakeholders to avert crises or to effectively manage those that do occur” (Pearson & Clair, 1998, p.61). It is commonly agreed to split crisis management into two approaches: the pro-active approach and the reactive approach. By acting proactively, a firm has a greater ability to decrease crisis periods and impact severity, and to overcome tellingly after-crisis challenges (Lee, Woeste, & Heath, 2007). Crisis preparedness (or readiness) finds itself in this approach and can be defined as a way to avoid or decrease stress generated by sudden events, and to improve decision capabilities when facing a crisis (Rousaki & Alcott, 2007). For instance, reputation management (communication, marketing) is crucial to improve crisis preparedness.

A survey of Elsubbaugh, Fildes, and Roses (2004, p. 115) points out the crisis preparation activities deemed the most important to be as follows:

1. Dissemination of positive organizational culture which can support crisis management (values and beliefs), 96.5%;
2. Detection of early warning signal changes, 94.8%;
3. Creation of efficient information flow 94.7%;
4. Mobilization and implementation of resources, 81.0%;
5. Integration of crisis management in strategy management, 67.2%; and
6. Speeding up of decision making, 41.4%.

In order to save time when resolving a crisis, and more importantly to effectively implement these activities, organizations should have a well defined Crisis Management Plan (CMP). As a matter of fact, a CMP pre-assigns tasks to the crisis management team and pre-collects

information. But, as noted by Coombs (2014), organizations should be aware that a CMP will not detailed each step to be performed as each crisis is different from each other and needs to be handled according to their context. Furthermore, Augustine (1995) insisted on the added-value that a tested CMP has. Indeed, besides the CMP, an organization usually put in place crisis management teams. Those teams have to be composed of persons that have an experience linked to the type of the crisis, its location or the department involved, and who can use their knowledge and skills to prevent or manage the situation. However, a crisis management team will be effective only if they have trained to make decisions in times of crises.

The study of Labas (2017) confirmed the significant positive correlation of the organizational crisis preparedness on the business success of firms. Indeed, awareness of a potential crisis allows managers to adopt measures to minimize the likelihood that the crisis will occur or to manage its consequences with more time preparation. This stresses the importance for firms to implement an effective crisis preparedness.

Additionally, Mitroff & Alsaplan (2003) conducted a 20-year study on the crisis readiness of Fortune 500 companies and ended up with interesting conclusions. They clustered companies in 2 groups: crisis prepared (or proactive), meaning that they are prepared to manage a lot more crisis situations than the ones they have already experienced, and crisis-prone (or reactive), defined by being prepared only to the crisis types they have already faced previously. A worrying finding of their research is that between 5% and 25% of the companies were crisis-prepared. The four conclusions of their study are: 1) Crisis prepared companies faced one third less crises than crisis-prone companies; 2) Crisis prepared companies stay in business longer (83 years in average against 67 years); 3) Crisis prepared companies show stronger financial indicators which is due to lower crisis-related costs and to the fact that they are usually better in managing other assets like financial risk management; and 4) Proactive companies enjoy better corporate reputation (on the Fortune most admirable companies in America ranking).

According to Mitroff & Alsaplan (2003), crisis-prepared companies believe that a crisis

cannot have detrimental consequences even for a single person, while crisis-prone companies only think in terms of cost-effectiveness and will invest in crisis preparation only if the cost of implementing is lower than the cost of the crisis consequences. What also distinguishes the two categories is that proactive companies believe that they cannot predict the impact of a crisis, while the other category wrongly assumes that it can. A key takeaway is that companies that merely focus on costs are in the end the ones facing more problems and being less profitable than the crisis-prepared companies.

At it stands, one can already link preparedness of organizations and lower impact severity. However, the potential link between crisis-prepared industries and crisis repercussions is not yet analyzed. For that purpose, the coming sections on crisis experience and peer learning are useful to determine if organizations belonging to the same industry have a similar crisis preparation level. Moreover, to obtain tangible proofs, this study will, in the practical part, attempt to fill the gap existing in the literature concerning the industry crisis preparation.

3.1.3 Influence of past crisis experience on crisis impact

An explanatory variable that triggers crisis preparedness is the crisis experience. Indeed, what could explain the difference in the crisis impact severity between industries is that more crisis-prone industries have already experienced crises and should have learned from them.

As assumed just above, previous crisis experience is an enabler of crisis preparedness, which is in turn an enabler of organizational performance (Labas, 2017). Several authors argue that the crisis experience helps organizations to face crises. Indeed, thanks to this experience, the organization is encouraged to prepare itself to different crisis situations, to be aware of their vulnerability, and to be more open and flexible (Labas, 2017 ; Jaques, 2000). In successful organizations, no signal showing that change is needed is visible, even though organizational learning should take place to prevent long-term challenges; whereas in organizations that have experienced crisis, there is an opportunity of organizational learning,

which make the organization better prepared for the occurrence of future crises. To achieve an effective organizational learning, organizations should undertake formal and objective crisis review. They should accept it as an opportunity to learn and to review procedures and policies.

3.1.4 Influence of copying effect on crisis impact

Now let's analyze the influence that crises faced by other companies have on an organization's crisis management and impact. Companies learn a lot from the crisis experience of others even if it seemed unrelated to them, they can link these details to solve new problems. This process is also called bisociation and signifies according to Koestler, "to join unrelated, often conflicting, information in a new way" (cited in Berthold, 2012, p.16).

As stated above, it is vital to learn from our own crisis, but it is also important to learn from crises of others. Jaques (2008) claims that managers that are external observers of crisis case studies have the choice between two options:

- The wrong belief of invulnerability said to be in German the "Schadenfreude" - meaning literally the "malicious enjoyment of the misfortune of others".
- The learning opportunity, defined as the open-minded capability of thinking that this could maybe happen to them and that they can learn from it.

According to the study of Mitroff & Pauchant (cited in Jaques, 2008), they often fail to choose the last one because of rationalizations stating that crisis won't happen to well-managed business, that it is sufficient to manage a crisis once it has occurred, and that tools like crisis manuals or good PR advertising are enough. But, firms that believe a certain crisis could never happen to them got everything wrong. As Tyler said in her study over corporate guilt "Company executives who insist that the Exxon spill was an unavoidable accident surely are less likely to work to prevent such accidents in the future. If corporate executives insist that the accident would not have occurred if Exxon rules had been followed, they have less

reason to examine corporate policies and procedures and more reason to perceive themselves, unreasonably, as the victims of the situation" (Tyler, 1997, p. 65). Moreover, Jaques (2010) argues that the most objective way to identify own areas of improvement in crisis management is to benchmark crisis management systems against peer organizations and peer industries in order to learn and implement the best processes. This highlights the fact that organizations do not only learn from their industry-peers but also from organizations belonging to other industries, and it shades our cross-industries approach stating that organizations from the same industry present same features of crisis-preparedness.

This learning effect occurs not only with firms from the same industry but also with firms from different ones. Cason argues that crisis-prepared companies often attend to crisis planning meeting with other companies. By doing that, they become aware of types of crises they would not have thought of before and realize how vulnerable they are. Cason gave the example of banks that equipped themselves against cyberattacks but do not prepare themselves to face explosions, something that chemical companies directly think of (Cason, 2012).

3.2 Role of client's nature

This part of the theoretical framework aims at understanding whether the nature of the client of an organization can influence the magnitude of a crisis impact. This part will be divided into two subsections. In order to carry out this research, we first believe it is crucial to introduce the reader to the different stakeholders included in the organization's activities and understand their power in the digital era. The first subsection will help us acknowledge the importance of considering the different stakeholders and understand the difficulties encountered by organizations to effectively communicate with them in the current context. In the second section of this chapter, we will start studying how a company involved with a certain client type may face dissimilar reactions and features than another company with clients of a different nature. Our motivation to address the role of the client's nature was based on Clemmitt's (2015) statement that the way company is affected by a crisis depends on who the organization's customers are.

Companies can be divided into two groups according to their client's type. Indeed, Rouse (cited in North, 2015, p. 44) defines the business-to-business companies (B2B) as the ones buying and selling goods, services, and ideas between businesses and not individual consumers. While consumer-oriented (B2C) companies have individual consumers as customers. Some companies of course not only have businesses or individuals as customers but a mix of them. But, for the sake of simplicity, we are going to neglect them in this paper. Clemmitt (2015) claims that the challenges met by business-to-consumer companies that market directly to the public are greatly different compared to the business-to-business companies. This can notably be explained by the differences existing between B2B and B2C. Highlighting them hereunder will enable us to understand how the nature of the company's clients can influence the impact of the crisis.

3.2.1 Introduction to the organization's stakeholders

Stakeholders' salience

According to the stakeholder theory, an organization should not only be interested in its shareholders but should also consider the other constituents. Freeman (1984) insists that organizations need to be cognizant of all the stakeholders in order to achieve superior performance. He considers the stakeholders to be "any group or individual who can affect or is affected by the achievement of the organization's objectives" (Freeman, 1984, p.46). Laplume, Sonpar & Litz (2008) describe the stakeholder theory as controversial. Indeed, in their paper, it appears that this theory not only has proponents but also has detractors who strongly express their disagreements. Jensen (2002) for example argues that the only dominant concern that the management has to deal with is the pursuit and maximization of profit. He even goes further by describing this as the "single-valued objective" of an organization.

However, we must remain critical regarding Jensen's view on managing stakeholders. Oliver (1990) for instance claims that companies' survival depends on the relationships they maintain with their stakeholders. According to Pajunen (2006), the dependence on the relationship with stakeholders is even stronger in times of crisis. It is therefore crucial for an organization to be aware of who are its stakeholders and how to handle them. The company needs to grant specific focus on the stakeholders influencing its survival the most. By this, we mean the players that have the largest impact on the organization's operations. To target this group of stakeholders, different authors came up with frameworks. Clarkson (1995) distinguishes the primary stakeholders without whom the company couldn't survive from the secondary stakeholders who influence the company but do not affect its survival.

Mitchell et al. (1997) attempt to further discuss Freeman's (1994) principle of "Who or What Really Counts." As an organization cannot focus on all its stakeholders' actual or potential claims, managers should prioritize relationships with specific stakeholders over others. They build up a theory that explains the entities to whom managers should pay attention (Mitchell et al. 1997, p.854). Their goal in this paper is to build a typology of stakeholders. This typology could on the one hand, help managers identify the salience of

different actors influencing their organization. On the other hand, they aim to help them understand how and under what circumstance the managers should respond to the different types of stakeholders. According to Mitchell's classification, stakeholders can be identified with the three following characteristics:

a) *The power of the stakeholder to influence the firm.*

The authors use Dahl's (1957) view on power which he considers to be the "relationship among social actors in which one social actor, A, can get another social actor, B, to do something that B would not otherwise have done." Furthermore, the authors claim that the power of stakeholders is not constant, it can change over time. In their paper the power is described as transitory, stakeholders can win and lose their capacity of imposing their will in the relationship with the company.

b) *The legitimacy of the stakeholder's relationship with the firm.*

According to the authors, the legitimacy is distinct from the power or the urgency. A stakeholder cannot be considered as salient solely with legitimacy. He either needs power or urgency to enforce his claim to the company. They therefore believe it is necessary to analyze those features separately and agree with Suchman (1995, p. 57) who considers the legitimacy as "a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions".

c) *The urgency of the stakeholder's claim on the firm.*

Mitchell proposes to juxtapose the urgency with the power and legitimacy to assess the stakeholders' salience. He argues that adding this attribute brings a temporal dimension to their typology. This characteristic can be defined as the "degree to which stakeholder claims call for immediate attention" (Mitchell et al. 1997, p.867). The authors further claim the urgency appears only when the relationship is time-sensitive and critical to the stakeholder.

“Stakeholder salience will be high where all three of the stakeholder attributes—power, legitimacy, and urgency—are perceived by managers to be present.” (Mitchell et al., 1997, p.878). Managers must thus ensure that they know which are the stakeholders combining these attributes. Acting this way helps managers to be effective in dealing with the various interests and claims of stakeholders. In crisis times, it therefore appears to be truly meaningful to assess the salience of the stakeholders to work on an effective crisis management plan.

To conclude, the literature reveals that organizations should grant great attention to the stakeholders in times of crises. Companies should be able to assess the salience of their stakeholders to focus on the relationships with the more important ones. By doing so, the organizations can mitigate their impacts on the crisis. In the next part of this literature review, we analyze the fact that taking care of the relationships with the stakeholders is not an easy task as those actors have currently more tools and means to gather information, communicate and impact the company’s operations.

Complexity of today’s environment and communication

In the previous part, we discussed the identification of the salient stakeholders. However, being able to identify the most crucial ones is not the only task of managers. There is also a need to communicate with these players. Managers need to understand that the stakeholder communication and access to the media have drastically changed over the past years. Indeed, the rise of the Internet tremendously changed the organizations and their structures.

The communications with stakeholders of the companies changed also deeply. This is especially true in times of crisis. Gonzalez-Herrero and Smith (2010) for example claim that the “Internet has revolutionized the crisis communications management.” They further argue that the Internet enables traditional crises to spread in a viral way. The authors made, in that paper, the analogy with a virus as they argue that “like viruses, they now mutate, acquiring new and dangerous forms” (Gonzalez-Herrero & Smith, 2010). Hunter, Van Wassenhove, and Besiou (2016) add to this view that today the crises are often not controlled by traditional media anymore but instead they state many other stakeholders groups exists and have control

over their own sources of information and media. The authors emphasize on the importance for managers not to neglect those stakeholders as their sources of information empowers them and give them the capacity to set and influence the agenda for how the company crisis will be solved (Hunter et al., 2016). They also build their personal ideas on how the crisis should be resolved. Managers ignoring the increasing influence of those stakeholders would put the company in a hazardous position. The following features of today's environment with the stakeholders should therefore be taken into account by managers:

a) *Diverse and active groups of stakeholders*

Stakeholders might appear to be weak when achieving individual actions, but the emergence of social media, new means of communication and sharing platforms allowed them to form cohesive groups. Collectively, they appear significantly more powerful and are now able to control how a crisis evolves. Another striking feature of today's stakeholders' groups is the diversity and the increasing activity of their members. They count among their ranks customers, social activists, financial analysts, lawyers or business partners (Hunter et al., 2016). All those actors bring different expertise and incentivize other stakeholders to interact with each other to react to the organizational crisis.

b) *In crisis times, stakeholders now control the clock*

When a crisis occurs, timing is crucial. The stakeholders quickly ask for responses of the organization. At the early stages of a crisis, the time often seems to be running out as the managers often appear to struggle to control and minimize the damage (Hunter et al., 2016). Moreover, Gonzalez-Herrero and Smith (2010) argue that the Internet brought down time and geographic barriers. Crisis can thus reach a global scope in a blink of an eye. An organization is therefore expected to offer extremely fast responses "if it doesn't want to lose control of the information to some other source or be perceived as an informatively obscure company." (Gonzalez-Herrero & Smith, 2010). The media controlled by the stakeholders are able to notice when organizations try to avoid liability and try to buy time (Hunter et al., 2016). Companies need to come up with solutions that truly meet the stakeholders' expectations. "Until those stakeholders

accept a solution and approve its implementation, the crisis will continue [...] And the longer a crisis drags on, the greater the costs” (Hunter et al., 2016, p.76).

c) *Stakeholders can bring the company’s sensitive past back to light*

As explained before, the Internet brought changes that need to be taken into account when managers deal with the stakeholders. A new aspect brought by the Internet consists in the fact that it is nearly impossible to erase negative publicity regarding a company (Gonzalez-Herrero & Smith, 2010). Traditional mass media used to deal more with one-day stories but now stakeholders can perpetuate the information on the Internet thanks to different media and tools like video sharing websites, social media or blogs. When a crisis occurs, the stakeholders can have access to those stored information and past actions of the company. The stakeholders will often use negative past actions of the company to back up their claims. Compared to traditional news media, it is more common for stakeholders-controlled media to focus on and scrutinize historical actions of the company (Hunter et al., 2016).

d) *Consumer-generated media puts the quality of the information under threat*

Criticism about the quality of the information spread by consumer-generated media is raised by various researchers. Indeed, Shu et al. (2017) for instance declared that the consumption of news on social media can be considered as a double-edged sword. On the one side, it enables the quick dissemination of information at a low cost, but on the other side, it can represent a threat to the quality of information as fake news and biased information are easily spread on those new tools of communication. The authors further notice that fake news is used for financial, political or for other purposes. Shu et al. (2017) argue that this inaccurate news often aims at persuading individuals to accept false beliefs. The European Commission (2018) also raised concerns about the shift from direct information distribution through newspapers to indirect dissemination information given by algorithm-based platforms. The European Commission further warns that the use of search engines and social media sites can weaken the news quality and foster the emergence of disinformation as those platforms’ primary objective is

to maximize their advertising revenues and traffic rather than providing reliable and accurate news.

As shown above, it appears that the groups of stakeholders are more complex and their influence on the evolution of the crisis strongly increased with the appearance of stakeholders-controlled media. Those diverse groups of members are now able to decide when and how a crisis will end. They can also turn back the clock to collect sensitive information from companies. Organizations now also face the challenge to deal with fake news that could potentially harm their reputation and affect the smooth execution of their operations.

3.2.2 Influence of public scrutiny and stakeholder's power

We have seen above that stakeholders have more and more power with the rise of social media. However, distinctions should be made among the stakeholders. Gonzalez-Herrero and Smith (2010) for example state that online communication strategies might be relatively different between companies oriented to customers market and companies oriented to business markets. The authors further explain that online communication strategies are more relevant for consumer-oriented companies as they are subject to more public scrutiny and greater stakeholder's power while business-to-business companies generally benefit from a milder environment with less public interest (Gonzalez-Herrero & Smith, 2010). O'Rourke (2011) support this point and states that with the emergence of "social media and the 24-hour news cycle", it is becoming significantly harder to escape from public surveillance, scrutiny for any mistake no matter how small this mistake appears to be.

3.2.3 Influence of rationality versus emotions

Lemke, Clark & Wilson (2010) discuss the similarities between B2Bs and B2Cs. They argue that both types of companies exert intentions to work on building strong relationships in networks while at the same time make use of the bundling of services or products to attract potential customers. However, Coviello, Brodie, Danaher, and Johnston (2002) did a comparative analysis where it appeared that B2C companies tend to be more transactional while

B2B companies appear to be more relational. This difference can notably be explained by the fact that, unlike B2C companies, a great proportion of the B2B commerce is repeated business (Lemke et al., 2010). B2B companies should thus focus more on the relationship quality to ensure future customer purchases. Another striking difference between those two types of companies consists of the customer's degree of involvement when completing purchases. As a matter of fact, Lohtia, Donthu and Hershberger (cited in North, 2015, p. 41) state that B2B purchasing decisions are often taken in groups and it takes a long time before they are taken. The decisions are analyzed and well-thought and therefore rarely taken impulsively. The authors explain that in contrast with the B2B high involvement, B2C decisions are rather characterized as low involvement decisions. Lohtia et al. (cited in North, 2015, p. 41) declare that consumer-oriented companies advertise to their customers by involving their emotions, using colors and animation. This statement sheds lights to an important difference between consumer and business-oriented companies. Indeed, in contrast to the consumer goods where consumers make decisions with their emotions, the world of B2B products is described as rational (Kotler & Pfoertsch, 2007). It is assumed that in the business-to-business world customers generally know and are aware of the company's product and of the other products on the market. Kotler & Pfoertsch (2007) also note that in B2B companies, customers ordinarily have an objective decision-making process when analyzing the features, price or quality of a product or service. Companies should be aware that businesses and individual customers have different behaviours. This can be illustrated with the case of Intel that used to do B2B marketing and entered in B2C marketing with their "Intel Inside" campaign. The company had always promised its customer that the organization would provide them with the highest quality. However, a person found a flaw in the chips. As this problem would only affect one computer out of billion, Intel did not consider this has a serious problem as they were accustomed to business customers taking decision rationally based on statistical probabilities (Clemmitt, 2015). The reaction of the individual customers was however way more substantial that they could have expected. Indeed, it backfired and people made jokes about the company's promise for high-quality affecting negatively the reputation of the organization. This example shows clearly how individual customers can react differently

compared to business customers when companies are facing a crisis. Mavridis (2011) uses the term "Sh*tstorms" to describe how individual consumers can damage the reputation of an organization with emotional and irrational criticism. Horn (2015) also treats this subject and argues that "Sh*tstorms" can eventually grow through irrational and assertive content added by other dissatisfied users. This could in the end damage the price of a company's shares.

3.2.4 Influence of brand awareness and reputational risks

Laufer and Coombs (cited in Horn et al., 2006, p.195) define the reputation as "an intangible asset that is of financial value for an organization and can influence the attraction of customers, the motivation of workers, the generation of investment interest, and positive media coverage". Nowadays, examples like Toyota and BP illustrate that after building the brand reputation for years companies can watch their organization's reputation being destroyed in a matter of seconds (O'Rourke, 2011). This highlights how vulnerable the reputation of a company can be. The damage to a company's reputation can have multiple negative effects on the organization. Indeed, this can cause consequences such as disturbance in the relationship between the organization and its stakeholders, fewer purchase intentions, stock price decreasing, diminishing market shares and others effects affecting negatively the company (Laufer & Coombs, 2006). The majority of the researchers agree with the fact that online customers are empowered with the social media which increases the risk for reputational damage when a crisis occurs (Horn et al., 2015). Those means of communication give stakeholders the possibility to express themselves and spread their opinions and feelings. Horn et al. (2015) therefore emphasize the importance for companies to deal with reputation management. They indeed argue that, on the one hand, customers are empowered and on the other hand, companies lose control over communications between the stakeholders. Constantinides and Fountain (2008) add that this position of power leads the customers to often confront organizations with their social, ethical and commercial responsibilities. Individuals don't hesitate to shed lights to companies misbehaving. They expose organizations

for reasons such as product recalls, misconducts, scandals and push them to answer to the criticism (Hennig-Thurau et al., 2010).

It now appears important for companies to carefully consider their reputation and its management in order to limit the damages caused when a crisis occurs. However, the reputational risks are not the same for all types of companies. Indeed, Smith (2003) notices that while the reputational risks are relevant for known global companies working in the consumer goods market, the risk is significantly smaller for companies with a brand name unfamiliar to the customers or organizations far removed from the end users. Small, local or B2B brands therefore face less risk to watch their reputation being harmed. Bernstein (cited in Clemmitt, 2015) supports this point as he argues that business-oriented companies are not known publicly. Therefore, even if their name appears negatively in the media, the chances are low that the public will repeat the story to their peers. Bernstein (cited in Clemmitt, 2015) explains that people would act in this sense as they are mainly concerned about the organizations they know. According to those researchers' points, it can be assumed that B2B companies benefit from a lower likelihood to be confronted to reputational damage.

This view may however not be shared by the entire researchers' community. Indeed, Laufer and Coombs (2006) believe that when a product-harm crisis hits in a company, customers will attribute more blame to companies with a negative reputation or companies that are less known than companies with a positive reputation. Laufer and Coombs (2006) support the idea that a strong brand with a positive reputation limits the impacts of reputational damage. Nevertheless, customers sometimes attack those companies by exposing their negative experiences and concerns online. Indeed, with anti-branding, a form of consumer-activism that consists in creating a negative identity for brands online (Farshid et al., 2015), customers disproportionately target organizations that have a strong brand (Krishnamurthy & Kucuk, 2009). Those campaigns are another examples where companies can benefit from a weaker brand, public awareness.

To sum up, the literature reveals that many differences exist between customer's relationships in B2B or B2C. In times of crises, the customers might therefore adopt different behaviours towards the companies depending on whether the organization is consumer or business oriented. Therefore, it seems interesting to us to analyze the difference of impacts on the share price between B2B and B2C crises.

3.3 Role of CSR

Following an outline of the influence of two organizational external factors, i.e. industry belonging and nature of the client, this section will analyze the effect of the Corporate Social Responsibility commitment of an organization on the repercussions of a crisis.

3.3.1 Introduction to Corporate Social Responsibility

The Commission of the European Communities has defined Corporate Social Responsibility (CSR) as “the responsibility of enterprises for their impacts on society” and as a “concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis” (Commission of the European Communities, 2001, p.7).

In our changing society, increasing concerns for the environment, for the human rights’ respect, for the ethical aspects of the business and for other social issues are brought at the foreground. As an echo to the growing pressure and expectations of various stakeholders, companies are increasingly promoting and investing in their corporate social responsibility programs and acknowledge them as being part of their strategy and identity.

In their survey of Corporate Responsibility Reporting (2017), KPMG stated that 78% of the Global Fortune 250 companies now include corporate responsibility information in their annual financial reports (up from 44 percent in 2011). Moreover, according to the 2016 PwC Global CEO survey, 64% of CEOs say that “corporate social responsibility is core to their business rather than being a stand-alone program” (p.16). Correspondingly, scholars have vastly elaborated theories explaining why CSR is a crucial way to build strong and lasting competitive advantage and how it will influence investors and customers’ decisions and leads to sustainable growth. In that sense, the European Commission sustains the fact that CSR should not be seen as a constraint but much more like an investment. CSR is a process by which companies build relationships with customers, attract and retain talented employees, manage risks and ensure a good reputation.

3.3.2 Influence of CSR on company's reputation

CSR is a common practice to manage and build corporate reputation and “a way of maintaining the legitimacy of its actions in the larger society by bringing stakeholders' concerns to the foreground” (Werther & Chandler, 2006, p. 8).

The business benefits arising from a firm's engagement in CSR is attested by numbers of academic researches (Du, Sen, Bhattacharya, 2007 ; Sen, Bhattacharya, & Korschun, 2006 ; Klein Dawar, 2004 ; Lichtenstein, Drumwright, and Braig, 2004). Being a good corporate citizen will have effects on stakeholders in the cognitive, affective and behavioral dimensions. On the consumers, the rewards of CSR will be a stronger loyalty, advocacy behaviors, willingness to pay a price premium, and greater resilience to negative information (Du et al, 2007). There will also be rewards for other stakeholders such as potential future job applicants or investors (Sen et al, 2006). The main goal of CSR is thus to strengthen stakeholders' relationships.

a) *CSR stakeholders' awareness*

As stated above, recent theorists advanced that CSR has positive effects on individual's beliefs, attitudes, identification, association and loyalty towards a firm (Sen, Bhattacharya, & Korschun, 2006 ; Klein & Dawar, 2004). But according to Sen et al. (2006), these findings should not be taken for granted by firms as it is actually very dependent on the ability of stakeholders to identify the firm's CSR activities. This awareness is in general quite low in the real marketplace and should become an important challenge for companies in order to fully reap the strategic benefits of CSR. On top of that, the study of Sen et al. (2006), taking a stakeholder-driven perspective, highlighted that CSR awareness increases the potential of individuals to commit personal resources to the company that is not only the purchasing of products but also job seeking or financially investing in the company.

b) *CSR strategies*

CSR can be viewed as engaging either in “doing good” activities such as charitable contributions, or in “not doing harm” activities, such as avoiding to do business with

suppliers employing slave labor. Minor & Morgan (2011) explain that the second dimension has a more important benefit on a firm's reputation, especially following adverse events. Their argumentation is sustained by the fact that it is worse for a company to do good while also doing harm than doing nothing at all. Indeed, a company won't be able to wipe out totally a bad move by other ethical initiatives. Building a good reputation requires years, but it can take only a few days of a crisis to set it at naught. Following this logic, a company focusing on building a neutral reputation will end with better outcomes than the ones neglecting this "not doing harm" strategy and only focusing on "doing good".

3.3.3 Influence of pre-crisis CSR level on crisis impact

Minor & Morgan (2011) argue that CSR can be viewed as a powerful insurance for the firm's reputation. Indeed, in normal times, expenditures in CSR activities are just a cost, like the insurance premium, while in crisis time, CSR is changing the perceptions of stakeholders from bad management to bad luck. This holds only if the firm's behaviors are consistent, meaning that they are not only doing good but they are also not doing harm throughout their value chain. It has been proved that the reputation risk is more impaired if the company is pursuing jointly the two CSR dimensions than only one of them. Furthermore, the "reputational benefits from less visible avoiding harm activities outweigh visible altruistic actions in shareholder evaluations of competence following adverse events" (Minor & Morgan, 2011, p.44). As "doing good" activities are more visible and measurable, they are easier to reproduce even by bad managers, and their added-value is lessened as more and more companies are advertising them (Minor & Morgan, 2011). However, the conclusion of Minor & Morgan should be nuanced as this study focus on a narrow application of CSR. Indeed, CSR is here defined as a way to create goodwill for companies, while another application of CSR is not only linked to firms' interest, but serves as a value contributor for a community.

The level of commitment of an organization to CSR is likely to soften the bad repercussions of a crisis by protecting the corporate reputation. But, this protection role is subject to several

factors: the firm's crisis responsibility, the attribution of CSR motives by stakeholders, and the CSR history.

a) *Firm's crisis responsibility*

The level of commitment to CSR of an organization is usually likely to have a positive influence on the crisis impact. However, this doesn't hold for every type of crisis. It depends on the degree of responsibility of the firm in the crisis. Indeed, CSR efforts will be useless in the case of a natural disaster or terrorist attack, but if the crisis can be attributed to management negligence and not only to bad luck, then CSR can pay off and help to cushion the firm's reputation (Minor & Morgan, 2011).

b) *Stakeholders' attributions of CSR motives*

The influence of CSR level on the crisis impact will also depend on the stakeholders' attributions of the CSR motives of the firm. Actually, stakeholders' awareness and stakeholders' skepticism are the two main challenges that hinder the reaping of CSR benefits.

Stakeholders' attributions of corporate motives can be positive: the company is perceived to be altruistic and is honestly concerned by social issues; or negative: the company is perceived to be egoistic and to engage in CSR activities only to increase its profit (Du, Bhattacharya, & Sen, 2010 ; Shim & Yang, 2016 ; Zhang & Borden, 2016). The attribution of motives relies a lot on the management of CSR communication. The way a company advertises its CSR commitment is extremely important in order to avoid suspicion. Indeed, when a company is aggressively promoting and is bragging about its CSR activities, CSR communication will be counter-productive and will cultivate an unfavourable stakeholder's response (Shim & Yang, 2016). Furthermore, the attribution of motives does not only depend on the CSR communication but is also shaped by the prior corporate reputation. The study of Yoon, Gürhan-Canli, and Schwarz (2006) showed that the bad reputation of the company will be prejudicial to the evaluation of CSR motives. As a matter of fact, stakeholders will be leery about the sincerity of CSR motives, and CSR can be even more harmful to the corporate

image. A good example is the CSR anti-smoking campaign targeting youth of the tobacco company Philip Morris in late 1998. The company faced huge criticism and their campaign has been proved ineffective by a famous US firm research. This is due to the inconsistency between the business activities and the CSR activities of the firm. The rationale of Shim & Yang (2016) is that when a company has a bad reputation, people tend to perceive corporate ethical campaign as a self-interest activity.

c) *CSR history*

A non-negligible variable influencing the success of CSR in protecting the company against a crisis is the CSR history. This refers to the constant effort of the company to invest in CSR, whether or not there previously engage in CSR before launching a new campaign. Vanhamme and Groben (2008) found that the use of CSR communication to counter negative events is more effective when the company has a longer CSR history. This has been tied to the fact that the length of CSR history helps to reduce stakeholders' skepticism.

To conclude, the effectiveness of CSR depends on the attribution of CSR motives which depends on the CSR communication, on the fit between corporate image and CSR efforts and on the CSR history.

3.3.4 Influence of CSR on stock price following crises

Share price is a practical tool to assess the impact of an organizational crisis and one can find in the literature much research on the relationship between CSR and firm's stock price on financial markets. Experts have proved that the CSR level can serve as a reservoir of goodwill in time of crisis (Jones, Jones, & Little, 2000 ; Schietz & Epstein, 2005). CSR is able to cushion the firm's stock in tough times. The study of Schietz & Epstein (2005) indicated that during the crisis of the Seattle WTO Conference, the returns of firms with a CSR reputation did not decline significantly in response to the crisis, whereas the returns of non-reputable CSR companies dropped by 2.4 percent. This study qualifies a firm as having a CSR reputation if it is belonging to the *Domini Social Index*. Moreover, a firm's CSR reputation

provides even more pronounced rewards if this firm is belonging to an industry with poor CSR reputation (Schietz & Epstein, 2005). Besides, Jizi, Nheme, and Salama (2016) provide evidence that there is a positive correlation between CSR disclosure and stock price behavior. Their study was focused on the US banking industry during the 2009 financial crisis, which leads to the dropping of most of security prices and to a massive drawback in trading activities because of the lack of information available to market participants (Gorton, 2009). Jizi et al. found that the disclosure of CSR information is valued by market participants and that banks providing better CSR information are able to reduce information asymmetry and to enhance their stock price. Other studies confirm the link between CSR practices and financial performance during economic downturn. For instance, the 2009 “Green Winners” study of A.T. Kearney shows that the value of the 99 largest companies listed in the *Dow Jones Sustainability Index* and the *Goldman Sachs Sustain Focus List* has experienced a smaller decline of 15 percent than that of other companies in their respective industries.

However, one has to be careful to avoid linking too quickly CSR and financial performance. CSR has to become part of the company’s DNA, meaning that the firm has to genuinely commit to these practices, and not only do this in order to improve public relation or catch up with competitors. Otherwise, the payoff will be useless.

3.3.5 Influence of CSR as a crisis response strategy on crisis impact

Research has shown that CSR is useful in building a pre-crisis reputation (Sen et al., 2006 ; Minor & Morgan, 2011), but it can also be very effective as a post-crisis response strategy (Coombs, 1995 ; Vanhamme & Groben, 2009).

CSR communication has the potential to mitigate or even offset the negative impact of a crisis. CSR communication refers to the way a company communicates the initiatives taken in order to be a good corporate citizen. This CSR claim influences stakeholders’ evaluation of the firm and the firm’s responsibility in the crisis, and consequently, it has an impact on the behavioral intention of the stakeholder towards the firm (word-of-mouth, purchasing, investing, etc) (Ham & Kim, 2017). CSR can also be seen as a “bolstering strategy”: it reduces

the negative feeling towards the organization deriving from their wrongdoing behavior, and strengthens the positive feelings (David, Kline, & Dai, 2005).

On the other hand, CSR communication, when not well-managed, can harm the corporate image. If the company is too strongly promoting its CSR initiatives giving the impression that CSR is nothing more than window dressing, it will raise stakeholders' skepticism, and therefore not mitigate at all the negative impact of the crisis (Ham & Kim, 2017 ; Sen et al., 2006 ; Shim & Yang, 2016). In the literature, it is the so-called CSR promotional communication dilemma (Coombs & Holladay, 2012).

One has to bear in mind that CSR can be an effective crisis response strategy if it is well managed, while it can also become a crisis factor itself. Indeed, promoting CSR can be a double-edged sword as it raises stakeholders' expectations. Stakeholders can perceive the actual practices of the company as inconsistent or not sufficiently in line with the self-promoting claim of the company to be socially responsible (Coombs & Holladay, 2015).

3.4 Role of cultural origin

Another contextual factor we want to take into account in our study is the cultural variability and its impact on the organization. The culture has been broadly studied in the literature but Hofstede, a Dutch psychologist tried to synthesize the cultural identities and diversities in different dimensions.

3.4.1 Introduction to Hofstede's cultural variability dimensions

Hofstede (1984, p.21) defines culture as “the collective programming of the mind which distinguishes the members of one human group from another”. Groups of people can therefore share a similar programming when they have same traits, when they are joined together by organizational or national boundaries (Luoma-aho, Moreno, & Verhoeven, 2017). Hofstede (1984) differentiates the cultures in different countries by giving them a score on five main dimensions. He collected data in forty countries in the world and compared features of the countries to build relative score in the five dimensions. The scores are thus supposed to reflect the cultural variability among the different states. The main dimensions of national culture are the following:

a) *Power distance index (PDI)*

The power distance index treats about how people and organizations in a society accept the inequalities. In other words, it discusses whether people expect an unequal power distribution (hierarchical societies) or whether the people strive to equalize the power among the citizens. In countries with a high PDI, the society will tend to accept more the differences between subordinates and superiors compared to states with low PDI (Holst, 2012).

b) *Individualism versus Collectivism (IDV)*

An et al. (2010) argue that this dimension has been one of the most used dimension to explain existing cross-cultural distinctions between Asian and Western cultures. Hofstede (1984, p.213) describes individualism as "the relationship between the individual

and the collectivity which prevails in a given society". Triandis (1989) further describes individualistic cultures as the ones where individual and personal goals are valued more than group objectives. On the contrary of individualism, collectivism refers to a society that has a "preference for tightly knit social framework in which people look out for one another and organizations protect their member's interest" (Daft, 2014, p. 340).

c) *Masculinity versus Femininity (MAS)*

This dimension refers to the society's preference for features like material success, performance, ambition and achievements. Feminine cultures on the contrary value more the quality of life, people tend to give importance to the role of sharing and cooperation.

d) *Uncertainty avoidance index (UAI)*

This dimension reflects the extent to which people in a society feel uncomfortable in dealing with risk, ambiguity and uncertainty. Countries characterized by a high uncertainty avoidance have members that tend to have behaviours and beliefs providing certainty and conformity. (Daft, 2014). Members of low uncertainty avoidance countries usually bear pretty well with the unclear and unpredicted.

e) *Long-term orientation versus Short-term normative orientation (LTO)*

Societies have a different way of balancing the links with the past and the orientation towards challenges of the present and future. Some countries, the ones that score low in this dimension, value more the traditions and are therefore sometimes more suspicious and reluctant to societal changes. Unlike the short-term societies previously described, the long-term societies have members that are more pragmatic and encourage change.

3.4.2 Criticism of Hofstede's cultural dimensions

Trompenaars and Hampden, in their book *Riding the Waves of Culture (1997)* propose a different model to assess the cultural dimensions. Their dimensions are the following: universalism versus particularism, individualism versus collectivism, neutral versus emotional, specific versus diffuse, achievement versus ascription, orientation in time and attitudes to-

wards the environment. They built this model to help companies understand the cultural diversity in businesses. Hampden-Turner and Trompenaars (1997, p.148) respond to Hofstede's (1996) criticism towards their model by highlighting the differences and by explaining that "many different ways of viewing culture are legitimate".

Those two authors first shed light on the differences with Hofstede's model by questioning whether cultural dimensions should be linear. They also reproach Hofstede for building exclusive categories. In their opinion, the cultural reality should not be black or white, they believe that some people might, for example, show collectivistic characteristics in specific situations but act like individualists in others. Moreover, they think that culture cannot only be assessed by statistical tests and mathematics used by Hofstede. They indeed argue that, similarly to the culture that has a language, mathematics can also be considered as one. However, due to the fact that they do not automatically correspond, they believe that "reducing a culture to numbers has its perils" (Hampden-Turner & Trompenaars, 1997, p.150).

Other studies also criticized aspects of Hofstede's model. Baskerville (2003) for instance claims that it is not always accurate to use the assumption that one country equals one culture. Lisker's (1991) findings support this point as he identified ninety-eight cultures in forty-eight African countries while he counted eighty-one distinct cultures in thirty-two Western European countries. Finally, Gernon and Wallace (1995) also challenge the validity of Hofstede's model as they observed that the survey used to build the model was only conducted at IBM, one specific organization. The findings based on this survey might therefore not be applicable in other contexts.

To conclude, we acknowledge that the cultural variability dimensions captured by Hofstede's model present a significant number of limitations. Nevertheless, it is also crucial to accept the complexity of the concept of culture as it deals with beliefs, forms and behaviours deeply rooted in individuals. Therefore, we decide to appreciate the model offered by Hofstede while bearing in mind its drawbacks. Moreover, it can be noticed that cultural dimensions brought by Hofstede were used in various researches linked with the culture. This is also

true when authors study the influence of culture on crisis management. In the next part, we will partially cover the research done on how and crisis responses vary across different cultures. It can be noticed that Hofstede's dimensions are still widely used to perform those studies.

3.4.3 Influence of cultural context on crisis response strategies

In the literature of crisis management, multiple researchers studied the response strategies a company could use in times of crisis. However, it appears that little research has been done regarding the link between the organizational crisis strategies across the cultures (Luoma-aho et al., 2017). An et al. (2010) argue that this remains an important gap in the literature. They indeed state that crisis responses should take the cultural dimensions into account as people in different cultures do not have the same perceptions, same interpretations and evaluations about organizational crises. Therefore, it seems important to take cultural aspects into account when trying to respect Coombs and Holladay's (2003) view. They claim that companies should diminish the ambiguity and minimize their responsibility by applying accurate responses when an organizational crisis occurs. Berkelaar and Dutta (2007, p.7) add to this that "culture is an important lens through which crises are defined". The authors thus explain that what people consider as a crisis in a specific culture may not be defined as a crisis in another cultural context. Berkelaar and Dutta (2007) shed lights on the importance to have a culture-centered approach when considering organizational crises. Failing to do so could lead organizations to incorrectly understand the culturally situated nature of the crisis.

Few authors went further in this analysis with the examination of crisis where cultural aspects mattered. Luoma-aho et al. (2017) for instance, compared the most common crisis response strategies in Spain and in Finland. The authors realized that some crisis responses and strategies are expected to occur more often in certain cultures than others. They figured out that Finns more commonly use crisis response strategies which consists in informing the stakeholders while Spanish prefer to use non-accommodative strategies such as the defense. The authors explain this difference thanks to cultural dissimilarities like the fact that Finn

might value honesty more. The defense strategy of the Spanish organizations might be explained on the basis that in Spain more institutional crises appear and people might prefer to deny the facts as the personal responsibility is rarely confessed.

Another culture analysis in an organizational crisis situation was studied by An et al. (2010). Their paper compared how the public would perceive an organization's response methods between a collectivistic (South Korea) and an individualistic (United States of America) country. Their research shows that Hofstede's (1984) individualism-collectivism dimension helps to understand the differences in public emotions and perceptions in different cultures for the same organizational crisis. The authors found that respondents in collectivistic countries reacted more negatively than in individualistic countries when the company's response puts the blame on one employee. In collectivistic countries, it is generally better for stakeholders to put the blame on the entire organization rather than on one individual.

Those two examples of researches further highlight the salience of considering cultural aspect when opting for specific crisis response strategies. On the one side, these illustrations support the idea that organizations tend to have different response strategies according to the cultural context. On the other side, organizations should be careful to opt for a strategy appropriate to the cultural context in which they involve as stakeholders might have completely opposing reactions in one culture or in another.

3.4.4 Influence of the culture on investor's behaviour

According to Bontempo et al. (1997), the cultural dimensions of people from a country can significantly impact a broad range of the psychological processes and emotional aspects. They argue that even the more simplistic perceptual levels might be impacted by the culture of the individual. For instance, they notice that members from different cultures may have different susceptibilities towards color perceptions and optical illusions. The cultural context can also partly explain differences in more complex subjects such as investment behaviours.

To guarantee the continuity of the discussion in the literature review, we are going to

elaborate on the fact that stock markets do not always reflect rational decisions of the investors. Investors can be biased by psychological emotions when making decisions. This inevitably affects the pricing of stocks (Hodnett & Hsieh, 2012). Investors are subject to different biases according to the culture to which they belong (Hui et al., 2010). Hereunder, we are going to discuss some of the behaviours of investors in different regions of the world which directly impact the returns on the financial markets.

a) *Loss aversion*

We can use Enskog's (2015) example to highlight the first bias influencing the stock pricing. He claims that the loss aversion level is different between Anglo-Saxon countries and Germany. While Germans appear to be patient, in Anglo-Saxon countries, investors will tolerate losses more easily. As Wang et al., (2017) notice, the loss aversion is greatly influenced by the emotions of individuals which are themselves shaped by the culture, thus it follows that loss aversion can differ for members of distinct cultures (Wang et al., 2017). Those authors draw interesting conclusions on the link between both Hofstede's dimensions of uncertainty avoidance and individualism, and the degree of loss aversion. Due to the social norms of members of collectivistic cultures and the regulation of their emotions, it appears that individuals in collectivistic countries tend to cope more easily with losses than their individualistic counterparts. They also argue that members of high uncertainty avoidance cultures are greatly reactive to possible losses.

b) *Risk perception*

Tan (2011) observes that cultural biases also affect the way individuals perceive risk. Nevertheless, it appears in the research that authors do not reach a consensus on whether individuals are more risk-averse in collectivistic or in individualistic cultures. Indeed, researchers like Hsee and Weber (1999) and Zhang (2012) argue that because of the "cushion hypothesis" collectivistic cultures should be more tolerant towards risk. This hypothesis supports the idea that due to their close social network, people in collectivistic countries can seek help from the community if they face financial losses. According to the authors, this could lead members of those countries to be less risk-

averse than individualists.

Other researchers came up with contradictory results as they, for example, observed that individualistic managers were more likely to take riskier financial decisions. Their confidence often leads them to underestimate the level of uncertainty when they are confronted with risky situations (Li et al., 2013).

c) *Investors' sentiment and momentum effect*

In the standard finance, irrational investments are expected to be erased by the arbitrage. However, when behavioural finance is taken into account, irrational sentiments can affect the stock pricing (Berthelsen & Schade, 2015). Market sentiment describes the crowd psychology or overall attitude of the investors on a financial market. A bullish market sentiment characterizes a situation in which the prices are generally rising, while in a bearish market sentiment prices are dropping. Multiple authors agreed that members of distinctive cultures were affected differently. Indeed, Schmeling (2009) findings support the fact that collectivistic cultures and high uncertainty avoidance countries are more affected by the market sentiment effect. According to the researcher, this is due to the herd-like behaviour often present in collectivistic countries. Those behaviours describe situations in which individuals base their decision on the group's opinion (Berthelsen & Schade, 2015).

Another bias to the stock pricing is the momentum effect. This refers to a situation in which stock performing well in the past will continue to score high in the future (Chui et al., 2010). Momentum profits are generally generated in collectivistic countries.

Chapter 4

Model and hypotheses

4.1 Choice of crisis type

In order to test our assumptions and understand the factors explaining the impact of a crisis on a firm's value, we decided to focus on one kind of crisis. Indeed, affirming that the reputation damage cannot be equally compared between organizations victim of a natural disaster and organizations who act wrongfully, appears legitimate. Hence, we came to the conclusion that our analysis would be interesting only if the organization has a responsibility in the negative event, and that they can avoid the reproduction of the situation in the future.

For these reasons, we decided to rely on Diers and Tomaino's (2010) crisis typology. As already mentioned in the first section of this paper, they divided crises into three categories: Organizational transgressions, organizational events and events out of the organization's locus of control. The first category has been selected for the construction of our sample. The authors defined it as crises for which the "blame can be attributed to the organization, regardless of the organization's intent" (Diers & Tomaino, 2010, p.25). Therefore, it encompasses situations for which the organization has acted wrongfully or has been neglectful. It is worth noting that technical and human accidents are also included in our study as, in the short term, stakeholders are not able to know if the company can be held liable for negligence, or if it is completely blameless.

Examples include:

- Illegal corporate behaviors (e.g. conspiring to fix prices, antitrust violations, disparate treatment involving discrimination, patent infringement, corruption and bribery)
- Technical Breakdown Accident (caused by technical or equipment failure)
- Technical Breakdown Product Recall (caused by technical or equipment failure)
- Megadamage (technical accident producing significant environmental damage)
- Human Breakdown Accident (caused by human error)
- Human Breakdown Product Recall (caused by human error)
- Organizational Misdeed with no injuries (when management knowingly deceives stakeholders)
- Organizational Misdeed with injuries (when management knowingly places some stakeholders at risk)

Therefore crises not covered in our study are mergers and failed mergers, strikes, economic downturns resulting in organizational action (downsizing, layoffs), and workplace violence regarding the organizational events; rumor, malevolence or product tampering, boycotts, shifting political attitudes, natural disasters and terrorist attack regarding the external events.

4.2 Hypotheses

4.2.1 Impact of industry's belonging on share price

It has been shown in the literature that the industry influences the crisis response of an organization. Moreover, it has been enlightened in our theoretical part and sustained by many authors experts in the field that crisis preparation and experience help to lower the severity of crisis impact. Lastly, industries qualified as crisis-prone are precisely characterized by previous crisis experience. In addition, the opportunity of witnessing fellow companies facing crisis occurs more frequently and at a higher scale than in less crisis-prone industries. Therefore, the environment of these companies should guide them to have in place effective crisis management. Indeed, one can think that a company facing less crises in its direct environment, will tend to not prepared itself properly against crises and will not know how to react because of its lack of experience.

For all of the reasons mentioned above, the first hypothesis that we want to test is that companies belonging to less crisis-prone industries are less prepared to manage crises, and therefore face a greater probability of high-severity crisis impact.

Hypothesis 1: Companies belonging to crisis-prone industries see their stock returns less negatively impacted when a crisis strikes.

Assumptions:

In order to test this rationale, we have to check if some industries are genuinely more crisis-prone than others. Indeed, it seems logical to say that some industries are more susceptible to be hit by a crisis than others. This was proved by the Institute for Crisis Management (ICM). This well-recognized company holds a database of business crises by tracking news and yearly publishes the most crisis-prone industries. "Crisis-prone" means here accumulating the greatest number of records within the ICM database. The ICM database permits the counting of the number of different crisis categories, the name of the organization, its geographic location (in most cases), the industry, the impact of the event, the number of events, the number of original stories written about the event, the sources of information mentioned in

the story, the amount of warning before the crisis occurrence and the primary cause of the crisis. Based on the annual ICM reports from 2011 to 2017, we conclude that the ten most crisis-prone industries nowadays are the following:

- Energy (Oil, Gas, Consumable fuels);
- Transportation (Air, Marine, Road & Rail);
- Automobiles & Components;
- Food, Beverage & Tobacco;
- Health Care Equipment & Services;
- Pharmaceuticals;
- Financials (Banks, Financial Services & Insurances);
- Technology, Hardware & Equipment;
- Softwares & Services;
- Telecommunication Services (soon renamed Communication Services by S&P Dow Jones Indices).

To make this conclusion, we re-clustered industries of the ICM reports according to the *Global Industry Classification Standard* (GICS). Then, we highlighted the ones appearing more than once in the top ten most crisis-prone and we ended up with this average top ten which reflects better previous years' trends.

4.2.2 Impact of customer's type on share price

As we have shown in our literature review, new communication tools significantly increase the power of stakeholders gravitating around the companies. Organizations, therefore, need to pay great attention to the shareholders' reactions and their relationship with them.

Moreover, it can be argued that B2C companies face greater challenges compared to B2B when facing a crisis. Many crises nowadays are the result of consumer-generated media. Due to the fact that the public is generally less aware and knows business-oriented companies less, stakeholder activism could be lower against B2B. Reputational risks and damages could therefore be of greater magnitude for B2C companies.

Finally, it is also important to point out that in B2C companies, customers are more emotional and transactional than businesses. As a result of this observation, it could be argued that B2C customers could feel cheated when learning that organization transgressed. Their reaction could possibly be impulsive leading them for example to boycott the company or simply to switch to competitors' products. In comparison to B2C clients, businesses tend to have long-lasting relationships based on trust and rational group decisions choice with other businesses. This is why we believe their reaction will be less extreme than individuals as they will certainly weight the pros and cons before taking a decision and calculate the opportunity costs rather than acting emotionally.

Those arguments led us to come up with the following hypothesis:

Hypothesis 2: Business-oriented companies are less negatively impacted by crises on stock markets compared to the consumer-oriented organizations.

4.2.3 Impact of CSR commitment on share price

The interest in CSR is growing among companies, particularly in multi-national companies, but the motives behind are varying. Nonetheless, the commitment can be mostly attributed to an increasing pressure from stakeholders. On top of that, investors' interest in social and environmental issues is increasing and this affects their investment decisions to a larger extent as they recognize the importance of CSR (Dow Jones Sustainability Index, 2015).

Furthermore, in the literature, CSR is said to protect corporate reputation and to shape stakeholders' attitudes towards a firm. Furthermore, it can reduce the risk of bad publicity or pressures from NGOs.

Therefore, it can seem intuitive to think that consumers are more willing to accept an organizational transgression when a company shows a strong commitment to social and environmental challenges.

Following on from this, our third hypothesis has been drawn up:

Hypothesis 3: : Companies showing a high commitment to corporate social responsibility see their stock returns less negatively impacted when a crisis strikes.

Assumptions:

In this study, a firm is said to have a high-level of CSR commitment if it is listed in the *Dow Jones Sustainability Indices* (DJSI), worldwide or regionally. DJSI are a series of indices assessing the sustainability performance of thousands of listed companies. RobecoSAM partnered with S&P Dow Jones Indices for the publication and calculation of these indices (RobecoSAM, 2017). To be incorporated in the DJSI, companies are evaluated based on economic, environmental, and social dimensions. The assessment criteria are weighted and they include, inter alia, corporate governance, corporate citizenship, labor practices indicators, and environmental performance. Detractors assert that this index favors larger companies and gives priority to economic factors rather than environmental and social issues (Fowler & Hope, 2007). But, although this index can be subjective, the methodology used is transparent, long-term oriented and indices are updated yearly. For these reasons, supplemented by the fact that DJSI has a global reach, one can reasonably rely on this index to cluster our sample of listed companies according to their CSR level.

4.2.4 Impact of cultural dimensions on share price

As shown in our literature review, multiple authors studied the link between culture and the crisis response strategies. Based on Hofstede's cultural dimensions, authors often shed lights on the best strategies to follow for each type of culture. Although our study relies on those previous researches, in our research we rather want to understand how the cultural context of an organization can influence the impact of a crisis. This paper, therefore, aims at

determining whether cultural differences can explain why organizations in distinct countries are subject to different impacts when a crisis occurs.

We first noticed that experts agreed that members of collectivistic cultures were more tolerant towards losses due to the cushions hypothesis. One can thus think that when a crisis occurs in collectivistic countries, investors may be less reactive and less affected by the fear of losses. This could lead to smaller negative abnormal returns for companies with a majority of collectivistic investors.

However, other evidence showed that culture could impact stock patterns differently. According to Chui et al. (2010), the herd-like behaviour, pushing investors to follow the group's consensus, could lead to overreactions. There is a chance that this behaviour could lead collectivist investors to cause higher markets crashes. Their individualistic counterparts, which tend to place higher confidence in their own information rather than the group consensus, could each have different reactions leading to less pronounced effects on the stock market. Moreover, the fact that individualists generally appear to be more optimistic might also have a positive influence on the magnitude of abnormal returns when a crisis strikes a company. Finally, Anagondahalli and Turner (2012) demonstrated that, unlike individualistic cultures, collectivists tend to attribute the blame to the organization rather than individuals when facing a crisis. Authors also argued that they are less inclined to trust organizations. According to this, we believe members of collectivistic cultures may be more inclined to doubt the entire organization itself more when a crisis occurs than individualists who might only attribute the blame to individuals without questioning the whole organization.

Those reasons led us to build the following hypothesis:

Hypothesis 4a: : Companies in individualistic cultures see their stock returns less negatively impacted when a crisis strikes.

In times of crises, it can also seem interesting to understand how the degree of uncertainty avoidance, present in certain cultures, can be impactful on the stock pricing. Indeed, organizational crises appear to be threatening and ambiguous situations for investors. The extent to which investors tolerate uncertainty might affect their reaction and consequently

the stock prices. It can be easily shown that uncertainty avoidance is positively correlated with the loss aversion. Therefore, investors in high uncertainty avoidance cultures may also tend to overreact and be more risk-averse (Berthelsen & Schade, 2015).

From this, follows our second hypothesis related to the cultural variability and stock pricing:

Hypothesis 4b: : Companies in countries characterized by low uncertainty avoidance see their stock returns less negatively impacted when they are confronted to a crisis.

Assumptions:

The following assumptions need to be made to test the significance and the impact of the two previous hypotheses:

- We observed that different authors criticized Hofstede for assuming that one culture can be represented by one country. Nevertheless, we are going to use Anagondahalli Turner's idea (2012) that acknowledges that culture is a complex amalgam of multiple factors and at the same time understands that nationality still remains a crucial determinant of the cultural identity of individuals. Therefore, we are also going to make the assumption that a culture equals one country.
- Our second assumption consists in saying that the companies originate from the country in which their headquarter lies.
- Finally, while we realize that we live in a global world in which new technologies enabled investors to invests in stocks from every stock exchange. However, we assume that there is a minority of foreign investors in each stock exchange market. Bump (2017) supports our assumption as he claims that the percent of corporate stock held by foreign investors reaches 35 percent on the U.S stock market. The Nikkei Asian Review (2015) claimed that foreign stock ownership reached 31 percent of all Japanese stocks.

Those assumptions are crucial to be able to draw conclusions on the effect of the investor's culture on the stock volatility when crises occur in companies.

Chapter 5

Methodology

5.1 Abnormal stock returns

“What is important in market fluctuations are not the events themselves, but the human reactions to those events.” (Bernard Baruch)

As it is barely unfeasible to measure the direct impact of a crisis on a firm profitability, one can investigate how a crisis is perceived by investors. Indeed, it is widely accepted that the impact of an event is immediately reflected on stock prices. The explanation behind has already been mentioned in the first section and sustains that, as the market is rational and efficient, stock prices adjust quickly to new information (Fama et al., 1969; MacKinlay, 1997). To measure an event’s impact, the most commonly used methodology is the *event study*. The objective of this approach is to evaluate the abnormal returns caused by the crisis using security prices over a relatively short period. Thus, one initially needs to calculate the normal or expected returns. Different models exist to calculate them, but this study will use the *Market Model*. According to this approach, the parameters of the expected returns are estimated by a linear regression based on the actual daily stock prices over a period preceding the crisis.

In an event study, three timeframes can be included, namely the estimation window,

the event window, and the post-event window. The initial task of our methodology was to determine the 3 first business days of the occurrence of the crisis, i.e. when the crisis became public. Usually, investors react to an event relating to a firm's financial performance on the first day already (Wright & Ferris, 1997). However, as information does not always arise at one single time, we decided to delimit the event period (T2) to the 3 first business days. Secondly, the estimation period (T1) used to calculate the expected returns was delineated as the 30 days preceding the event period. Finally, the post-event period (T3) starts on day 4 and ends on day 30. The purpose of this window is to examine the longer-term impact on the company following the event (MacKinlay, 1997). In the post-event window, the abnormal returns are analyzed both after 10 days and 30 days. Supported by Fama (1998), we decided to exclude the long-term post-event window, i.e. after 1 month, as the true movement caused by the event might be hard to distinguish from others, and therefore does not add any value.

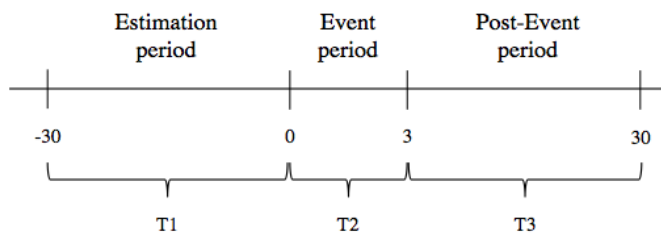


Figure 5.1: Event Study Timeline

The following paragraph explains in details the calculations. The abnormal return, i.e. the return that can be attributed to the crisis, is calculated by subtracting the expected return from the observed stock return:

$$(1) AR_{it} = R_{it} - E(R_{it}) \quad (5.1)$$

where :

AR_{it} = Abnormal return on stock i on day t ;

R_{it} = Actual return on stock i on day t ;

$E(R_{it})$ = Expected return on stock i on day t .

To determine the expected return $E(R_{it})$, the Market Model requires an estimate of the market portfolio in order to calculate the volatility of the stock's return to the return of the market. As highlighted by Brown and Warner (1980), the choice of the market index has a great importance for event study tests. Therefore, each firm has been associated with its corresponding market benchmark, i.e. depending on where its stocks are traded, and of its headquarter's localization if it is traded on several stock exchanges. Each company located in the USA has been assigned the stock index *S&P 500*, the preferred market benchmark because of its depth and breadth, while companies located in the Eurozone and Asia have been compared to the *Euronext 100* and the *S&P Asia 50* respectively. Specific market indexes have been selected for Japan and the United Kingdom, *Nikkei 225* for the former, and *FTSE100* for the latter. This is due to the fact that their respective currency is different from their neighbours and that their national equity market is important enough to well reflect stock transactions. Countries that do not belong to one of these regions are not part of our sample. To sum up, these stock indexes will be used to calculate the beta factor of the regression model.

$$(2) E(R_{it}) = \alpha_i + \beta_i * R_{mt} \quad (5.2)$$

where :

α_i = Intercept term of stock i ;

β_i = Regression coefficient of stock i ;

R_{mt} = Return of the market m in period t .

To obtain the parameters of the regression, the linear regression has been computed with the software *R* using the daily stock returns of the concerned firm and its related market index over the estimation period (T1). These returns have been calculated based on the close

share price subtracted from *Bloomberg* Terminal.

When the abnormal returns of the 30 days following the crisis occurrence have been calculated, they need to be aggregated across time in order to ascertain their magnitude over the entire event (equation 5.3) and post-event period (equation 5.4 and 5.5).

$$(3) \ AR3_i = \sum_{t=T_1}^{T_2} AR_{it} \quad (5.3)$$

$$(4) \ AR10_i = \sum_{t=1}^{10} AR_{it} \quad (5.4)$$

$$(5) \ AR30_i = \sum_{t=1}^{30} AR_{it} \quad (5.5)$$

In order to provide the theoretical basis required for the use of the event study to test our hypotheses, one needs to set the following assumptions, that are widely shared in existing finance literature:

Assumption 1 - Efficiency of the market:

The financial implications of the crisis on the firm are accurately reflected by the market.

Assumption 2 - Unforeseeability of the event:

The abnormal returns indicate the reaction of the market to the unexpected crisis.

Assumption 3 - Isolation of other event's effects:

The correlation between the firm and the market index is not confounded by other events.

5.2 Linear regression and significance testing

After having computed abnormal returns for each firm composing our sample, we wanted to test whether the contextual factors, i.e. industry belonging, client's nature, CSR commitment, and cultural scores on individualism and uncertainty, partially explain the magnitude of the crisis impact on stock returns.

The linear regression is the most common method to explain a relationship between variables. It analyses 1) if a set of explanatory variables predicts accurately a dependent variable, 2) which variables in particular are significantly influencing the outcome variable, and 3) the magnitude and sign of the estimated impact (Wackerly, 2008).

The use of this model requires to fulfill the assumptions outlined below:

a) *No significant outliers:*

With the use of SPSS software, every outlier has been removed from our sample (annex 2.1).

b) *Independence of observations:*

Each observation is independent of each other.

c) *Homoscedasticity:*

The test of White gave us a p-value higher than 0,05, which lead us to conclude that variances are homogeneous (annex 2.2).

d) *Approximate normal distribution of residuals:*

Both the plot and the Shapiro-Wilk test bolster our assumption of normality (annex 2.3).

e) *No multicollinearity:*

No multicollinearity means that no independent variable is correlated to another independent variable, in other words, there is no redundancy in the information contained in predictor variables. This assumption has been tested using the Variance Inflation Factor (VIF) values. It provides an index that measures how much the variance of an

estimated regression coefficient is increased because of collinearity. A value lower than 2 allows us to assume no multicollinearity (annex 2.4).

After having fulfilled each assumption, the linear regression has been applied. Before interpreting the value of the coefficients of each independent variable, it is necessary to conduct a t-test to check their significance. A p-value smaller than 5% leads us to reject the null hypothesis (i.e. coefficient = 0) and therefore conclude to a significant influence of the variable on the abnormal return.

Finally, we are also going to use Welch's t-test. This statistical test is going to help us figure out whether two categories have means that differ significantly. It is frequently used when two populations have unequal sample sizes and different variances. The null-hypothesis consists in saying that the means are equal. The goal of the test is to be able to check if we can reject at a certain confidence level the null-hypothesis and conclude that the means differ and do not overlap. This test is going to be used for the variables with p-values higher than 0,05. To determine whether there is still a difference between the two categories of the binary variables we are going to use those specific t-tests.

5.3 Interaction effect of CSR with other contextual factors

Following the analysis of the independent impact of each variable on the abnormal returns, it is worth asking if there is an interaction between the level of CSR of a company and the other factors inherent to the organization. Indeed, subsequently to this analysis, we aim at understanding for which contextual factors it is particularly relevant and interesting to invest in CSR to avoid big stock crashes. Among the four factors considered, CSR is the only one that a firm has the ability to change, while whether a firm is in a certain industry, is B2B or B2C, or is rooted in one culture is intrinsic to the firm.

The two-way analysis of variance (ANOVA) is a statistical test used to determine if there is an interaction between the two independent variables on the dependent variable. The interaction term will inform us whether the effect of CSR on the abnormal returns is the same across all levels of the other independent variable.

This test has been conducted to test the interaction between CSR and each of the other variables: industry, client's nature, individualism and uncertainty avoidance. In this study, we only analyzed the interaction between CSR and one of the others factors, as a interaction of three or more level would not have been representative.

This process involves checking that our data meet some assumptions (SPSS, 2018):

- First, our dependent variable should be approximately normally distributed for each combination of the groups of the two independent variables. For sample smaller than 30, the Shapiro-Wilk test is the most appropriate. If the p-value is greater than 0.05, the null hypothesis that the data came from a normally distributed population cannot be rejected. This assumption has been met for each combination (annex 3.1).
- Second, there needs to be the homogeneity of variances for each combination of the groups of the two independent variables. Here again, if the p-value of the Levene's test is greater than 0.05, we can assume the homogeneity of variance across groups. It has also been met for each combination (annex 3.2).

Chapter 6

Results

6.1 Aggregate abnormal returns after the 3 first days

Table 1: Aggregate abnormal returns (AAR) for the 3 first days			
N = 31	Estimated Coefficient	P-value	Significance
Intercept	0.002021	0.8457	No
Industry: Prone	0.004292	0.6246	No
Client's nature: B2C	-0.023427	0.0133	Yes (α level 5%)
CSR level: Low	-0.022852	0.0157	Yes (α level 5%)
Individualism: High	0.020123	0.0568	Yes (α level 10%)
Uncertainty Avoidance: Low	0.018521	0.0728	Yes (α level 10%)
Residual Standard Error:	0.02313	R-squared:	0.4955

Table 1 displays the results from the first regression. This regression describes the contextual factors impacting the stock returns after the first three days of the organizational crisis. As we decided to employ a significance level of 10%, it appears that all variables are significant except for the intercept and the first explanatory variable, the industry type (as $p > 0.1$). Even if the coefficient is positive and slightly higher than zero, we cannot reject the null hypothesis saying that the coefficient of the independent variable crisis-prone is different

from zero. Therefore, we cannot scientifically confirm our first hypothesis assuming that companies belonging to crisis-prone industries will see their abnormal stock returns less negatively impacted when a crisis strikes. The p-value equivalent to 0.8457 for the intercept also prevents us to draw a conclusion on its value. Not knowing the value of this constant does not appear to be a problem for our research as we want to understand the relative importance of the different factors rather than estimate the exact value of the abnormal return.

The other variables are significant at a confidence level of $\alpha = 5\%$ for Client's Nature and CSR level, and at a confidence level of $\alpha = 10\%$ for Individualism and Uncertainty Avoidance. Our second hypothesis claiming that: "Business-oriented companies are less impacted by crises compared to the consumer-oriented organizations", is confirmed. As a matter of fact, the coefficient of the independent variable reveals that in our sample B2C companies faced approximately 2% higher stock return crashes than B2B companies. Our third hypothesis is also confirmed as the results show that companies with low CSR standards face bigger impacts when a crisis strikes than companies with high CSR. Indeed, similarly to the Client's nature variable, the coefficient of CSR level shows that socially responsible companies face 2,28% smaller impacts on their stock prices. When considering the two hypotheses linked with the impact of the cultural dimensions on the share price, we first observe that the results validate our individualism assumption. As a matter of fact, it appears that companies in collectivistic cultures face more negative abnormal returns. Indeed, the coefficient of the binary variable individualism shows a positive effect of 2,01% on the share price. Our fourth hypothesis predicted that companies in countries characterized by high uncertainty avoidance will be more impacted by organizational crises. However, this hypothesis is rejected in our regression. The coefficient of the Uncertainty Avoidance shows us indeed that in contrast to our assumption, organizations with low uncertainty avoidance will be more impacted by organizational crises.

A deeper analysis of our model shows that our R-squared is quite low as it approximately equals 0,5. In this case, it means that 50% of the stock pricing variability is explained by our model. It was foreseeable that our model was not going to explain the entire variability as we know that apart from the contextual factors which we studied, other factors like the crisis

communication or other crisis response strategies influence the magnitude of the abnormal returns.

Table 2: Summary of the hypotheses' confirmation of the 3 first days	
H1: AAR of companies from crisis-prone industries are less negatively impacted	Not significant
H2: AAR of B2B companies are less negatively impacted	Confirmed
H3: AAR of high CSR-rated companies are less negatively impacted	Confirmed
H4: AAR of companies in individualistic cultures are less negatively impacted	Confirmed
H5: AAR of companies in low uncertainty avoidance cultures are less negatively impacted	Disconfirmed

6.2 Aggregate abnormal returns after 10 and 30 days

Table 3: Aggregate abnormal returns (AAR) for the 10 first days			
N = 30	Estimated Coefficient	P-value	Significance
Intercept	0.023122	0.299	No
Industry: Prone	-0.008975	0.636	No
Client's nature: B2C	-0.006816	0.720	No
CSR level: Low	-0.037846	0.057	Yes (α level 10%)
Individualism: High	0.005975	0.786	No
Uncertainty Avoidance: Low	-0.047107	0.035	Yes (α level 5%)
Residual Standard Error:	0.04903	R-squared:	0.3685

Table 4: Aggregate abnormal returns (AAR) for the 30 first days			
N = 30	Estimated Coefficient	P-value	Significance
Intercept	0.073729	0.152	No
Industry: Prone	0.002272	0.958	No
Client's nature: B2C	-0.013291	0.759	No
CSR level: Low	-0.047493	0.283	No
Individualism: High	0.027508	0.586	No
Uncertainty Avoidance: Low	-0.102024	0.045	Yes (α level 5%)
Residual Standard Error:	0.1121	R-squared:	0.3

After having examined the impact of contextual factors after three days, we are going deeper into the analysis of the results. Our focus is now going to be directed on the post-event period. We are going to consider the effects of our variables after ten and thirty days. A first observation that can be done is that the R-squared decreases with time. Indeed, after ten days the R-squared drops to 36% and falls further to reach 28% after thirty days. The variability of the sample is therefore poorly represented by our regression. This was quite foreseeable as it could have been expected that a great number of factors come into play

to explain the stock patterns for such a period. Our factors solely would not be enough to perfectly explain the variability of the stock pricing.

Concerning the significance of our factors after the first ten days, it can be seen in table 3 that the Uncertainty Avoidance and the CSR level are still significant, respectively at a confidence level of 5 and 10%. The magnitude of their effects, revealed by the size of the coefficient, appears to be more negative than the one observed after the three days following the crisis. This implies that a low CSR level and low Uncertainty Avoidance further negatively impact the stock price after three days of the crisis period. For the other variables, the confidence level is bigger than 10%. This prevents us from rejecting the null hypothesis, thus confirming that they have an influence on the stock price when a crisis appears. Nevertheless, some trends still emerge. Indeed, the individualism and the client's nature explanatory variables for example seem to be less impactful than they were after three days.

After thirty days, it can be seen in table 4 that only the uncertainty avoidance variable is significant. It dis-confirms the hypothesis stating that companies in cultures characterized by high uncertainty avoidance are more badly impacted. Besides, trends seem to be appearing in this last regression. B2C, low CSR and Individualist variables have a non-significant negative impact on stock returns; while crisis-prone industry has a non-significant positive impact on the share price.

Table 5: Welch's Two Sample t-test for the CSR variable over 30 days	
P-value = 0.05748	Significant at 10%
Alternative hypothesis:	True difference in means is greater than 0
95 percent confidence interval:	-0.003212464 Inf
Sample estimates:	Mean in group High: 0.01942143 Mean in group Low: 0.05100000

As the coefficient of CSR is not significant and will be used for the next analysis, we strive to scientifically confirm whether there is a difference between the two categories of this variable. For this purpose, the Welch's test has been completed and is shown in table 5. This test, also called unequal variances t-test, is used to test the hypothesis that two populations

have equal means. It demonstrates that there is a significant difference in means in stock returns between high CSR and low CSR companies. After 30 days we can thus conclude that high CSR standards have a positive impact on the abnormal returns.

Table 6: Summary of the hypotheses' confirmation of the 10 first days	
H1: AAR of companies from crisis-prone industries are less negatively impacted	Not significant
H2: AAR of B2B companies are less negatively impacted	Not significant
H3: AAR of high CSR-rated companies are less negatively impacted	Confirmed
H4: AAR of companies in individualistic cultures are less negatively impacted	Not significant
H5: AAR of companies in low uncertainty avoidance cultures are less negatively impacted	Disconfirmed

Table 7: Summary of the hypotheses' confirmation of the 30 first days	
H1: AAR of companies from crisis-prone industries are less negatively impacted	Not significant
H2: AAR of B2B companies are less negatively impacted	Not significant
H3: AAR of high CSR-rated companies are less negatively impacted	Not significant but significant difference in means
H4: AAR of companies in individualistic cultures are less negative impacted	Not significant
H5: AAR of companies in low uncertainty avoidance cultures are less negatively impacted	Disconfirmed

6.3 Interaction between CSR and other contextual factors

As seen before in the analysis, findings highlight that high CSR companies face lower impacts than the ones with low CSR standards. The figure 6.1 hereunder, showing the substantial difference between the means of high CSR and low CSR companies across the event and post-event periods, illustrates this discovery quite clearly.

Furthermore, a deeper analysis can be done by splitting the lines obtained above into extra levels (figure 6.2). It can be seen that the four lines are showing different patterns. Starting from this we decide to push our analysis to the next level by attempting to understand the interaction between the contextual variables (i.e. Uncertainty, Individualism, Client and Industry) and the CSR level.

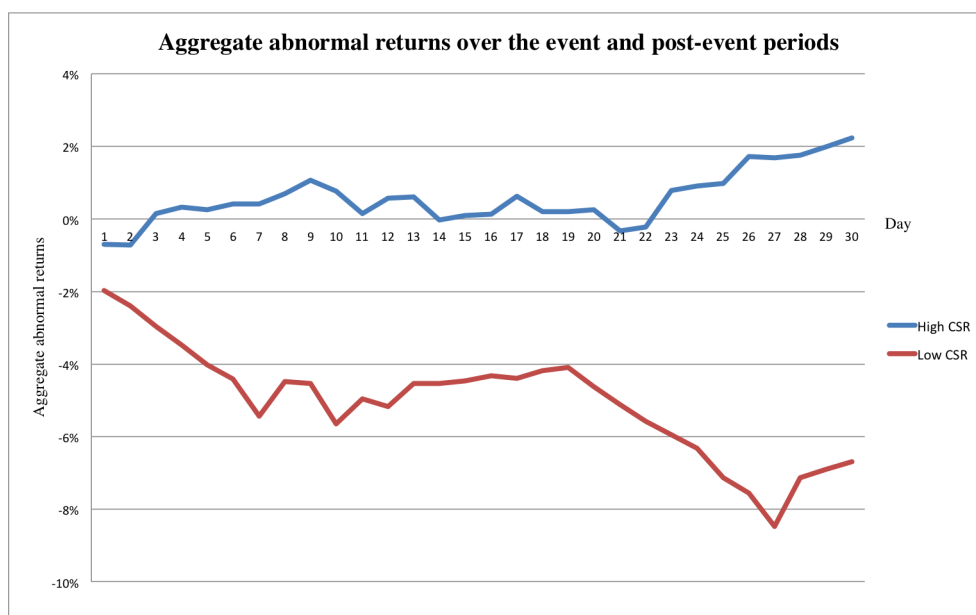


Figure 6.1: AAR according to the level of CSR

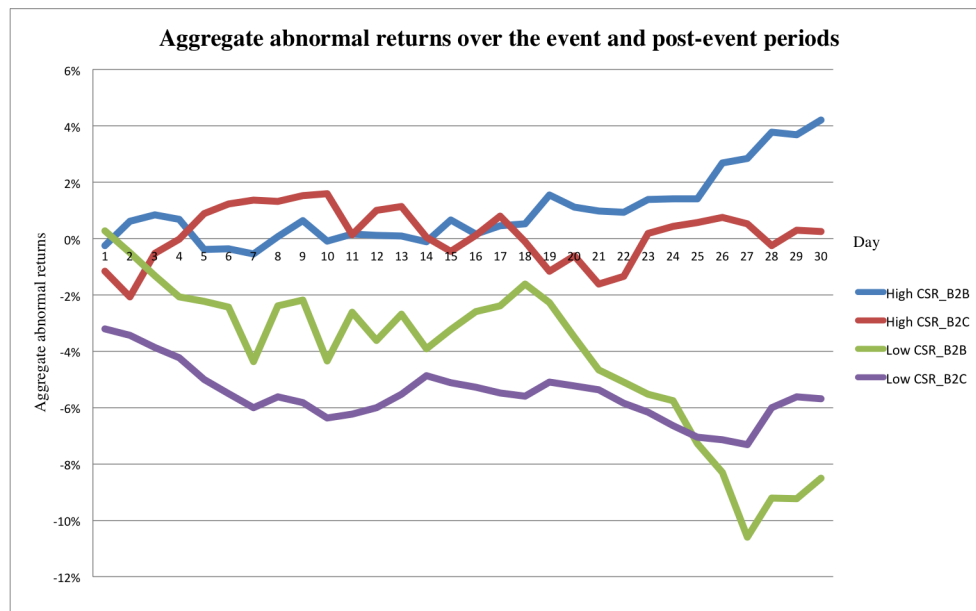


Figure 6.2: AAR according to the level of CSR and client's nature

The aim of this part of the analysis is to understand whether having high CSR standards could be more beneficial for companies of a certain type i.e. characterized by one category of a contextual variable. Consequently, the goal is to test if the difference in abnormal returns between high CSR companies and low CSR companies is significantly different for the two categories of a contextual variable (i.e. whether a B2C company has more incentives to engage in CSR than a B2B company). For this purpose, we will use the two-way ANOVA which helps to explain if there is an interaction between two independent variables (CSR and another contextual variable) on one dependent variable (abnormal returns). Two independent variables interact if the effect of one of the variables differs depending on the level of the other variable, meaning that the effect of CSR differs depending on whether companies are in low or high uncertainty avoidance countries, in low or high individualist countries, customer or business-oriented, or in a crisis-prone industry or not.

Practically, two situations can be seen. On the one hand, we could observe that the effect on the aggregate abnormal returns of any specific level change of CSR is the same for every fixed setting of the other explanatory variable. If this appears, there is no interaction effect between CSR and the other variable and we face a model called additive. On the

other hand, if different changes in stock returns appear where the other variable is fixed but there is a change in CSR, we can conclude that there is an interaction between CSR and the other independent variable. The profile plots, present in figure 6.3, help us visualize the means for two variables simultaneously. Those plots cannot be used to significantly determine whether an interaction is present or not but, help us suggest if we are facing an additive model or an interaction model instead. If lines are parallel on the graphs, this leads us to believe that there is no interaction between CSR and the other variable. Secant lines suggest that an interaction exists between the variables. Hereunder, in the graphs 6.3.1 to 6.3.4, we observe different trends. Indeed, while there does not seem to be an interaction between CSR and Individualism as the lines are nearly parallel, those graphs suggest possible interactions between CSR and Client nature and CSR and Uncertainty Avoidance.

Nevertheless, even if those plots are good visualization tools, they cannot be used to significantly argue whether interactions are present or not. To do this, we need to perform significance tests and try to reject the null hypothesis saying that we are facing an additive model. If the *p-value* is lower than our confidence level, we can reject the null hypothesis and conclude that the non-parallelism observed on the plots corresponding to an interaction effect is confirmed.

Unfortunately, the analysis of our results in the ANOVA does not enable us to reject the null hypothesis. As it can be observed in table 8, the *p-values* are higher than 0,05. Therefore, we cannot significantly confirm that an interaction effect exists between CSR and the other variables.

Table 8: Interaction effect between CSR and other explanatory variables		
CSR*Uncertainty	P-value = 0.389	Interaction effect is not significant
CSR*Individualism	P-value = 0.894	Interaction effect is not significant
CSR*Client	P-value = 0.506	Interaction effect is not significant
CSR*Industry	P-value = 0.795	Interaction effect is not significant

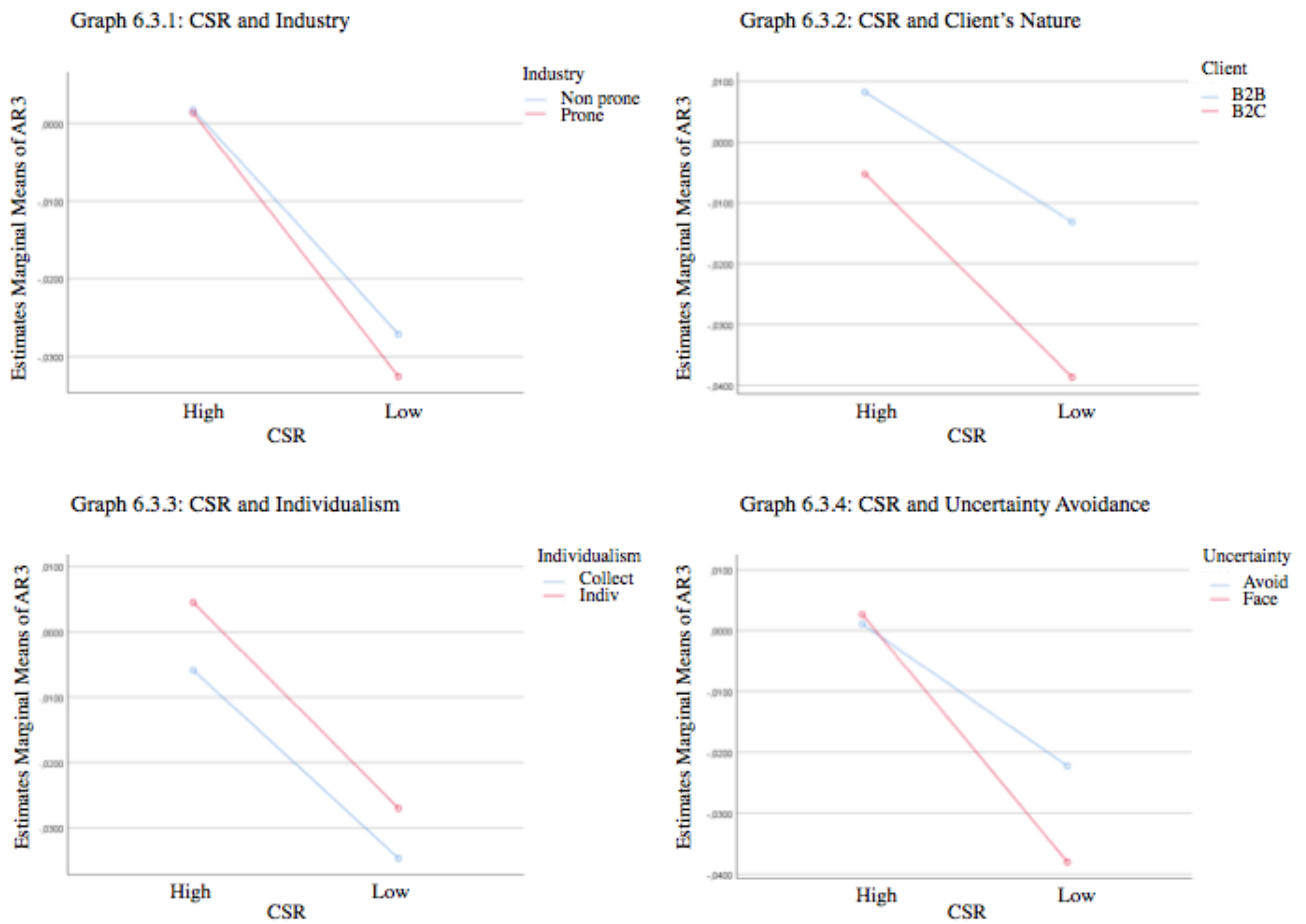


Figure 6.3: Two-way ANOVA graphs

Chapter 7

Discussion

This part of the study is intended to discuss our findings. To that end, we are going to stay consistent with our approach used previously. Consequently, this discussion will first start with the analysis of the short-term and direct impacts of the contextual factors on the stock returns. After considering them, we will verify whether our findings still hold when we consider longer terms. Finally, we are going to examine the interaction effects between CSR standards and the rest of the independent variables. The goal in this ultimate part is to understand whether certain companies, characterized by specific contextual features, have higher incentives than other companies to invest in CSR measures and avoid large crisis impacts.

Short-term impacts of the contextual factors on the stock returns

a) *Crisis-prone industries*

Authors showed that the industry influences the strategy of the crisis response (Diers, 2009 ; Diers & Tomaino, 2010 ; Glynn, 2000) and that industrial identity influences environmental, economical and social responsibility of a firm. However, we found insignificant results on the stock returns regarding the influence of the belonging to either a crisis-prone or a non crisis-prone industry. An example in the automobile industry illustrates that companies do not especially learn from crises of their peers. Indeed,

Toyota and General motors faced massive recalls in the past. Consequently and according to our hypothesis, companies like Volkswagen and recently Mercedes should have learned from their homologues' past mistakes. Nevertheless, history tells that they did not take appropriate measures when facing these recalls and the threat of huge fines, and that the impact on stock markets was substantial.

In the literature, a cause-and-effect relationship has been made between crisis experience, crisis preparedness and lower crisis impact (Labas, 2017 ; Jaques, 2008). However, the rationale sustaining that crisis-prone industries are better crisis prepared does not appear to be convincing. Moreover, crisis experience might not be effectively taken as an opportunity to learn. These premises underline the basis that, even if an industries is crisis-prone, it does not mean that it is better equipped to face a crisis, nor that it has set up crisis management practices in the organization's strategy, especially effective and consistent ones. Hence, it is still true that benchmarking competitor's crisis management systems helps to identify areas of improvement in its own system. However, companies seemed to fail in the integration of learning and copying effect. This could be due to the fact that reaping benefits of the experience of a crisis is challenging.

There are several explanations for the non-significant influence of the industry on the impact. One must not neglect that it can be due to our sample of organizations. This one could be not enough representative of each industry, or not well enough spread over time. However, considering that our sample is sufficiently representative, the impact' severity can be influenced by human reactions that can arise in every organization regardless of the industry. Our study favors 4 different ones: the overregulation, the risk aversion, the manager's inflated ego and the manager's greed. Each of them can be easily identified in organizations and are put forward by many authors experts in the field. Indeed, a classical answer after a crisis, practiced by many authorities and enterprises, consists of an investigation to avoid the reproduction of the event. But the only result is the appearance of new rules. This is inadequate for two reasons. First, even if the new rules are appropriate and well communicated, they only supplement

the previous ones. Yet it is the coupling of different rules that often leads to crises. Second, if companies' main focus is to avoid to reproduce the same error, they might neglect that making mistakes is actually a meaningful way to evolve (Giolito & Verdin, 2018). Besides, a typical attitude displayed by managers when they are close spectators of crises hitting others, is to pretentiously assume that crises won't happen in their organizations (Mitroff & Pauchant, cited in Jaques, 2008). Finally, the ideology rooted in the capitalism and valuing the possession of more wealth and power often leads to inadequate performance systems. When people only focus on the possibility of rewards, integrity is compromised and greed takes over. As Barack Obama said in front of General Motors' employees, in reaction to the famous quote "Greed is Good" from the film *Wall Street*, the attitude valuing greed over responsibility can't be prevailing anymore (Salles-Djelic, 2017).

b) *Relationship with clients*

Although our first hypothesis could not be significantly confirmed, this was not true for our second proposition. Indeed, we observed in the results that the aggregate returns of B2C companies were significantly more affected by crises than the ones of B2B companies. This enables us to confirm the assumption we have done regarding the client's nature. Business-oriented organizations thus appear to be less financially affected by crises compared to more consumer-oriented companies. To explain this result, light should be shed on the following reasons. We observed that consumer-oriented companies are generally more visible by individuals, therefore it can be argued that when a crisis occurs, those companies will be more exposed than their B2B counterparts. According to Bernstein (cited in Clemmit, 2015), as B2B brand names are less known publicly, when negative events of such companies appear in the news, the stakeholders may just ask "Who's that ?" and consequently not take the news into account. Moreover, we have seen that individuals are more inclined to build emotional connections and closer links with the B2C companies than businesses with each other. When confronted

by organizational transgressions, they might easily feel betrayed which could lead them to have tougher reactions and create more collateral damages to the B2C companies (Radart, personal communication, 2018). In the digital era, with the emergence of the social media, those individuals can share and get access to live information of the company's crisis without difficulty (Proof Strategies, 2018). Furthermore, consumers do not trust the same people anymore. They now trust real people on platforms, blogs or discussion groups more than the company's public relation team. Consequently, negative publicity could be seamlessly and almost effortlessly shared among the consumers. This could lead to substantial impacts on B2C's organizational reputation. This observation combined with the increasing power of individuals through the social media could clarify why B2C organizations, dealing directly with end consumers, are more likely to face higher negative impact when organizational transgressions occur.

c) *CSR level of commitment*

Similarly to the client's nature, low CSR standards were found to have a significant negative effect on the company's return when a crisis strikes. Our results support the idea that CSR measures can be considered as a cushion for the company's reputation. It reduces the impact's severity on the financial returns when the company is facing a crisis where its responsibility is engaged. The seriousness of the organization's transgression therefore appears to be mitigated by prior high societal responsibilities. This implies that CSR engagement, or in this case poor CSR engagement, in fact has an impact on the investors' perception of the firms. In other words, companies who do not put enough efforts into CSR activities are punished.

Besides, authors (Du, Bhattacharya, and Sen, 2010 ; Shim & Yang, 2016 ; Zhang & Borden, 2016) showed the importance of the sincerity and honesty of the CSR measures. Shim & Yang (2016) also argued on the importance of the consistency between CSR and business activities. Thus, failing in showing sincerity, honesty and consistency should according to the literature lead to counterproductive effects. However, our anal-

ysis shows that the motives do not especially play a determinant role in the magnitude of the impact. Indeed, according to our study, any company listed on the Dow Jones Sustainability Index faces in average less negative abnormal returns. But the criteria of this index do not reflect less tangible aspects of CSR engagement and thus don't make difference between companies according to their sincerity or the consistency in engaging in CSR activities.

d) *Cultural level of individualism*

Further, we explored whether cultural biases could influence the magnitude of the crisis on the stock market. Once again, our results demonstrated significant impacts on the abnormal returns measured three days after the crisis. Although Hofstede's dimensions were subjected to criticism, our model showed that some cultural categories showed significant patterns in crisis stock markets reactions. Indeed, we first confirmed that companies in individualistic countries were facing lower crisis impact than firms in collectivistic cultures. To explain the rationale behind this, we assumed that this difference was due to distinct cultural characteristics between individualist and collectivist investors. One of the biggest argument consisted in assuming that collectivistic investors were more inclined to have herd-like behaviours. This could lead them to collectively accept and put the blame on the company leading to a significant impact on the stocks of the company. In contrast to the collectivistic investors, individualists tend to put more emphasis and confidence in their own information. Therefore, instead of following the group consensus, the chances are bigger that they each will form their own opinion of the magnitude of the crisis and react accordingly. As the reactions tend to vary more among investors of individualistic cultures, collective group overreaction to the crisis is less likely to occur. This could be one of the reasons why companies in collectivistic cultures face higher impacts on their stock price when facing organizational transgressions.

e) *Cultural level of uncertainty avoidance*

We also studied the impact of uncertainty avoidance on the stock returns. Interestingly, while we first thought that in high uncertainty avoidance countries people would react more negatively to crises, our results showed the contrary. This could be explained by the fact that we analyzed this situation from the investors' perspective. As a matter of fact, we believed that the difference in stock returns were direct consequences of the level of uncertainty avoidance of investors. However, if we adopt a different viewpoint, our findings then appear meaningful. Let's indeed now consider decision-making perspectives in companies evolving in low uncertainty avoidance countries. It could be assumed that managers of those organizations will be more inclined to take bigger risks than their homologues in high uncertainty avoidance countries. Consequently, they could take riskier decisions. Moreover, it could be expected that high uncertainty avoidance managers might tend to take more precautions and measures to prepare themselves to crises than their counterparts. Rationally, one could thus assume that the combination of those two effects leads to smaller impacts on the company's stocks. Analyzing the impact of uncertainty avoidance on crisis financial impacts through the "managerial decision-making lens" can help us understand why our findings pointed out the higher impact of crises in low uncertainty avoidance countries.

Sub-conclusion: Taken together, our findings reveal the existence and significance of contextual factors' effects on the stock price three days after the occurrence of the crisis. This confirms that firms should take the context into account and be aware of the environment in which they evolve when they are considering crisis management plans. Doing so they are more likely to be able to diminish the ambiguity and minimize their responsibility by applying accurate responses.

Long-term impacts of the contextual factors on the stock returns

Our analysis of the short-term impacts revealed that different contextual factors were significantly influencing the abnormal returns after the occurrence of the crisis. To determine whether those impacts are still significant on longer terms, we extended our analysis to the effects after 10 and 30 days.

We observed that different variables, that were considered as significant and impactful on the share price after three days, were not significant anymore 10 and 30 days after the manifestation of the transgression. Different reasons could be used to explain this observation. First, it could be argued that the significativity of the coefficient might be lower as we decreased the size of our sample to get rid of the outliers and we also faced a bigger variance as the stock price were more volatile over a 30 days-period. So, the first reason could be linked to the limitations of our sample. However, we believe that other factors could come into play and explain this difference in significativity and in the magnitude of the coefficient. As a matter of fact, one could think that for a 10 or 30 days-period, other variables like the crisis response strategy or crisis communication and crisis management plan could be more influential on the stock price than the variables we studied. Let's consider the example of Tianjin explosion to illustrate this point. This crisis happened after chemical containers exploded in the city of Tianjin in China. Because of the explosion, 173 people were killed and 797 were injured. After three days, the impact on the share price was large (3% drop) but the stock fell further and further to reach an aggregated decrease of 11% after 10 days. This was partially due to the extremely poor crisis communication. The managers and the government in fact decided to give as low information as possible and banned the information dissemination on the social media. This led to the creation of rumors which further increased the effect on the share price. Although after three days, we confirmed one of our hypotheses stating that "business-oriented companies are less impacted by crises on stock market compared to the consumer-oriented organizations", this illustration shows that assumptions we made are not all relevant for 10 and 30 days. Indeed, while we assumed that B2B companies were not as publicly known as B2C companies, this case shows that B2B companies can gain negative

notoriety when such crises occur leading to high impact on the share price. This illustration demonstrates that the impacts are not the same for all contextual factors after three, ten or thirty days.

Nevertheless, it appears in the results that the CSR level and the uncertainty avoidance still show the same trend in the long term. This supports the explanation done before assuming that in low uncertainty avoidance countries, managers will take more risks and this might lead to higher crisis impact even in the long term. It also demonstrates that high CSR standards help the companies to have lower stock price drops. Companies should therefore consider the investments in CSR as a tool to manage crises as this might cushion the impact of the crisis on their stock.

Interaction between CSR and other contextual factors

Our paper showed hereinabove that high CSR standards lead to lower financial impacts. We pushed our analysis further to understand whether companies characterized by specific features, contexts have higher incentives to invest in CSR as a crisis management tool. In others words, we analyzed if there are interactions between the CSR and the other variables. It appeared in the results that no variable could be proved to have a significant interaction effect with CSR at a confidence level of 95%. Consequently, we cannot prove that certain types of companies have more incentives than others to have high CSR standards. However, while it can be seen that the difference in stock returns' means between high and low CSR companies is the same for individualistic and collectivistic countries, when visualizing the graphs 4.2 and 4.4, it could be noticed that it does not seem to be the case for the variables Client's Nature and Uncertainty Avoidance. The difference in means between high and low CSR is way bigger for B2C companies than B2B companies and substantially bigger for low uncertainty avoidance companies than the high uncertainty avoidance ones. Consequently, B2C and high uncertainty avoidance companies should have higher incentives to invest in CSR measures in order to face lower impact when a crisis occurs.

Chapter 8

Conclusion

8.1 Conclusion of our study

In the recent past, many companies overcame a crisis situation but very few effectively managed the event. Multiple pieces of research analyzed the impact of specific crisis management plans and provided guidelines on strategies to follow. Even if each crisis is unique, authors argued that specific responses should be taken for certain types of crises in order to minimize the impact on the organization. However, it appears that little research tries to determine how contextual aspects of the company can influence the magnitude of the crisis impact on its financial performance. Currently, no paper studies how the environment in which companies evolve could explain why certain organizations facing organizational transgressions are more affected by crises than others. In order to bridge this gap in the literature, we attempted to understand the role of some of the companies' contextual factors in explaining abnormal returns arising when crises occur.

The empirical investigation of the crisis impact on companies' stock returns was conducted through an event study. The estimation of the normal returns was based on the 30 days prior to the event, and the aggregated abnormal returns were calculated over the event (day 1 to day 3) and post-event windows (day 4 to day 30).

The results over the short term period, meaning the 3 first days after the occurrence of the crisis, showed that most of the inherent characteristics of companies that were analyzed are significantly influencing the magnitude of the crisis impact on stock markets.

Firstly, B2C companies suffer on average more than B2B companies from a crisis. Indeed, stakeholders' engagement consists of emotional and cognitive aspects. Therefore, their reaction, which has a knock-on effect on equity markets, should be heavier for companies which are more visible and familiar to them.

Secondly, the CSR engagement of a company has been proved to significantly influence the perceptions of investors, and protect the company's reputation, regardless of the motives and consistency of the firm's activities.

Thirdly, it has been demonstrated that one of the two cultural dimensions covered in our study significantly influences the stock returns. As individualists give more importance to their private information, the collective overreaction is mitigated and the impact on the share price is lessened. However, the influence of the level of uncertainty avoidance in a country has also been significantly confirmed but is in contradiction to what we a priori assumed: countries where the uncertainty avoidance is high are more severely impacted financially. From a different perspective, it appeared logical to state that managers should be more cautious and better prepared in countries where uncertainty avoidance is high.

Fourthly, the belonging to a crisis-prone industry does not appear to be a significant factor of differentiation in stock returns, but the overall trend is that companies from crisis-prone industries are in average less punished by investors.

In the longer term, these contextual factors are less significant in the explanation of aggregate abnormal returns. Only CSR engagement and uncertainty avoidance were proved to be meaningful explanatory variables for a horizon of 10 days, and only uncertainty avoidance for a horizon of 30 days. However, both of them still show the same trend than for a short-term period. The reason why factors linked to the context of the organization explain less the

abnormal returns in the longer term is certainly due to the fact that other factors linked to the crisis management itself come into play.

Finally, this study demonstrates that the effect of the commitment to CSR differs according to features of companies. This analysis has been conducted because, from each of the contextual factors covered in the study, only the CSR commitment is not inherent to the firm and depends on the firm's willingness. Our results already proved that a firm with high CSR commitment is better off than a low CSR commitment one when a crisis strikes. However, this study strives to go deeper by analyzing the magnitude of the CSR cushion effect according to the different factors. If it cannot be scientifically confirmed that the benefit to be highly socially responsible differ according to the individualism dimension, we found that difference in stock returns' means between high and low CSR companies is significantly bigger for B2C companies than B2B companies, and the same pattern applies according to the uncertainty avoidance dimension. Therefore, this research should function as a motivator for continuously invest in CSR for every company. However, customer-oriented companies and organizations rooted in a culture where the aversion to risk is high have even bigger incentives to seek for high CSR standards.

This study gives investors, companies as well as stakeholders a better insight into the influence of the environment of a company in times of crisis. The topics covered may also be valuable to managers in order to take into account the context in which their company is evolving into account, and to grasp the importance to have high CSR standards in specific contexts.

8.2 Limitations of our research

While we believe this study leads to progress in the crisis management literature, it is necessary to acknowledge and stress its limits. Readers should indeed understand the limitations of our methodology and approach before considering this study's final findings. The main limitations of our research will be described below in three sections.

The first concern that can be raised is related to our sample size. We were able to find and analyze 44 examples of crises. However, among this number, we had to drop 13 crises out of our sample to respect the hypothesis of normality when performing the statistical tests. While we obtained significant results for the three days-period following the organizational crisis, different variables were not significant anymore after 10 and 30 days. One of the reasons behind is the increase of variability of the stock prices for those longer term periods. Therefore, even if trends appear, we were unable to scientifically confirm some of our hypotheses for that portion of time. Moreover, when considering the interaction effects of certain variables with the CSR level, we noticed that our sample could be considered not large enough to confirm or disconfirm with great confidence the potential existence of an interaction effect. Consequently, future authors could expand our sample or build a bigger one to obtain more insights and findings.

We also believe it is crucial to be critical towards the methodology and approach we used. We believe certain issues remain in our analysis. It might for instance be said that the use of the Dow Jones Sustainability Index to determine whether the company is both socially and environmentally responsible or not can lead us to misjudge certain companies. Indeed, this index only considers large organizations. Consequently, we could be conducted to mistakenly count a company as not sustainable while this organization could just not be taken into account by the index. Other inaccuracies could have occurred when trying to find the exact date of the start of organizational crises. As a matter of fact, those crises are disclosed in different ways. Some can be made public via press releases, accusations, lawsuits and others

forms. Therefore, it is sometimes tough to determine the exact date of the occurrence of a crisis or know when the investors reacted on the stock market.

A final note that can be discussed is the lack of prior research made on this specific topic. It is important to have a well-established and existing literature to lay the foundations necessary to understand our research problem. However, in our case, the literature was not extremely furnished. Because of this unexplored gap in the research, we were unable to compare our approach with other perspectives. Hence, we believe that future research could really help the literature progress in this field.

8.3 Research perspectives

Some of the limits encountered in this research undoubtedly represent an opportunity for deeper analysis of this topic. As one of the pioneering studies in the field of crisis contextual factors, this paper and its findings encourage authors to further reflection. One could for example argue that combining the impact of contextual factors, studied in this thesis, with the crisis response strategies could lead to an improvement in the crisis management literature. Indeed, we believe that joining those two studies together could help managers understand which responses strategies fit the best to the contextual environment in which their organization lies. Thus, we suggest future researchers examine the impact on the share price of certain crisis response strategies used in specific organizational contexts. This potential future research could help managers develop best crisis management practices within a defined context. This analysis would be complementary to ours and help our paper take on its full meaning.

Moreover, we believe it could be interesting for future researchers to conduct a study examining the impact of contextual factors on other metrics than solely the share price. Experts could test the impact of the same factors but on non-financial metrics. The influence on the company's reputation or on the employee's turnover could for example also be analyzed. Acting in such a way would be valuable for managers as they would then be able to understand the effect of such crises on diverse factors all reflecting the health of the company. Analyzing other metrics than the share price could open the doors to the investigation of the impacts of our contextual factors on non-listed companies. The example of sex scandals recently faced by NGOs proves that not only quoted companies have to deal with crises. This indicates that it could be worth the effort to target a wider range of organizations than the publicly traded companies only.

Finally, deeper research is needed to ensure an even more comprehensive and accurate analysis. As a matter of fact, our analysis does not claim to consider all the potential factors

that could be impactful on the share price in times of crises. We realize that the list of factors considered in this study is not exhaustive. Unanswered questions in our study could become project opportunities for future researchers. Therefore, we advise practitioners to develop the reflection to other aspects. They could, for instance, examine whether the size of a company will influence the magnitude of the crisis. In other words, future research could analyze if multinationals face similar impacts than small and medium-sized enterprises when hit by a crisis. Although we already investigated the influence of the client's nature type on the magnitude of the crisis, authors could also focus their attention on the effect of the nature of the company's activities on the stock abnormal returns. This could be interesting as some might think that sensitive businesses like the ones in the tobacco, alcohol, nuclear or chemical industries could face higher reputational risks and financial impacts when facing a crisis. Finally, in a broader research perspective, we think that upcoming researches could pay particular attention to the country of origin effect and its impact on the share price of a company dealing with an organizational crisis. Put differently, researchers could analyze whether the regional origin of the company influences the consumers' reactions and attitudes when the organization is going through a crisis.

Suggestions presented above prove that this topic still needs to be studied in depth. Only then will the crisis management literature truly help managers take efficient measures to establish crisis responses strategies adapted to their company's context.

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Appendixes

Appendix 1: Crises sample

1. 21Vianet Fraud scandal (2014) - Technology
2. AGC Cartel (2008) - Materials
3. Alibaba counterfeit goods China crisis (2015) - Retailing
4. Alstom Bribery (2014) - Capital Goods
5. Anadarko Colorado Blast (2017) - Energy
6. Apple Battery Slowdown crisis (2017) - Technology, hardware & equipment
7. Arcelormittal Cartel (2011) - Capital Goods
8. Astra Pharmaceuticals Sex Harassment (1996) - Pharmaceuticals
9. BP oil spill (Deepwater Horizon) (2010) - Energy
10. Cadbury's Salmonella Outbreak (2006) - Food products
11. Carnival Costa Concordia (2012) - Tourism
12. Carrefour Non fresh product video scandal (2017) - Retail
13. China Mengniu Dairy Chinese milk scandal (2008) - Food products
14. Daimler Dieselgate (2016) - Automobiles
15. Facebook Data Crisis (2018) - Communication Services
16. Findus (Nomad Foods) Horse meat scandal (2013) - Food products
17. France Telecom (Orange) Employee Suicides crisis (2009) - Communication services
18. Fujitsu President Dismissal (2010) - Technology

19. General Motor Recall (2014) - Automobiles
20. GSK China Corruption scandal (2013) - Pharmaceuticals
21. Hyundai Embezzlement (2010) - Automobiles
22. Zara (Inditex) Unpaid workers notes (2017) - Textiles
23. KFC (YUM!) China Food Safety Scandal (2014) - Consumer Services (Restaurants)
24. Kobe Steel Data fabrication scandal (2017) - Materials
25. Lehman Brothers Bankruptcy (2008) - Financials
26. Mattel defective magnets and lead paint crisis (2007) - Leisure Products
27. McDonald China Food Safety Scandal (2014) - Consumer Services (Restaurants)
28. China Mengniu Dairy Chinese milk scandal (2008) - Food products
29. Olympus Accounting scandal (2011) - Healthcare Equipment
30. Pernod Ricard Tax evasion Korea (2014) - Beverages
31. Philip Morris Marlboro youth campaign ban (2013) - Tobacco
32. Posco Patent infringement (2014) - Materials
33. Procter Gamble Human rights violations of palm oil (2016) - Household & Personal Products
34. Samsung Galaxy Note 7 explosion (2016) - Technology
35. SAP copyright infringement Oracle (2010) - Softwares Services
36. Sharp Price fixing conspiracy (2008) - Technology, hardware & equipment
37. Shell Reserves scandal (2004) - Energy
38. Siemens Bribery Scandal (2006) - Industrial Conglomerates
39. Tianjin Explosion (2015) - Capital Goods
40. Toyota Recall Scandal (2010) - Automobiles
41. Virgin Galactic Test Crash (2014) - Transportation
42. Volkswagen Emission Scandal (2015) - Automobiles
43. Wells Fargo Fake accounts (2017) - Financials
44. Zara (Inditex) Unpaid workers notes (2017) - Textiles

Appendix 2: Linear regression assumptions

Appendix 2.1: Boxplot

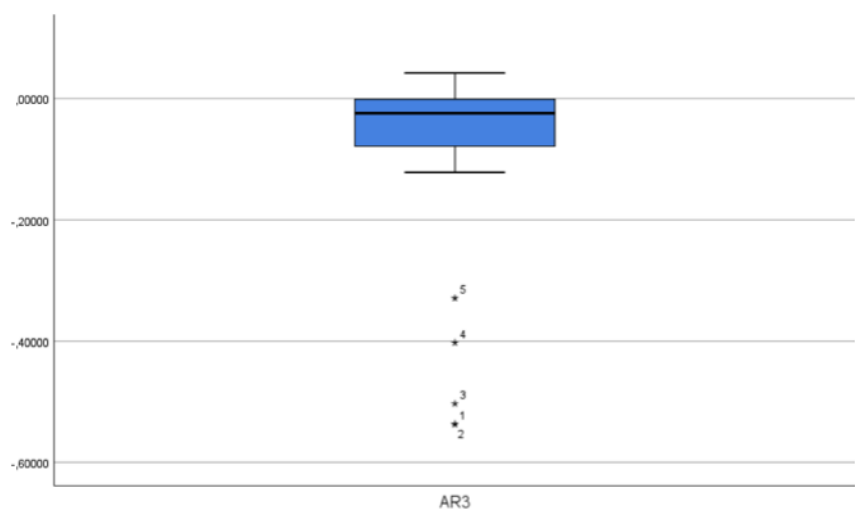


Figure 8.1: Boxplot

Appendix 2.2: Test of homoscedasticity

Studentized Breusch-Pagan test		
Abnormal returns 3 days (AR3)		
BP = 4.4623	df = 5	p-value = 0.4849
Abnormal returns 10 days (AR10)		
BP = 3.9646	df = 5	p-value = 0.5545
Abnormal returns 30 days (AR30)		
BP = 4.4452	df = 5	p-value = 0.4872

Appendix 2.3: Test of normality

Shapiro-Wilk normality test	
Abnormal returns 3 days (AR3)	
W = 0.9766	p-value = 0.7145
Abnormal returns 10 days (AR10)	
W = 0.9457	p-value = 0.1296
Abnormal returns 30 days (AR30)	
W = 0.935	p-value = 0.0661

Appendix 2.4: Test of multicollinearity

Variance Inflation Factor (VIF)				
Abnormal returns 3 days (AR3)				
Industry	Client	CSR	Individualism	Uncertainty
1.085646	1.090953	1.113928	1.285149	1.343535
Abnormal returns 10 days (AR10)				
Industry	Client	CSR	Individualism	Uncertainty
1.085646	1.090953	1.113928	1.285149	1.343535
Abnormal returns 30 days (AR30)				
Industry	Client	CSR	Individualism	Uncertainty
1.086505	1.082709	1.112592	1.246190	1.331268

Appendix 3: Anova assumptions

Appendix 3.1: Shapiro-Wilk test for normality

Shapiro-Wilk test for Normality		
CSR= High; Individualism= Collectivism		
Statistic	df	P-value
0,928	4	0,583
CSR= High; Individualism= Individualism		
Statistic	df	P-value
0,921	10	0,364
CSR= Low; Individualism= Individualism		
Statistic	df	P-value
0,872	6	0,234
CSR= Low; Individualism= Collectivism		
Statistic	df	P-value
0,965	11	0,836
CSR= High; Client= B2B		
Statistic	df	P-value
0,928	7	0,533
CSR= Low; Client= B2B		
Statistic	df	P-value
0,930	6	0,582

CSR= High; Client= B2C		
Statistic	df	P-value
0,937	11	0,480
CSR= Low; Client= B2C		
Statistic	df	P-value
0,950	10	0,674
CSR= High; Uncertainty= Avoid		
Statistic	df	P-value
0,950	10	0,674
CSR= High; Uncertainty= Face		
Statistic	df	P-value
0,824	4	0,152
CSR= Low; Uncertainty= Avoid		
Statistic	df	P-value
0,939	9	0,572
CSR= Low; Uncertainty= Face		
Statistic	df	P-value
0,927	8	0,492

Appendix 3.2: Levene's test for homogeneity of variances

Levene's test		
AR3 & CSR*Client		
Df	F value	Pr(>F)
3	0.4126	0.7453
AR3 & CSR*Industry		
Df	F value	Pr(>F)
3	1.1867	0.3334
AR3 & CSR*Individualism		
Df	F value	Pr(>F)
3	0.9827	0.4156
AR3 & CSR*Uncertainty		
Df	F value	Pr(>F)
3	0.257	0.8557

Appendix 3.3: Welch's two sample t-test

t.test of AR1m according to Client		
t = 0.5276	df = 17.399	p-value = 0.3022
alternative hypothesis: true difference in means is greater than 0		
95 percent confidence interval: -0.05928081 Inf		
sample estimates:	mean in group B2B	-0.003484615
	mean in group B2C	-0.029341176

t.test of AR1m according to Uncertainty		
t = 2.9888	df = 21.856	p-value = 0.0034
alternative hypothesis: true difference in means is greater than 0		
95 percent confidence interval: 0.05207442 Inf		
sample estimates:	mean in group Avoid	0.03083889
	mean in group Face	-0.09160000

t.test of AR1m according to Individualism		
t = 1.2806	df = 11.519	p-value = 0.1128
alternative hypothesis: true difference in means is greater than 0		
95 percent confidence interval: -0.02790037 Inf		
sample estimates:	mean in group Collect	0.03111111
	mean in group Indiv	-0.03924286

t.test of AR1m according to Industry		
t = 0.3631	df = 26.879	p-value = 0.3597
alternative hypothesis: true difference in means is greater than 0		
95 percent confidence interval: -0.06100626 Inf		
sample estimates:	mean in group NonProne	-0.010425
	mean in group Prone	-0.026950