Università degli Studi di Padova

Department of Economics and Management

Master Program in Business Administration

MANAGING THE UNEXPECTED

THE CASE OF QUASI-MEDIUM SIZED MADE IN ITALY FIRMS

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Academic Year 2017/2018

To my parents, for giving me endless love and opportunities.
To my sisters, for the never-ending support and the unbreakable bond.
To my friends, old and new, for the memories of a lifetime.

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INTRODUCTION & SUMMARY

THE PURPOSE OF MY DISSERTATION. The purpose of my dissertation is to study, if they exist, which are the factors that may be helpful for companies to learn from an external shock that they may be affected by, in terms of experiencing and suffering from the shock or being able to overcome the critical downturn and go faster than a positive shock. Basically, if these factors have a positive and significant influence on a firm's ability to learn from a shock, that same firm will take advantage from them and register an improvement in performance.

The aim is to try and comprehend if there are some companies that, external challenging conditions being equal, managed to understand better what was happening, adapted their activity and strategy accordingly and, eventually, accomplished to learn a constructive and essential lesson, which will be surely helpful in future similar situations.

This work serves as a first step of a wider and deeper research project. In fact, in this study only certain variables are taken into consideration, them being some balance sheet components, as internal variables, and some other elements that are unique and rigid features of the companies, meaning that they would entail massive effort to be changed, such as the geographical location of establishment or the Made in Italy industry they are a part of. Additionally, companies' age, and therefore their experience, is taken into account as an element that could affect their ability to learn from shocks.

CHAPTER 1. The first chapter focuses on what an unexpected event could mean for an organization and how it can try to face it in the best way possible. Companies are full of expectations about their activity's future developments and whenever these expectations don't match with what actually happens, they find themselves being under stress and disoriented. This could happen especially when they underestimate little ambiguous occurrences that over time pile up and eventually explode in a problem that has become obviously bigger and more difficult to fix. The idea of being mindful is explained (Weick and Sutcliffe, 2007), which represents a way to promptly respond to an event that doesn't correspond to the company's expectations. Building a reliable system is the key and five principles are therefore offered as a way to do such thing. Alternative approaches are also presented, as well as the crucial role played by culture in organizations and human resources in managing the unexpected.

CHAPTER 2. Failure to learn is, unfortunately, particularly popular among those enterprises that don't analyse what happens to them. It is in fact crucial for organizations to examine both successes and failures, understand what could have been done in a different and more efficient way. In line with this, Gino and Staats (2015) provide five biases that prevent organizations from learning. Different ways of fostering learning in the companies are explained, such as being more tolerant towards mistakes (Weinzimmer and Esken, 2017), being them a resourceful element that helps to improve knowledge. Moreover, organizations could improve their learning ability by considering to analyse the root cause of the problem they faced (Cerniglia-Lowensen, 2015) or applying a Mindful Learning Model (Veil, 2011), which promotes the adoption of a continuous activity of detection of warning signals, as well as consequently endorse constructive learned lessons. Antonacopoulou and Sheaffer (2014) propose the learning in crisis (LiC) method, that aims at challenging strong beliefs with the help of practising, whereas Nathan and Kovoor-Misra (2002) suggest vicarious learning, meaning learning through someone else's crisis. Two case studies are also presented to show the importance that learning entails for organizations. With this regard, Yakola (2014) introduces ten methods that organizations could adopt in order to detect and avoid signs of distress.

CHAPTER 3. Quasi-medium sized firms operating in the Made in Italy industry are the subject of analysis of this dissertation. The study develops longitudinally, given that it concerns a database of Italian enterprises initially created by Gubitta, Tognazzo and Favaron (2013), whose study's aim was to understand what kind of business determinants, that were a reality just before the financial crisis hit, allowed some quasi-medium companies to be able to perform better than the overall market in the following three-year period (2008 - 2010), measured in term of growth (revenues) and performance (profitability). The present study focuses on the same companies' sample, examining their legal status and revenues stream today, cross-analysing the firms also based on the geographical area where they are located and on the Made in Italy industry they belong to. The four identified sectors are Fashion & Apparel, Automation & Mechanics, Furniture & Home Appliances and Food & Beverages. The analysis goes on measuring each company's performance compared to its industry trend in 2009 and 2012, which are identified as the two years of major economic downturn, based on the national GDP. Each company is, then, given a label, either strong or weak. Moreover, a brief cross-analysis of companies' performances is carried out, plotting each firm's results in the two years. Based on the outcomes of each company's performance in the two critical years, 2009 and 2012, each one of them is labelled as a "Learning" or "No Learning" enterprise.

CHAPTER 4. The analysis goes on thanks to a statistical analysis. The aim is to understand what kind of variables were significant in the companies' performances and their ability to assimilate a learning effect, which developed between one crisis and the other. To obtain this kind of results, a multiple linear regression was run, setting as dependent variable the learning effect registered by enterprises. This learning effect is considered as related to the national GDP and to each specific Made in Italy industry. The independent variables considered in the statistical analysis are companies' average age, the geographical area they are established in, the Made in Italy industry of belonging and two internal economic elements, such as the equity and net financial position. The multiple linear regression is also run based on a reduced sample, which doesn't include the 2,5% of outliers.

ACKNOWLEDGEMENTS. I would like to thank professor Gubitta for his constant and valuable help and support throughout the whole period of writing of this dissertation and for introducing me to the interesting topic, that is managing the unexpected and learning from shocks.

1. CHAPTER 1

MANAGING THE UNEXPECTED: A THEORETICAL FRAMEWORK

1.1 Introduction

Nowadays, organizations operate in a market where anything can change in the split of a second. A disastrous snowstorm, a political election, a terrible accident, a financial shock are all possible but, most of the times, unforeseeable events that can affect the performance and status quo of an organization.

The organization is therefore forced to face a situation which it has no clue about or doesn't know how to tackle. As a matter of fact, it takes a lot of effort and analysis to comprehend the occurrence and to lay out the path to recover from such a sudden event. Its magnitude can be variable, depending on the status of the organization at the moment of the episode and on its ability and approach upon receiving it.

However, it is slightly different when an unexpected event happens because small breakdowns are not considered much important, effortless explanations are accepted, there is no doubt about frontline operations or the path to recovery is considered a routine. In these cases, as Weick and Sutcliffe (2007) state, it could be possible to soften the impact of the event and accelerate the recovery process, if only the organization was structured following the example of those organizations that regularly operate under challenging conditions and still count just a few major incidents. These are known as *high reliability organizations* (HROs).

This chapter, through a research of the scientific literature, proposes to provide a theoretical framework regarding the definition of *high reliability organization*, their expectations, and what is an unexpected event. A brief discussion concerning the concept of mindful organizing and the related five principles follows. Moreover, additional ap-

proaches to managing the unexpected are presented, and lastly the crucial role of human resources, culture and team resilience is explained.

1.2 High Reliability Organizations

The expression *high reliability organization* originates from a group of Berkeley researchers (Rochlin, La Porte and Roberts, 1987), who wanted to analyse a group of American organizations that despite being subjected to arduous circumstances while performing highly complex activities, with a great potential of error, managed to succeed nonetheless. The study explains that an HRO is built so that the network of people is interconnected horizontally, vertically and across command structures. It strives for safety and reliability in its performances and most important is the standardization of regular, periodic processes of training across the organization. Stability, routinization and lack of challenge and variety are the nemesis of high reliability organizations, given that those could decrease attentiveness and lead to carelessness and error. The traditional way of operating is certainly respected, however constantly challenged. In fact, since reliability is paramount, contributions to the discussion from every hierarchical level is deeply appreciated and everyone is urged to point out and stop, if necessary, any critical circumstances, even in the absence of superiors' clearance to do so. Jahn (2017) points out that *high reliability organizations* deeply rely on their members to call attention on changes in conditions and to understand and interpret the environment by talking about it.

La Porte's research (1996, p. 63) tells us that the structural characteristics of a *high reliability organization* are specifically represented by flexibility and redundancy which contribute to the never-ending search for safety and performance. As far as redundancy is concerned, Rochlin, La Porte and Roberts (1987, pp.84 - 86) report that it can be distinguished in three different types, which are operational, technical and decision/management.

They explain that decision/management redundancy is essential to make sure that important decisions are timely and accurate. It is considered to have two primary aspects, namely internal cross-checks decisions and fail-safe redundancy. The former ensures that any critical element that is discrepant with the whole picture will be discovered by someone before problems related to it come up. The latter, instead, wants to detect if

one management unit has issues or breakdowns. In this case, adaptive organizational evolution to circumstance is fundamental.

In a HRO, throughout the whole organization, flexibility and redundancy are noticeable in three different ways (La Porte, 1996, pp. 63-64). First, functional processes are planned in order to create coordinated or overlapping activities so that it is possible to have backup in the event of overload or unit failure. In this way, despite the surprising occurrence, the organization is prepared to deal with whatever comes its way. Second, training for multiple jobs is a common practice in the company, including systematic rotation, so that deeper and more extensive skills and experience are guaranteed in the organization in times of need. Third, interdependence among incompatible functions is highly avoided thanks to a well-thought jobs and work groups.

High reliability organizations, because of their operational nature and the environment where they operate, face a vast number of unexpected events, that threat their performance and stability. Nonetheless, they are deliberate in their struggles to analyse and fix such problems. Just like any other organization, that is not classified as HRO, they accumulate unexpected events, but they make it a rule to deal with them sooner, before they transform into something bigger.

Their approach towards managing the unexpected is a continuous effort to delineate and keep under control weak signals of potentially more dangerous threats and to put into action adaptive measures, preventing these threats to "begin to crystallize" into something that would become increasingly more complex and challenging to fix (Weick and Sutcliffe, 2015, p.3). Managing these kinds of situations is a process in motion as initial signals change over time. At the beginning these sings are hard to recognize but not difficult to amend. The longer it takes to take care of them, the higher are the chances they become complicated to remedy. In fact, in this case, the problem would worsen, it would grow into something that it's more and more burdensome to fix and it would intertwine with other issues present at the same time. In the moment when the organization eventually understands the magnitude of the problem, the alternatives to solve it may have decreased in number. At the same time, efficiency and effectiveness have deteriorated, the system is more susceptible to failure, and safety, reputation and production are in jeopardy.

1.2.1 Expectations

Acting like a *high reliability organization* implicates focusing on a set of capabilities that help to avoid, or at least catch early, unforeseen surprises.

Weick and Sutcliffe (2015) identify five kinds of surprises that an organization could face. The first is what Brian Kylen calls "bolt from the blue" (see Weick and Sutcliffe, 2015, p.16). That is when something appears to an organization, but it was completely unexpected. The second kind of surprise occurs when a problem is identified, but the expectations on how it will unfold are wrong. A third form of surprise happens when an organization knows what will happen, when and in what order, but it finds out that the timing is wrong. Being the duration of an event different from what was expected is the fourth form of surprise that an organization could have, whereas the fifth occurs when a problem is expected but its magnitude is not.

In general, it could be affirmed that every surprise starts with an expectation. When you have an expectation, you have a strong belief that something will happen, and you behave accordingly. They are like a habitual cycle that gives a hint of the possible course of events. They influence what you detect, what you consider and keep in mind. It could be compared to a hypothesis testing. If, however, your hypothesis is proved wrong, your expectation doesn't stand anymore; the silver lining is that you and your organization can learn a lesson from it, despite the failure.

Usually, expectations are based on past experiences and on corrections made to erroneous practices. Unfortunately, people tend to profusely accept numerous evidences that are only presumed to confirm expectations and in addition, they deliberately look for evidence that verifies their expectations and bypass evidence that goes against them. People's actions are therefore biased by the only evidence they accept, but this leads to two issues. First, people fail to notice the piling evidence that events are not advancing the way they thought they would. Second, the validity of people's expectations is likely to be exaggerated.

Furthermore, as stated by Snyder and Stukas Jr. (see Weick and Sutcliffe, 2007, p. 54), being under pressure only makes these two problems become even more prominent. People under stress tend to look for confirmation of their expectations and steer clear of conflicting information with respect to their actual assumptions. Nachbagauer (2017) states that pressure, specifically time pressure, that is when urgency is pivotal, usually

leads to issues becoming more complicated. As a consequence, as affirmed by Luhmann (see Nachbagauer, 2017, p. 136), it is deadlines, and not results, that set the pace of decision processes, and timelines are what set communication in motion, meetings included.

Other than evidence, organizations look for approval of their expectations in routines. In fact, organizations assume that, since they follow a standard approach whenever they face an issue, this is the right way to fix the situation. However, what organizations fail to understand is that these routines were established under certain circumstances, which, in all likelihood, have changed over time. Basically, it's probable that organizations impose a customary approach to a problem, which could actually be obsolete and completely inaccurate for the present situation. On the contrary, organizations should instil in their people a feeling of obligation to constantly update and revise their routines and, of course, their expectations as well.

Same story goes for when organizations look for confirmation in their plans. They look away from negative evidence and are led to ignore an increasing number of unexpected events. In the process of planning, organizations understand how difficult it is to keep acting mindfully while doing it.

HROs do their best to avoid looking for confirmations at all costs, which would only postpone the recognition that their approach has its limits. They acknowledge that their expectations are not comprehensive and that they should challenge them regularly so that they can make a step closer to getting it right. They make the effort to structure themselves and their practices incorporating five principles, which are preoccupation with failure, reluctance to simplify, sensitivity to operations, commitment to resilience and deference to expertise. They will be illustrated later in the chapter.

Weick and Sutcliffe (2007, p. 44) state that *high reliability organizations* perform well despite the surrounding conditions they operate in, because they conduct their activities mindfully.

1.2.2 Unexpected events

As stated by Bennet and Lemoine (2015), organizations operate in a volatile, uncertain, complex and ambiguous world, known as VUCA world, meaning an environment characterized by volatility, uncertainty, complexity, and ambiguity. Therefore, companies

would try to tackle uncertainties and disturbing situations by intercepting probable changes as soon as possible.

Operating mindfully means that organizations structure themselves so that they are more likely to recognize the evolving unexpected and stop its advancement. If they find it hard to stop it, they concentrate on containing it. However, if the unexpected turns out to be more troublesome than it was initially thought, organizations focus on resilience and rapid reestablishment of the structure's operations.

Unexpected events variate based on the uncertainty that is correlated to each one, being it an event that organizations knew there was a slight chance that could happen or one that occurred totally unanticipated (Geraldi, Lee-Kelley and Kutsch; see Nachbagauer, 2017, p. 135).

An unexpected event could be one that an organization presumed would happen and, in the end, it fails to occur; one that, instead, was not supposed to happen but it does; or one that simply was not even considered possible. In every one of these three cases, organizations look for assurance that their expectations are right. By doing so, however, they delay the moment in which they may realize that something is wrong, something is not developing as it is supposed to.

Another classification of the unexpected is given by Duchek and Klaußner (see Nachbagauer, 2017, p. 135). They differentiate the unexpected that has a temporal dimension from the one that has a content-related dimension. The former creates the most limited problems, because the organizations can answer by using fresh resources or organizational slack, if it was previously piled up. With reference to organizational slack, Tognazzo, Gubitta, and Favaron (2016) affirm that it certainly helps to foster organizational resilience. On the other hand, the unexpected that has a content-related dimension makes it possible to hand over the problem to someone else in the organization and/or introduce an examination procedure that, for the most part, comprehend experts on the subject, either internal or external. Whenever both dimensions are featured in an event, that is when problems occur.

With regards to those events that no one would ever even consider happening, not the slightest chance, a critical objective for HROs is to become more knowledgeable about "the imagined deemed possible", as Shackle puts it in *Expectations in Economics* (see Weick and Sutcliffe, 2007, p. 58). People are guided by HROs principles towards mind-

ful practices that promote imagination. With regards to imagination, as mentioned in *The 9/11 Commission Report: Final Report of the National Commission on Terrorist Attacks upon the United States* (see Weick and Sutcliffe, 2007, p.59), it was found to have decreased in the period antecedent the terrorist attack on September 11th, 2001. The report stressed the fact that it is essential that the exercise of imagination is turned into a routine, if not even bureaucratized. Weick and Sutcliffe (2007) add that it takes a lot more than a sagacious expert to block an unexpected event and its consequences. It requires mindful operations that stimulate imagination, foster enriched expectations, question all expectations, improve the capacity to give a different meaning to the disruptions in expectations and simplify the learning that reinforce and deepens alertness.

Sometimes people minimize the crucial relevance of imagination. Given that the expression "Expect the unexpected" (Weick and Sutcliffe, 2007, p. 62) is so popular these days, if people would live by that, they would just live every day while taking for granted that their expectations are inaccurate, even though in this way they would feel like they were giving up their control or ability to prognosticate. Instead, they just assume that their expectations are correct and that there is just a little that can take them by surprise. *High reliability organizations* fear the temptation of their people to take unexpected events as if they didn't matter much, as if they did not have that much influence and impact on their stability.

In general, when something unexpected happens, people will realize it, because of the overall feeling of astonishment, puzzlement and nervousness. Those sensations should not be ignored, they are a reliable indication that something in your structure, in your model is not correct, something is going in the wrong direction. At this point, it is extremely necessary that people do not discard these feelings, do not go on with their routine approach to an unexpected event. Instead they are encouraged to hold on to them and do their best to extrapolate from it something that they don't know and can be improved. This is one of those occasions when organizations can benefit from the event and understand and learn additional information. It is crucial in these cases to be ready to react to the occurrence and not let the moment pass. As a matter of fact, as Weick and Sutcliffe highlight, "most opportunities for learning come in the form of brief moments" (2007, p.44). In HROs, people attempt to freeze and prolong unexpected events so that they can make the most out of these moments and learn a lesson.

1.2.3 Being mindful

As explained, organizations need to analyse thoroughly an unexpected event and don't let it go unnoticed. What organizations need to do is to act mindfully.

Being mindful means being conscious, aware of something. This is exactly how an organization should operate, making the absolute effort to continuously monitor, update and expand the possible interpretations of the context, which problems are present in it and what kind of interventions are available. Being mindful means having the "big picture". That is the modus operandi of an HRO, which differs greatly from the other organizations'. The divergence of functioning between the two is easily detected in the early stages of the unexpected event, when it is difficult to see it. Normally, one would respond weakly to a weak signal. Being mindful, however, entails a prompt and resolute response to the abrupt occurrence.

Langer's research (see Weick and Sutcliffe, 2007, p. 61) states that mindfulness comprises the combination of continuous inspection of existing expectations, regular clarification and differentiation of expectations on the basis of recent happenings. Moreover, being mindful also entails willingness and competence to make up new expectations that give a novel and different meaning to unusual events, a more distinctive appreciation of context and approaches to find a solution and the promotion of different methods to improve planning and current performance.

As a matter of fact, mindfulness also requires a certain level and quality of attention. When distracted, slippery and detached, people lose focus and control, with the direct consequence of HROs being more vulnerable to errors. For this matter, organizations need to stimulate people to closely oversight and monitor misestimation, misspecification and misunderstanding of every activity undertaken (Shulman, 2004, p. 43). This kind of approach in the organization would give better chances to register a higher reliability in the whole structure.

Mindfulness concentrate on precise and meticulous comprehension of rising threats and on the factors that make this comprehension difficult. Small breakdowns need to be acknowledged, and their particularity should be preserved. It is crucial to follow developing operations in order to avoid missing even the tiniest of failure symptoms. Scrutiny is necessary to identify recovery processes and know-how of ways to implement those processes.

HROs spend a considerable amount of time analysing failures to have a better understanding of the health status of the system, fighting the urge to simplify assumptions, monitoring operations and their effects, developing resilience to handle unexpected events and identifying experts.

When one organization is mindful, it becomes hard to simplify the situations it finds itself in. Therefore, normalization is not an option, on the other hand the organization is pushed to accept a situation that is not familiar and deepen its understanding about it. "Less mindful practice normalizes; more mindful practice anomalizes" state Weick and Sutcliffe (2007, p. 63). By anomalize, they mean that exclusive characteristics are highlighted because of mindfulness, so that the normalization process is slowed down.

Mindfulness, finally, implies that daily distractions will not be a big issue for the organization. In fact, by being mindful, the organization has the ability to focus on the ongoing activity or event, without having interferences.

1.3 Mindful organizing and the five principles

We have seen how an organization needs to operate in the event of something unexpected. The focal point is that the organization needs to perform its activities with a mindful approach, that is supporting sensemaking, constantly organizing and with an adaptive management. All this can be summarized in the expression mindful organizing (Weick and Sutcliffe, 2015, p. 21). Basically, this involves being responsive to small hints or mistakes and promptly adjust to them, given that if this wasn't done, they would evolve into bigger issues over time. Hung-Chung Su (2017) states that organizations constantly challenge their present status and keep an eye out for insidious changes in the present environment. Mindful organizing entails increasing suspicion about present performance, so that it is possible to detect even the smallest anomaly, and it could necessitate great investments in human resources to sustain such a deep and scrupulous operating method.

In this context, sensemaking is defined as:

> "the process through which people work to understand issues or events that are novel, ambiguous, confusing, or in some other way violate expectations" (Maitlis and Christianson, 2014).

Sensemaking is about examining the unexpected event and, at the same time, acting and figuring out whatever it is that you are dealing with. It is not a passive activity, as

Weick and Sutcliffe explain (2015, p. 32); the organization, as a matter of fact, is taking corrective measures and simultaneously it is trying to understand a situation while it is still evolving. Sensemaking attempts to modify, abridge and decipher the organization's experience with the circumstances.

Moreover, in managing the unexpected, it is essential that organizations get familiar with the situation and the corrective measures that could be taken. People need to actively explore the circumstances, hands-on the process, paying particular attention to details. This way people will constantly draw a lesson from any event they face, and they will get acquainted with the circumstances in person. What organizations want to avoid is that these lessons are passed on only by sharing among people, which would lead to routinization and categorization, because in this manner people would know less and less.

In essence, sensemaking encompasses understanding thoroughly a situation and sets the grounds for the organization to make a decision about it.

Alongside sensemaking goes continuous organizing, that is creating order purposefully and consistently, with the final aim to have better and constant reliability. An essential component in organizing is trust (Elsbach, Stigliani and Stroud, 2010; see Weick and Sutcliffe, 2015, p. 37). That is because organizing implies the combined effort and experience of more people, which could be different from one person to the other. However, it is good practice to take into consideration everyone's opinion and to be able to do that Weick and Sutcliffe (2015, p. 37) suggest three things to do:

- To trust other people's reports and to be predisposed to accept and include them;
- To share information honestly in order for others to recognize them as valuable;
- To maintain self-respect towards your own statements and try to incorporate them together with others', without discrediting neither one of them.

In addition to sensemaking and constant organizing, reliability in an organization is reached thanks to adaptive managing. As written in Chia's research (see Weick and Sutcliffe, 2015, p. 39), managing includes being able to live in a messy world making sense out of it, putting things in order and prioritizing them. Knowing where to focus one's attention is also a significant characteristic of the managerial task. Therefore, when managing, people need to figure out the situation, decide the steps to take giving a reason to

each one and also express doubts and preoccupations. Once they do that, they ask for different inputs and points of view.

Mindful organizing is, as explained, a combination of sensemaking, organizing and managing. To complete the picture and to be able to maintain reliable performance and at the same time cope with unexpected events, organizations need to take into account also five principles that can be considered as a guide to keep systems highly reliable. These five principles can be distinguished in principles of anticipation, because their aim is to get organizations ready for the unexpected and therefore being mindful towards failure, simplification and operations, and in principles of containment, given the aim to contain problems and recover as quick as possible thanks to a commitment to resilience and deference to expertise. What follows is a brief explanation of the five principles as described by Weick and Sutcliffe (2015, pp. 45 - 128).

1.3.1 Principle 1: Preoccupation with failure

Preoccupation with failure embodies the necessity to have a constant focus on possible anomalies which could be the manifestation that something is not right and could evolve in something more problematic. This preoccupation is centralized around different components, such as anomalies, that are hints that something is not in compliance with the normal situation, and cues of evolving failure, which instead identify an action that is becoming mistaken, whose meaning is emerging overtime. Furthermore, normalizing is something that organization should worry about because it implies that there is a tendency to consider what was once an unexpected event, an expected event. So, a tendency to consider normal an occurrence that in the past was not even close to normal. Wariness is to be embodied constantly, especially when people have experienced success, which is when overconfidence and reluctance of others' opinions are present, and the risk of complacency and inattention is high. Besides, adopting a doubtful approach and a spirit of contradiction can only have a positive impact on the organization reliability. In fact, different opinions, criticism and debate should be positively accepted.

This principle aims at invigorating the ability to avoid threats, but to become aware of problems early on and solve them in time, thanks to being in a continuous state of preoccupation. However, it might happen that an anomaly or cue is not detected in time

and something actually fails. In this case, it is fundamental that the organization takes its time to understand what went wrong by uncovering blind spots in managing failure. For example, it can better

- express its expectations;
- create awareness of the possibility of errors;
- clarify what is good and what is bad news.

1.3.2 Principle 2: Reluctance to simplify

An organization that operates mindfully needs to steer clear of simplifications, which would hide undesirable, unexpected, indecipherable details that are instead crucial to perform reliably. Organizations need variety to be able to fully comprehend what they are facing, or at least try. Having categories, types or generalizations stop organizations from having a deep, meaningful and overall understanding of the probable consequences to an event.

People manage to resist simplification when they are presented with a wide variety of interpretations of one single situation, given that one cannot simply know everything. More variety, more voices, less simplification.

Reluctance to simplify can also be reached through discrediting what one holds as belief, meaning being aware of what you know but also being open to question it at the same time.

This second principle can be strengthened by

- fostering knowledge by acquaintance instead of by description;
- thinking out loud and expressing your doubts;
- developing healthy scepticism which helps to create variety;
- pulling to pieces one's fixations thanks to a different interpretation.

1.3.3 Principle 3: Sensitivity to operations

An organization is sensitive to operations when in the face of the confusion that characterises the environment, it promptly responds. Specifically, it is committed to exclusively focus on any deviation or disturbance in operations, to understand what is actually going on, in the present, while guaranteeing that events keep flowing and the sys-

tem is safeguarded. Three elements that could come in the way are ignorance, carelessness and distraction.

Moreover, people's sensitivity is accentuated when they feel their activity is giving a contribution to the overall system, when they feel they are representing it and when they feel subordinated to the system, meaning that their work is for its benefit. To consider is the fact that operators need to be aware and prepared that pressure is a possibility while working and also that when an activity is interrupted, a chance to reorganize, to reassess and adjust presents itself in front of the organization, which should see it as a positive and constructive opportunity for improvement.

The principle of sensitivity to operations can take advantage from:

- questions that help focusing on the situation instantaneously;
- a humble approach towards the situation;
- the ability to speak up, which can improve everyone's knowledge.

1.3.4 Principle 4: Commitment to resilience

Organizations are well aware that they can make mistakes, however they make the absolute effort so that these mistakes don't paralyze them. In managing the unexpected, this has already happened, so people try to understand the situation the best they can and find solutions to the problem. Given that planning in advance to avoid problems is not always effective, it is good practice to plan also in case of an emergency. Whenever the unexpected happens, it is crucial to delineate the occurrence, keep errors limited and find ways to keep the system flowing.

Resilience includes both the ability to bend but not break, to be elastic, and also to recover and go back to the initial shape. Resilience could mean, for example, working using a trial and error method or using the few resources left and still keep going. Also, improvisation is used in times of need in order for the organization to continue its activity despite the circumstances.

Moreover, adaptation is extremely relevant when considering resilience. In fact, adaptation implies that an organization does its best to survive in the actual situation using those resources that were once thought useless.

The commitment to resilience can improve thanks to:

- a mind-set of cure rather than prevention of unexpected events;

- a fast and meticulous feedback system;
- a realistic acceptance that past experience is certainly relevant, but also partly irrelevant.

1.3.5 Principle 5: Deference to expertise

HROs deeply believe in the contributions that every hierarchical level can give to come up with the best solution to a problem. So, hierarchy doesn't have to be strictly imposed, given that anybody in the organization could have the expertise necessary to tackle the issue. As a result, a formalized chain of command is substituted by deference to expertise.

Expertise is a co-production (Dekker; see Weick and Sutcliffe, 2015), where experts know the limits to their knowledge and therefore insights from more people are welcomed. To keep in mind is the fact that having multiple years of experience doesn't mean that someone has all the necessary information to fix the problem. It will be people that have the best comprehension of the potential issue that will take over in making the decisions.

Deference to expertise can be enhanced thanks to:

- people that ask for help, recognizing the limits of their knowledge;
- flexible decision structures;
- the capability of the experts to be realistic of their expertise.

1.4 Alternative approaches for managing the unexpected

Weick and Sutcliffe's list of five principles is not the only one that organizations can follow to operate mindfully and to be resilient in this ever-changing world. Two different lists of steps for managing the unexpected will be explained now. The overall meaning of these lists, however, does not change: organizations need to be prepared for any unexpected event to happen and to be able to deal with it preserving its well-being for the future.

1.4.1 Five steps to maintain strategic flexibility

Jacobs (2005) presents strategic flexibility as the ability to recognize changes in the environment, to promptly react to these changes with the most appropriate resources and modify existing resources commitments if necessary.
It is not a simple job to maintain strategic flexibility, however following these steps could be useful.

- Measure and monitor outcomes: for any organization it is absolutely necessary to monitor projects and keep them within budget. It could be helpful to have cost-effective and adaptable projects.
- Have someone play devil's advocate: despite it is not nice to receive critics and negative responses to your own work and thinking, when someone plays devil's advocate, people's biases are uncovered, giving the organization the chance to improve. Disagreeing ideas must be encouraged and welcomed.
- Pursue external perspectives: approaching and accepting diverse points of view with an open mind can be crucial to offset extremely rigid biases. These external insights could arrive from outside board members, managers' rotation or advisory group. The risk here is that the organization could encounter someone who could make it lose focus and go off track.
- View decisions as a portfolio of options: organizations need to maintain an overview of every ongoing project, periodically examining the whole portfolio of options.
- Analyse outcomes and apply learning: to make the best out of any situation and learn a lesson, it is recommendable to go over both positive and negative outcomes after any specific event or situation. This could be valued as the organization's return on investment.

1.4.2 Seven principles for resilience

As repeatedly mentioned throughout this chapter, organizations have a better chance at surviving an unexpected event if they are able to adapt to it and take the opportunities that may come with the turbulent occurrence.

Seville, Van Opstal and Vargo (2015) outline seven principles that could make the difference between an organization that has a competitive advantage and one that fails and exits the market. The principles are:

- Make adaptive capacity a core competency. Adaptive capacity stems from an organization's "risk intelligence, flexibility and readiness to change" (Seville, Van Opstal and Vargo, 2015, p. 7). Organizations should be able to get out of their comfort zone, with the appropriate amount of risk awareness, to adapt and upgrade as changes evolve and to be proactive.
- Develop leaders that people want to follow. Organizations should invest in leadership skills building, so that employees feel like there is someone at the helm of the organization worthy to be followed and listened. The leader should be empathetic, knowledgeable, accessible and visible to everyone and should make it clear that resilience is everybody's responsibility.
- Become a learning organization. Fostering a culture of learning inside the organization will reinforce its resilience. Co-creation of solution, listening rather than talking, building an environment of mutual trust and searching for a variety of ideas are only some of the concepts that can stimulate resilience.
- Build social capital. Building a solid social network and high-trust relationships can lead to a greater engagement in the organization's activity, an advancement of process and product innovation and an overall increased commitment to the organization. Organizations are urged to retain employees thanks to human and friendly relationships and to get involved in the community organizations.
- Practice resilience as a team sport. Organizations should promote mutual support inside every team, where cooperation is preferred to competition. Partnerships, both existing and new, are fundamental and discussions and participation are encouraged.
- Design resilience into operational excellence. Operational performance can be the reason for the success of an organization, but also for its downfall. To cultivate resilience, enough resources should be allocated to support operations, communication should go in every direction and solution synergies should be found.
- Look beyond risks to see opportunities. When an organization is able to sustain its performance throughout a crisis, there is a good possibility that it overcomes the difficulty and gets stronger. In this case, it may feel confident enough to undertake new

ways of operating, seizing the opportunity. The opportunity, however, should be worth the risk and the organization needs to consider potential productivity and innovation gains.

Being resilient takes effort, time, resources; however, Seville, Van Opstal and Vargo (2015) affirm that resilience should be seen as something that it is worth nurturing, something that will not only give to organizations the tools to overcome troublesome periods, but also to make them ready to thrive in those same periods.

1.5 The role of human resources

Human resources have become in recent years more and more fundamental in the development and improvement of organizations' operations, networks, and others. Of course, they have a central role in the management of the unexpected as well.

As explained by van der Vegt *et al.* (2015), many characteristics of employees might be important for organizational resilience. Their skills and abilities, behaviours, emotions, observations are all valuable contributions in an organization. Each employee of an organization has his/her own potential that can be translated in resources that give the organization higher chances to overcome a problematic situation. In addition to this, personal engagement and attentive behaviour are essential to achieve operating effectiveness throughout the organization, as stated in La Porte's research (1996).

However, it depends on the relationship between the employee and the network where he/she operates, for these resources to be useful and fruitful for the organization. The more relationships are characterized by openness and generativity, that is "where new things are learned, new opportunities identified, and new insights originate" (van der Vegt, *et al.*, 2015, p. 973), the more it is possible for groups to collaborate, analyse emergent issues and lay out a proper plan to intervene (Carmeli, Friedman and Tishler; see van der Vegt, *et al.*, 2015, p. 973).

Moreover, van der Vegt, *et al.*, (2015, p. 973 - 974) add that another relationship that affects the organization's well-being is the one with the external environment. Nowadays, organizations are very interdependent among each other; therefore, if one organization is going through some problematic situations, there is a high probability that these could affect also other organizations.

A very important element that enables a good operating environment is communication among people. As a matter of fact, communication is crucial to address the unexpected (Barton and Sutcliffe; see Nachbagauer, 2017, p. 138), it permits to have better knowledge of what is going on, in addition to having different perspectives on the same issue, further expertise and a shared responsibility regarding the steps to take. Nachbagauer (2017) stresses the fact that communication needs to be as efficient and as selective as possible, given that it is an activity known to be pretty time-consuming.

Furthermore, for communication to be useful, quick and correct, it is necessary that whoever shares the information has a clear picture of the network that could be activated when a crisis emerges, and also a knowledge of language to be used to be understood.

As previously mentioned, when unexpected events present themselves to an organization, it is the organization's responsibility to respond promptly and accurately to the situation. Human resources are extremely important for the organization to be able to overcome the issues. It is in these moments that formal roles no longer stand, different procedures have to be created and people may have to cooperate with someone out of their usual team or network (van der Vegt, *et al.*, 2015, p. 973). Obviously, also the decision-making structure is subjected to some modifications, given that, as McManus, *et al.* affirm (see van der Vegt, *et al.*, 2015, p. 973), structures based on highly complex bureaucracy and command-and-control approach are an obstruction for employees in their attempts to adapt to the change.

As previously explained with Principle 5: Deference to expertise, having multiple opinions and receiving constructing criticism is paramount to succeed in operating reliably. For this reason, as explained by Jahn (2017), it is fundamental that in the organization everyone shares its opinions and perspectives with its colleagues. People need to feel allowed, as well as forced somehow, to give voice to their thoughts and challenge others and themselves. The risk is that people might censor themselves when they doubt their own right to speak up or their expertise. It is therefore on the organization to understand how and why its members might avoid or not express their opinions, given that numerous viewpoints are extremely important to make the best possible decisions, especially in doubtful and problematic situations. Novak and Sellnow (see Jahn, 2017, pp. 6 - 7) describe that upward dissent, that is when disagreements or concerns are raised with su-

pervisors, is decisive for obtaining the corrective actions that achieve high reliability. For such a collaborative behaviour to be displayed by members of an organization and for dissent to be expressed, it is necessary to have complete support and welcoming from the organizational culture.

Regarding this matter, it is quite a common practice among *high reliability organizations* to reward employees for the detection and reporting of error. This way people are incentivized to report and speak up, even if the reported error was actually made by the person who is reporting (Weick and Sutcliffe, 2017, pp. 84 - 85). The argument here is that it is better and admirable when someone stands up to report an error right away, rather than paying no attention to it or trying to hide it.

1.5.1 Culture in organizations

The notion of culture includes the so-called soft facts, like common values, norms, behaviour (Nachbagauer, 2017). Turner's description of culture (see Weick and Sutcliffe, 2015, pp. 130 - 131) states that culture "brings together" people, instilling into them a common "approach, outlook and priorities" in order to accomplish a shared goal. Culture entails shared meanings, common values, it is concentrated on what is socially relevant. It implies that people will do the right thing, they will make good decisions.

In organizations, culture is something people learn, and it is an on-going understanding process of what can work or not. People are given a framework of reference, on which they base their behaviours and decisions.

Culture is crucial when working in teams. Especially when managing the unexpected, organizations want to avoid that a circle of blame starts around team members, which would only do harm to the team itself and the organization as a whole. Nachbagauer (2017) affirms that a "culture of error" is necessary to encourage openness and a feedback system that positively affect the team's activity. People shouldn't fear reporting mistakes, but to ensure this behaviour, a reward system could help.

Moreover, every hierarchical level of an organization has to properly operate based on culture principles. In fact, O'Reilly (see Weick and Sutcliffe, 2015, p. 136) argues that top management needs to express its approval of culture, need to communicate its activity and words honestly and persistently and in accordance with the established culture.

In addition, it would certainly be a plus to express approval and assign promotions, raises and bonuses to those people that work according to culture principles.

1.5.2 Team resilience

Nowadays, organizations usually structure themselves in teams, which face a different challenge every other day, for the most various reasons. However, as Alliger, *et al.* (2015, p. 177) explain, for any team to successfully overcome any problem, it is crucial to put up with and defeat stressors so that they can manage and bounce back from difficult situations that put in danger their relationship and performance. These are the features of a resilient team.

Teams could encounter two different types of challenge (Alliger, *et al.*, 2015, p. 177 - 178). It can be a chronic one, from which the team cannot recover in the short term, but it goes on for long periods, unless promptly fixed. On the contrary a challenge can be acute, meaning that it appears suddenly and it doesn't last long. In this case episodes of self-centred and self-focused behaviour can appear and employees at low hierarchical levels could start to avoid expressing their opinion. When a team is resilient, however, efficacy is the key when solving problems, which is done rather quickly, and preserving the team's resources and well-being is essential. When a team positively and cohesively react to a problem, it has usually the possibility to learn something new and also its capability at being resilient improves.

Alliger, *et al.* (2015, p. 178) state that resilient teams show three different behavioural strategies: minimize, manage, mend.

- Minimizing actions are taken ahead of a problem or when it has just started coming up. Teams try to anticipate and plan likely events, try to understand their level of preparation and their limits, attempt at monitoring early warning signs of problems and get ready to deal with challenging situations.
- Managing stressful events regards to those actions that teams take while those events unfold. Teams need to carefully, fairly and quickly evaluate what is happening and talk strategy and need to take care of chronic stressor right after detecting them. The members of a resilient team back up each other and throughout the crisis period they have to keep on with their basic activities. Finally, it may happen that in order to properly manage stressful events, resilient teams become conscious that

they cannot handle the situation without some help and guidance from their network, therefore they look for expertise.

- Mending is what is done in the aftermath of a stressful event. Teams need to get back to their normal activities understanding what has changed in the meantime and they debrief. Everybody shares his/her insight, being positive or negative, they analyse, as a team, what went wrong and right, and they make the appropriate modifications to operations and structures. Lastly, they express their appreciation towards those people that helped them in time of need.

1.6 Conclusion

In this chapter, we could figure out that the approach of organizations towards an unexpected event is fundamental to go through a crisis and come out of it intact, if not stronger. We have provided the most variable reasons why a mindful approach towards organizing is the best to manage the unexpected and what organizations can work on to anticipate and contain an unexpected event. In addition, different paths to go through a crisis were explained. Despite the small differences, every approach towards the unexpected fosters resilience and adaptability. The last paragraph was added to delineate the role of human resources and highlight the fact that their contribution to the organization's activity is decisive to reach stability and reliability.

In the following chapter, the focus is on the organizations' ability to learn from critical situations, knowing that operating mindfully is essential to approach critical situation and avoid extensive problems. Moreover, it will be explained why companies may not learn and how, instead, they can foster learning.

2. CHAPTER 2

LEARNING FROM SHOCKS

2.1 Introduction

In the last decades, organizations have faced several economic downturns which have challenged, if not broken, the functioning mechanisms of organizations, with a consequential modification of the competitive environment (Srinivasan *et al.*; see Cucculelli, 2017, p. 9). Because of this, organizations have been forced to change their approaches towards the market and to incorporate in their modus operandi new elements and features that allow them to adapt to the transformed environment. In fact, as affirmed by Kovoor-Misra and Nathan (2000; see Kovoor-Misra and Nathan, 2002, p. 245), a crisis can be considered as an opportunity to learn a lesson and widen your knowledge, notwithstanding the potentially disastrous aftermath.

In these circumstances, as stated by Cucculelli (2017), organizational learning is crucial for organizations, since it is the mean through which they are able to acquire current information about the external environment, elaborate and utilize them to readjust their operational method. As a matter of fact, the rather diffused instability registered after a crisis leads organizations to look for new and alternative methods to operate in their industry, which are more appropriate to deal with the changed conditions and to seize new opportunities. Cucculelli (2017) goes on saying that a different tendency among organizations was registered. In fact, they are willing to abandon previously adopted internal procedures that have become obsolete and inappropriate for the actual circumstances and therefore apply a proactive approach, with the final aim to register an improvement throughout the overall organization.

To sum up, when an organization goes through a troublesome and critical period, but manages to handle it, it can try to make the best out of it and learn a lesson. This would

only be in its own interests for its organizational framework would get better and less vulnerable.

This chapter, through a research of the scientific literature, proposes to provide a theoretical framework regarding the importance of learning in organizations, with a focus on learning from a troublesome event. Reasons why organizations, however, may not learn are also discussed. A brief explanation of case studies is also given. Moreover, a helpful list of suggestions is described in order to detect warning signals of distress.

2.2 Failure to learn

An organization's improvement depends, among other things, on its ability to learn. However, there are times when the organization fails to learn, for the most various motives.

The scientific literature seems to agree that when organizations see that their performances are positive and successful, a change in their processes and behaviours is less probable to happen, in comparison to when previously implemented strategies lead to negative outcomes (Lant, Milliken and Batra; Milliken and Lant; see Cucculelli, 2017, p. 11). In addition, professor Välikangas (2010, p. 65) reports that researchers state that failure to learn is also to blame on overconfidence, naivety, maybe even arrogance or just ignorance. Levitt and March (see Cucculelli, 2017, p. 12) assert that organizations stick with their established procedures and behaviours when feedbacks coming from these procedures and behaviours are sufficiently positive to prevent experimentation of alternative paths to adopt. This is what is called "*competency trap*" and it is defined as follows:

> "Competency trap is a pathology of learning wherein an actor persists with current practices and does not learn alternatives that are superior in the long term because previous experience makes continued use of current practices more attractive than adopting new ones that yield smaller returns in the short term." (Ahuja, 2016)

Furthermore, whenever an organization doesn't fail in managing a process or a complicated situation, it tends to believe that the approach and methods used are appropriate and the most convenient thing to do is to keep going with them (Baumard and Starbuck, 2005). It becomes extremely convinced that continuing to use that one approach that is proving to be correct for a specific process or that has proved successful in a peculiar case, is the most advantageous thing to do. In addition, Baumard and Starbuck (2005)

argue that, overtime, the risk is that these lessons, learned thanks to a specific success, may progressively develop into "straightjackets" (p. 282), which would prevent the organization to adapt to the everchanging competitive environment. They repeat actions that antecedently led to a positive outcome over and over again, transforming them into standard operating procedures. These, however, will eventually lead to an absence of mindfulness towards raising problems and to organizations being unwary of learning. This is what Veil (2011, p. 125) labels as "trained mindlessness". People act out the same routine every day, without any changes, just because that is the way activities have always been executed in the organization. Baumard and Starbuck (2005, p. 283) assert that "learning from repeated success makes future failure very likely". As a matter of fact, organizations that go through periods of constant and prolonged success, usually are quite inclined to structural and strategic dullness, carelessness and close-mindedness. Baumard and Starbuck (2005) further affirm that failure to learn can follow a success but also a non-success. With regards to the latter, they demonstrate with their research that managers of an organization could avoid analysing, and consequently learning from a non-success because they attribute it to idiosyncratic and external motivations or they consider any event as exceptional and singular, detaching any past occurrences to new ones.

Failure to learn could be due to some barriers, which Cannon and Edmondson (2005) divide into those connected to technical systems and those connected to social systems.

Technical barriers to learning from failure refer to the inadequacy of basic know-how that is necessary to understand and get the most out of experiences. Another source of failure may be represented by the difficulty encountered in comprehending complex and troublesome operations. Basically, organizations come across technical barriers that prevent them from acquiring brand-new information when they wrongly analyse an issue or when they make mistakes in evaluating qualitative or statistical data.

As far as social systems' barriers are concerned, Cannon and Edmondson (2005) explain that the starting point for those is represented by the emotional reactions that surface when a downfall is registered. People tend to avoid confrontation with the outcome and they enter in a denial phase, where they try to dissociate themselves from the failure. They prefer to protect their self-esteem, at the expense of constructive learning that may come from acknowledging the adverse occurrence and the errors made. Most of the

times, this kind of reactions is the consequence of the organization penalizing failure, instead of welcoming it as a source of learning for future betterment.

2.2.1 Why organizations don't learn

Professors Gino and Staats (2015) confirm that organizations, to survive in today's competitive market, absolutely need to strive for perpetual learning and improvement. Nonetheless, organizations don't always accomplish such a thing, despite their best intentions and efforts. The outcome of the professors' research state that "biases cause people to focus too much on success, take action too quickly, try too hard to fit in, and depend too much on experts" (p. 110). Four biases are identified in the research (p. 110 - 118):

- Bias toward success. Organizations are so overly focused on achieving success that often this turns against learning. That is because of the presence of a widespread fear of failure, a rigid mindset of people, an excessive dependence on previous experiences and a tendency to attribute failure to anything but oneself (either one singular person or a team). These issues could be overcome considering failures as learning opportunities, adopting and spreading a growth mindset that chases betterment opportunities and stands up to difficulties. Moreover, adopting a data-driven approach to analyse the failing occurrence is another tool to achieve progress.
- Bias toward action. It is common belief that doing something is preferable to doing nothing. However, being reluctant to doing nothing could lead to workers being exhausted and to a complete absence of reflection. To avoid this, organizations should schedule breaks, during the day and the whole year, promote reflection on what has to be done and what has been done.
- Bias toward fitting in. Learning could be obstructed whenever someone who joins an organization, or a team, tries to conform with others, stays quiet and doesn't let his/her strengths come out to give constructive insights on the matter at hand. To avoid all this, organizations should strive to have people nurture their own strengths and speak up whenever they feel they can positively contribute to the decision process.
- Bias toward experts. It is a prevalent opinion the one that considers experts essential to achieve improvement. However, most of the times experts are considered such

because of a title or a degree they hold, and because of a prolonged experience, people may be more resistant to accept changes and opposing views. Moreover, it is common that those employees who may have their hands on the problem, are not involved in the discussion. For learning to be effective and empowering for the organization, it would be helpful that employees would try to immediately tackle the problems they face themselves, avoiding probably unnecessary and time-consuming consults with managers, and also that employees were given the opportunity to switch activities and gain more differentiated experience in the organization.

2.3 Learning in the organizations

Nowadays, an incessant learning process is vital for organizations that want to continue and nurture their activity in today's competitive environment, where technologies upgrade and customers' preferences change constantly (Garvin, Edmondson and Gino, 2008). It is strongly believed that every organization should be a learning organization. It is through organizational learning that entities are able to "collect, analyse, store, disseminate, and use information relevant to the performance of an organization and its members" (Popper and Lipshitz, Somech and Drach-Zahavy; see Veil, 2011, p. 132).

Cyert and March (see Baumard and Starbuck, 2005, p. 281), precursors of the idea that organizations learn, affirm that organizational learning entails an adjustment of objectives and previsions based on present impressions, as well as a modification of the decision process to better match with the situation. In addition to this, they claim also that organizations learn the most when they go through troublesome periods in comparison to when they only register successful results.

Other researchers declare the same. Ellis, Mendel and Nir (see Cucculelli, 2017, p. 12) state that failures are the fuel for cognitive processes, Välikangas (2010, p. 63) asserts that it is common wisdom that points to failure as the best learning source, compared to success. Economist Paul Romer (see Rosenthal, 2009) affirms that "a crisis is a terrible thing to waste".

To sum up, organization have to consider problematic events and situations, that generate changes in the environment, as an opportunity to learn a lesson and consequently readjust their processes in accordance to the new conditions in which they will continue to operate.

2.4 How to foster learning from shocks

Drawing learning lessons from challenging events can be extremely beneficial for an organization (Duadelin, Kleiner and Roth; see Cope, 2003, p. 431) and in these cases learning can actually reveal to be "transformational" (Appelbaum and Goransson; see Cope, 2003, p. 431). Cyert and March (see Baumard and Starbuck, 2005, p. 283) affirm that there is a better propensity towards changing behaviours and approaches within the organization whenever a failure is registered, in comparison to when a success is recorded. Organizations assess the wrong or obsolete behaviour and start to find the better option, initiating a testing process that may take more than one alternative into consideration. Of the same mind is Sitkin (see Baumard and Starbuck, 2005, p. 283), who states that problematic events call for an organization's focus on possible issues, foster the research of solutions and promote people's dedication and betterment.

2.4.1 Root Cause Analysis

Whenever a shock is registered, it is the organization's responsibility to react in a timely manner. Regarding this matter, Cerniglia-Lowensen (2015) proposes that a root cause analysis is initiated, in order to actively acknowledge and manage the unexpected event. In the words of Huston (see Cerniglia-Lowensen, 2015, p. 5),

> "Root cause analysis is a method of problem solving that attempt to identify the most rudimentary cause of the fault or problems that occurred."

At the basis of this kind of analysis lays the belief that future issues could be tackled in advance by recognizing and adjusting the root cause of the occurrence. If it is not examined, it is very likely that the issue will present itself again to the organization (Bagian *et al.*, see Cerniglia-Lowensen, 2015, p. 5).

What Cerniglia-Lowensen suggests is that organizations ought to look for sentinel events, which are described as indicators that trigger a deep analysis of the event, which subsequently leads to the identification of potential solutions.

Right after the recognition of a sentinel event, organizations should collect data from various different sources that may help in the analysis of the problem, which will lead eventually to the identification of probable causal factors of the issue. In conclusion, the organization should lay out an implementation procedure of the correcting actions to take, clearly selecting the people responsible of each step of the procedure. This imple-

mentation, however, will be effective if all the employees involved realize that the change is needed and that the previous approach was inadequate.

2.4.2 Mistake tolerance

For learning to be effective, March (see Weinzimmer and Esken, 2017, p. 2) explains that an organization has to benefit from both exploitation of successful plans and exploration of less successful plans. With regards to the exploration of less successful plans, March further states that for the organization this entails the need to explore alternative tactics and expand its knowledge.

Mistakes need to be accounted for, may they come from managing an ordinary activity or from dealing with a shock. In both cases, there is potential for errors; the most important thing is to get the best lessons out of them, and besides, they are considered as extremely efficacious moments for organizational learning (Sitkin; see Weinzimmer and Esken, 2017, p. 2).

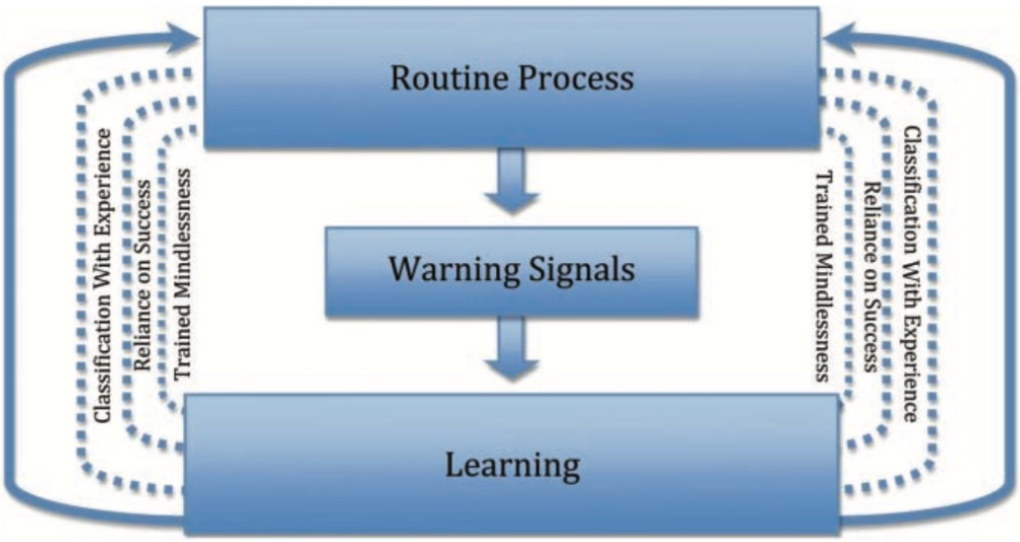
Despite the extremely constructive contributions that come from mistakes analysis, researches (Edmondson; see Weinzimmer and Esken, 2017, p. 2-3) illustrate that the majority of organizations do not condone mistakes, given that, generally, bonuses follow positive outcomes whereas penalties follow mistakes. Furthermore, on any occasion when mistakes are made, and punishment is the consequence, people tend to avoid disclosure and overall reflection and evaluation is censored (Bosk and Condon; see Weinzimmer and Esken, 2017, p. 3). Another risk in mistake-intolerant organizations is that employees, in order to avoid punishment and even embarrassment, start blaming each other (Alicke; see Weinzimmer and Esken, 2017, p. 5). The obvious outcome is that there is not even a glimpse of constructive learning for the organization.

To avoid this learning-killing environment, organizations should condone mistakes more, in order for people to feel more comfortable to review mistakes more freely. This doesn't mean that they should specifically promote mistakes; on the contrary, they should encourage exploration of the causes which eventually engenders brand-new knowledge and competences. Moreover, a "culture of intelligent risk taking" (Weinzimmer and Esken, 2017, p. 5) should be fostered, which would develop valuable and upgraded know-how.

2.4.3 Mindful Learning Model

Another method to learn from negative experiences is given by Veil (2011) and it is referred to as the "Mindful Learning Model" (p. 134). Basically, this model aims at making the organizations "recognize warning signals and learn from them to prevent failure and crisis" (p. 135). Crucial for the successfulness of this model is mindful learning, which raises awareness in the organization towards anything that does not meet its expectations. Alertness to new information, to insidious divergences from how things usually evolve is what organizations have to instil in people's mind.

Figure 1 Mindful Learning Model



Source: Veil (2011)

The Mindful Learning Model (Figure 1) implies a cyclical process of recognition of warning signals and a consistent adoption of the learned lessons in the routine process. The organization implements this model, being fully aware of the learning barriers that threaten it. Those barriers are three (p. 123-127):

- Classification with experience, which refers to the inability to acknowledge other points of view besides the organization's;
- Reliance on success, which refers to the total dependence on past successes;
- Trained mindlessness, which refers to the organization's indifference towards whatever surrounds a specific situation.

Thanks to this almost obsessive, though not paranoiac, attentiveness towards warning signals, learning should take place before the actual critical moment and for this reason the organization should be able to completely avoid the crisis.

2.5 Learning in Crisis

A new and additional method to react to a crisis is explained by Antonacopoulou and Sheaffer (2014). They propose the learning in crisis (LiC) method, which promotes a way of learning that challenges "deeply held beliefs" and changes these through practicing (p. 6).

As a matter of fact, "learning-in-practise" (p. 7) is encouraged given that, through it, organizations incessantly learn and move from something they knew to something that they did not know, as conceptualized by Peirce (see Antonacopoulou and Sheaffer, 2014, p. 7). Practice, in this context, means repeating actions, which is different from replicating them, which instead refers to continuously acting the exact same way after something has proven to be successful. Practicing, in Antonacopoulou and Sheaffer's research, is the "route to perfection through endorsing difference" (p. 14); LiC, in fact, is a method that is open to different ways of doing things and endorses critical judgements.

Learning in Crisis, specifically, is defined as "the ongoing practising in the midst of everyday action" (p. 8). Learning, with Antonacopoulou and Sheaffer's approach, comes from both the emergence (development) of continuing practising and the emergency (crisis) that initiate a cycle of judgements, necessary to solve the issue.

There are obviously some obstacles that this method could present. They refer to the potential emotional barriers towards learning alternatives to one's long-lasting beliefs, to the "cognitive blindness" (p. 11) that blocks out any element that doubts and contradicts existing knowledge and to previous successes that increase overconfidence, decrease attentiveness and intensify close-mindedness.

To sum up, Learning in Crisis promotes an approach towards learning that adopts spontaneous constructive criticism every day, not only when a crisis is looming over the organization.

2.6 Vicarious learning

Usually, organizations are not very much inclined to learn whenever they are not directly hit by a troublesome experience (Reilly; see Nathan and Kovoor-Misra, 2002, p. 246). However, some form of learning may occur and that is vicarious learning. In this case, organizations apprehend new knowledge, not because they went through a crisis themselves, but because they observe and learn from the involvement in a crisis of another organization, which can be considered as a model to look at. Through the observation of the outcomes of the model, one can learn a lesson and can be given the opportunity to quickly emulate the observed actions, behaviours and emotional reactions (Bandura, Davis and Luthans; see Nathan and Kovoor-Misra, 2002, p. 247). What the organization observes and elaborates provides the guidelines to follow when adjusting its own performance.

Learning indirectly from another organization's experience can serve as a tool to prevent one other organization to make mistakes and enter a crisis. Observant organizations could become better prepared and stronger when the moment to face a difficult situation come. Basically, this mode of learning can affect an organization so much that three possible results could be seen (pp. 248 - 249). As a matter of fact, the observer could:

- Pick up a new behaviour;
- Suppress a specific behaviour;
- Be reminded of previously learned helpful behaviours.

Notwithstanding the positive consequences that may come from adopting vicarious learning, managers may look at the crisis experienced by others as something that does not affect them directly, and therefore it is not worth comprehending. It is something interesting, but not valuable (p. 249).

Vicarious learning, known also as social learning, is a process that can be divided into four sections (Bandura and Decker; see Nathan and Kovoor-Misra, 2002, p. 247). The four sections are the following (pp. 253 - 262):

- Attention: selection of the model and behaviour to observe. It is the process of noticing what can be fruitful for the organization.
- Retention: picturing the observed behaviour in mind to preserve it for future use.
- Motor reproduction: enactment of the model's behaviour using retained images as guidelines.

- Motivation: it is the key to reproduce those behaviours that are valuable for the organization.

Recapitulating, vicarious leaning can be convenient for organizations, which have the opportunity to learn from other's troublesome periods, without sustaining the cost of directly experience the critical situation.

2.7 The case of British SMEs

A research conducted in the United Kingdom on a sample of British small-medium enterprises by Saunders, Gray and Goregaokar (2013) has studied the relationship that lies between innovation and learning and the role of crisis. Results confirmed what we have been discussing throughout the whole chapter. Learning from crisis situations is pivotal for the resistance of the organization.

Numerous lessons can be learned during a crisis, according to the results of the research. Organizations affirm that hard work is necessary to overcome such a critical situation and realize that nothing has to be taken for granted (p. 145). A high commitment to learning is shown to be correlated to higher levels of innovations; moreover, being proactive, committed to the cause and tenacious to surmount the obstacles were highly valuable and productive approaches. During a crisis, better outcomes were achieved when entrepreneurs were "open-minded or open-eared at all times" (p. 146). Additionally, some organizations acknowledge that being able to admit that they were wrong would have been helpful to the situation. A supplementary source of learning that SMEs may benefit from is represented by networking. As a matter of fact, as Chell and Baines demonstrated with their study (see Saunders, Gray and Goregaokar, 2013, p. 138), SMEs can gain helpful information from customers, other company's managers, former employees or even institutional organizations, such as the Chamber of Commerce. Thanks to networks, organizations can acquire beneficial feedbacks and suggestions that foster learning in the organization.

2.8 The case of Italian small and medium family firms

A study on small and medium family firms conducted by Cucculelli and Bettinelli (2015) explored what these organizations leveraged on in time of crisis.

These companies have the ability to do everything in their power in order to adapt to the situation, be innovative and resilient (Pat, *et al.*, Cucculelli and Bettinelli; see Bettinelli

and Cucculelli, 2015, p. 100). Given that they usually don't have standardized routines and change is managed using tacit knowledge (p. 94), they are more prone to react quickly to external shocks. As a matter of fact, they are able to be more responsive and have a predisposition to be market- and learning-oriented (Salavou, Baltas and Lioukas; see Bettinelli and Cucculelli, 2015, p. 100). Additionally, SMEs' reaction to a crisis depends on the leadership and collectiveness ingrained among the firms' members (p. 95). Learning proves to be successful in small and medium family firms when actively endorsed by top management and the CEO (p. 94), which most of the times, in these cases, is a family member. In fact, a family CEO has the tendency to give more importance and encourage more learning than a non-family CEO would. On the other hand, given its avoidance towards internal conflicts and the value he/she attributes to cohesiveness, there is the risk that the firm doesn't engage in discussions and effective progress.

Furthermore, it is highlighted that SMEs register better performances internationally, compared to larger firms (Istat; see Bettinelli and Cucculelli, 2015, p. 100), and this may be the signal that they are more inclined to learn from experience.

2.9 How to detect signs of distress

For organizations to be able to avoid a crisis, whether it is the first they face or not, they need to focus on acknowledging that there are signs of distress, problems that, if timely recognized, may help the organization to circumvent the shock.

Doug Yakola, senior partner in McKinsey & Company, has listed ten ways for organizations to bypass a crisis (2014). They are the following:

- Throw away your perceptions of a company in distress: to only have one way of describing what a company in distress look like may put in jeopardy that same company, given that there are, on the contrary, numerous signs of potential distress.
- Force yourself to criticize your own plan: it is crucial to regularly re-examine your plan of action and establish some results that should be achieved within a certain time.
- Expect more from your board: an error to avoid is to consider the board as the villain in the organization, that should be won over so that others can go on with their activity. The board has the responsibility to detect early-warning signals of distress.

- Focus on cash: keeping an eye on cash implies both controlling the organization's bank balance and also properly forecast midterm and long-term trends.
- Create a change story: this is essential to convince every stakeholder of the organization that a change is needed, why it is necessary, and which is the best direction to take.
- Treat every turnaround like a crisis: when a crisis mind-set is established, the necessity for a change is quickly recognized and, in this way, a prompt reaction is possible.
- Build traction for change with quick wins: focusing on achieving quick wins can prove to be beneficial when reacting to early signs of distress. As a matter of fact, they improve the bottom line and develop a supportive behaviour among employees.
- Throw out your old incentive plans: incentive plans are usually quite complex and difficult to understand. Creating incentives directly connected to the results expected from employees can favour better performances.
- Replace a top-team member – or two: changing top-members doesn't necessarily mean that they are incompetent. However, they may need to be replaced because incapable of adapting their vision and approach to the present needs of the organization.
- Find and retain talented people: for an organization is extremely important to have employees that have the ability to play devil's advocate, and also talented employees, of every level, that can give positive and valuable insights to solve a problem. In both cases, to retain these people in the organization, it is crucial to make them feel part of the organization.

2.10 Conclusion

In this chapter, we could figure out that learning in an organization is extremely essential for its progress but also its survival to a crisis. Kovoor-Misra and Nathan (2000; see Kovoor-Misra and Nathan, 2002, p. 245) affirm that a crisis can be considered as an opportunity to learn and increase knowledge. Despite that, organization may still fail to learn, for example because of continuous successes, mistakes hiding or close-mindedness.

Learning is fostered in a mistake-tolerant environment (Weinzimmer and Esken, 2017) and by analysing the root-cause of troublesome events (Cerniglia-Lowensen, 2015). Moreover, learning occurs thanks to mindfulness (Veil, 2011), practicing (Antonacopoulou and Sheaffer, 2014), but also by observing other organizations' experience (Nathan and Kovoor-Misra, 2002).

This extensive theoretical explanation is confirmed on many aspects by researches on British and Italian SMEs.

In the following chapter, the dissertation goes on analysing a sample of quasi-medium sized Made in Italy firms, focusing on their ability to learn a lesson from the 2009 downturn and put it into practice when the 2012 crisis hit.

3. CHAPTER 3

QUASI-MEDIUM MADE IN ITALY FIRMS: THE LEARNING EFFECT

3.1 Introduction

In the face of a critical situation, whatever the causes may be, companies are encouraged to welcome the change as an opportunity to expand their knowledge about their business, external relationships and dynamics. They should try to manage it mindfully, in the most proactive and constructive way possible in order to make the best out of it and learn a lesson. Whatever is apprehended after a shock may turn out to be useful in the future once a similarly unfortunate situation will present itself in front of the company and it may also help to prevent, when possible, unexpected and undesirable events.
What follows is the presentation and analysis of a sample of Made in Italy companies, which were considered as the foundation for an analysis carried out by Gubitta, Tognazzo and Favaron (2013) in the book "Lepri che vincono la crisi. Storie di aziende (quasi medie) vincenti nei mercati globali". Their aim was to examine those companies of the Made in Italy industries (Fashion & Apparel, Automation & Mechanics, Furniture & Home Appliances and Food & Beverages) that right before the 2008 financial crisis were quasi-medium, that is with revenues between 10 and 12,9 million Euros. The main focus was on those companies that in the period 2008 - 2010 outperformed the market and had great performances, despite the critical circumstances.
This chapter presents a longitudinal analysis, with data that span over a decade, from 2004 to 2017, that are extensively explained and examined, with regards to the companies' present legal status, their geographical position and the Made in Italy industry they belong to. Each company is labelled as "strong" or "weak" for each of the two years identified as the most troublesome and critical in the thirteen-year period, which are

2009 and 2012. The final aim is to understand whether the companies of the sample have obtained out of the 2009 economic downturn some kind of a learning effect that proved to be useful when they faced again a critical situation in 2012.

3.2 Methodology

The empirical analysis of this dissertation is built on a database which comprises 1554 companies.

This database was created as an integration of the one utilized for the book "Lepri che vincono la crisi. Storie di aziende (quasi medie) vincenti nei mercati globali" (Gubitta, Tognazzo, Favaron, 2013). At the time, the study was focused on companies that belonged to the manufacturing Made in Italy industry that on the eve of the financial crisis that broke out in September 2008 were defined as quasi-medium sized, whose revenues, in 2007, fell within the 10 – 12,9 million Euros range. Gubitta, Tognazzo and Favaron's aim was to understand what kind of business determinants, that were a reality just before the financial crisis hit, allowed some quasi-medium companies to be able to perform better than the overall market in the following three-year period (2008 - 2010), measured in term of growth (revenues) and performance (profitability).

Data were retrieved from the database AIDA of Bureau van Dijk, which is widely used to retrieve comprehensive financial, legal and commercial information on Italian companies.

These companies were categorized as part of the manufacturing Made in Italy industry, which is divided in four parts: Fashion and Apparel, Food and Beverage, Furniture and Home Appliances, Automation and Mechanics. The choice fell on companies active in the Made in Italy industry, because of the crucial role the industry has been playing nationally and globally, which secured our country a great success and competitiveness around the world. To isolate Made in Italy companies, the ATECO codification was utilized.

Concerning the geographical location of the companies, the Italian territory was divided into four main areas: North-West, North-East, Centre and South and Islands. The North-West includes Valle d'Aosta, Piemonte, Liguria and Lombardia; the North-East includes Trentino-Alto Adige, Veneto and Friuli-Venezia Giulia; Central Italy comprehends Emilia-Romagna, Tuscany, Marche, Umbria and Lazio; the macro-area South and

Islands comprises Abruzzo, Apulia, Molise, Campania, Basilicata, Calabria, Sicily and Sardinia.

In general, when a rate of change was calculated, the inflation rate was not taken into consideration. Moreover, being the database subject of this dissertation built on a previously created one, the same interpretation of medium-sized firms was taken into account, which considers the minimum limit of revenues of companies to be comprehended in this category equal to 13 million Euros.

The analysis subject of this dissertation is set as a longitudinal study that covers years from 2004 to 2017. For this reason, the most recent financial and governance data were incorporated in the original database.

With regards to the GDP - Gross Domestic Product, the relative data were exported from the database I.stat of ISTAT, the Italian Institute of Statistics. In this analysis, the aggregated data of the national territory are considered at current prices. The GDP calculated at current prices makes no adjustment for inflation when calculating the overall value. The time period taken into consideration is the same used in the enterprises database.

The GDP data divided by industry were retrieved from the ISTAT database, where data are only available grouped on the basis of the NACE Rev.2 classification, which is the European version of the Italian ATECO 2007. Since the ATECO 2007 codes have been used in the company database it has been necessary to readjust the micro-sectors of NACE in the four macro-industry of Made in Italy, Automation & Mechanics, Fashion & Apparel, Furniture & Home Appliances, Food & Beverages following the guidelines reported by Eurostat, "Statistical Classification of Economic Activities in the European Community".

3.3 Database analysis

The database subject of study of this dissertation was built by integrating a previously developed one that was the groundwork for Gubitta, Tognazzo and Favaron's analysis (2013).

It is interesting to look at the difference of numbers in the ten-year period, comparing how many companies were present at the starting point of the analysis in 2007 and at the end of 2017.

Table 1 Made in Italy after ten years: quasi-medium firms by macro-area

Macro-Area of Made in Italy		2007		2017		2007-2017 Variation	
		A.V.	%	A.V.	%	A.V.	%
Active	North-East	331	21,3%	245	15,8%	-86	-26,0%
	North-West	620	39,9%	477	30,7%	-143	-23,1%
	Centre	465	29,9%	350	22,5%	-115	-24,7%
	South - Islands	138	8,9%	109	7,0%	-29	-21,0%
Total Active		1554	100%	1181	76,0%	-373	-24,0%
Merged		-	-	109	7,0%	-	-
Dissolved or In Procedure		-	-	264	17,0%	-	-
Total		1554	-	1554	100,0%	-	-

Source: Author's Elaboration

When looking at the numbers divided by geographical macro-area (Table 1), it is noticeable that in the North-East of Italy the biggest decrease of active companies is registered, equal to -26%. In the North-West and Centre of the country, the variation is equal to -23,1% and -24,7% respectively, whereas in the South and Islands it was equal to -21%, which is the lowest reduction among the four areas. Moreover, it can be highlighted that the majority of the sample's companies are still located in north-western Italy and the smallest portion of firms is in the South and the Islands. Of the 1554 active companies of the 2007, 7% was involved in a merger operation and 17% is either dissolved or underwent some kind of legal procedure.

With regards to the macro-industry classification of the sample's companies (Table 2), among the four categories, it was Fashion & Apparel that registered the highest decrease from 2007 to 2017, equal to -31,1%. The reduction was slightly less for Furniture & Home Appliances (-30,5%), whereas Food & Beverages and Automation & Mechanics' decrease was less than one fourth compared to 2007.

To highlight is the fact that of the initial sample composed of 1554 companies, there are some that changed their ATECO code into service activities. Of this portion of firms, 29 are still active in 2017. Looking at the subdivision of the companies among the macro-industries, Automation & Mechanics is the one with the highest number of quasi-medium sized companies, both in 2007 and in 2017.

Table 2 Made in Italy after ten years: quasi-medium firms by macro-industry

Macro-Industry of Made in Italy		2007		2017		2007-2017 Variation	
		A.V.	%	A.V.	%	A.V.	%
Active	Fashion & Apparel	338	21,8%	233	15,0%	-105	-31,1%
	Food & Beverages	202	13,0%	157	10,1%	-45	-22,3%
	Furniture & Home Appliances	203	13,1%	141	9,1%	-62	-30,5%
	Automation & Mechanics	811	52,2%	621	40,0%	-190	-23,4%
	Services Industry	n.d.a.	n.d.a.	29	1,9%	-	-
Total Active		1554	100%	1181	76,0%	-373	-24,0%
Merged		-	-	109	7,0%	-	-
Dissolved or In Procedure		-	-	264	17,0%	-	-
Total		1554	-	1554	100,0%	-	-

Source: Author's Elaboration

3.3.1 General analysis by legal status

Analysing the sample of companies based on their actual legal status (Table 3), it is possible to see that not all of them are still working today.

Table 3 Legal status of sample's companies

Legal Status	Percentage Values
Active	76,0%
Merged	7,0%
Bankrupt	7,7%
Legal Proceeding	9,3%
Active (Default of payment)	3,9%
Dissolved (Demerger)	0,1%
Dissolved (In liquidation)	1,4%
Dissolved	1,0%
In liquidation	2,9%
Total	100,0%

Source: Author's Elaboration

Of the 1554 companies that compose the sample, 1181 (76%) are still active in the market (Table 3). In the period 2007 - 2017, the 7,7% of the sample went bankrupt, whereas the remaining 9,3% underwent some kind of legal procedure. To be highlighted are the 109 companies (7%) that merged with other companies, which are considered to be still active today, despite operating under a different name or administration, and the 3,9% of companies that are still active but, to some extent, insolvent.

Table 4 Legal status of quasi-medium firms in 2017 by macro-area

LEGAL STATUS	A.V.	%	MACRO-AREA			
			NORTH-WEST	NORTH-EAST	CENTRE	SOUTH - ISLANDS
Active	1181	76,0%	76,9%	74,5%	74,9%	79,0%
Merged	109	7,01%	8,5%	8,8%	4,3%	5,1%
Bankrupt	119	7,66%	5,8%	8,2%	8,8%	10,9%
Legal Proceeding	145	9,33%	8,7%	8,5%	12,0%	5,1%
Active (Default of payment)	61	3,93%	3,9%	2,4%	5,8%	1,4%
Dissolved (Demerger)	2	0,13%	0,0%	0,3%	0,2%	0,0%
Dissolved (In liquidation)	22	1,42%	1,0%	2,4%	1,5%	0,7%
Dissolved	15	0,97%	1,8%	0,3%	0,6%	0,0%
In liquidation	45	2,90%	2,1%	3,0%	3,9%	2,9%
Total	1554	100,0%	100,0%	100,0%	100,0%	100,0%
% on total 1554 companies			39,9%	21,2%	30,1%	8,9%

Source: Author's Elaboration

In general, it can be reported that almost the 40% (620) of the companies of the sample are located in north-western Italy, 21,2% (329) in the North-East, 30,1% (467) in the central area of the country and the remaining 8,9% (138) are located in the South and in the islands (Table 4).

Moreover, with a cross-analysis between legal status and territorial position of the companies, it is possible to notice that active companies amount over three fourth of the total in the North-West and in the South and in the islands, whereas in the North-East and Centre the active portion is slightly under 75%.

The North-West has registered the lowest level of bankruptcy (5,8%), whereas the highest level (10,9%) was registered in the South and in the islands. North-West and North-

East show the highest percentage values of merger operations, 8,5% and 8,8% respectively.

Central Italy has registered the highest percentage of insolvent companies that are still active, 5,8%, and 3,9% of the companies are in liquidation. Of the total 138 companies located in the South of Italy and the islands, 10,9% went bankrupt and 5,1% merged with another company.

Table 5 Legal status of quasi-medium firms in 2017 by macro-industry

Legal Status	A.V.	%	Macro-Industry			
			Fashion & Apparel	Food & Beverages	Furniture & Home Appliances	Automation & Mechanics
Active	1152	76,14%	70,8%	80,9%	70,5%	78,6%
Merged	107	7,07%	5,2%	7,7%	5,0%	8,2%
Bankrupt	117	7,73%	9,1%	6,7%	12,0%	6,3%
Legal Proceeding	137	9,05%	14,9%	4,6%	12,5%	6,8%
Active (Default of payment)	56	3,70%	5,8%	0,5%	7,0%	2,8%
Dissolved (Demerger)	1	0,07%	0,0%	0,5%	0,0%	0,0%
Dissolved (In liquidation)	22	1,45%	3,3%	0,0%	2,0%	0,9%
Dissolved	14	0,93%	1,2%	1,0%	0,0%	1,0%
In liquidation	44	2,91%	4,6%	2,6%	3,5%	2,2%
Total	1513	100,0%	100,0%	100,0%	100,0%	100,0%
% on total 1513 companies			21,7%	12,8%	13,2%	52,2%

Source: Author's Elaboration

Looking now at the fragmentation of the companies at the end of 2017, based on their legal status and the Made in Italy industry they belong to (Table 5), the sample taken into consideration has been decreased of the companies that are today working in the service industry, following an ATECO code change between 2010 and 2017, which will be shown later on. Therefore, the quasi-medium companies of the sample that today still operate in a Made in Italy industry amount to 1513 units.

Food & Beverages is the industry with the lowest total number of quasi-medium sized companies of the sample, equal to 194 (12,8%), whereas Fashion & Apparel counts 329 (21,7%) companies, Furniture & Home Appliances companies are 200 (13,2%) and, lastly, in the Automation & Mechanics industry the highest number of companies is recorded, equal to 790 (52,2%).

As far as the Food & Beverages industry is concerned, it can be affirmed that just a bit more than four fifth (80,9%) of the total 194 companies are active, 6,7% went bankrupt and 7,7% were subject of a merger operation.

The Furniture & Home Appliances industry has registered the highest level of bankrupt companies (12%) in comparison with the other three industries and 7% of the 200 companies of this sector have registered default of payment.

With regards to the Fashion & Apparel industry, 14,9% of the total 329 have been undergoing some kind of legal proceeding: in particular, 5,8% are insolvent and 4,6% are now being subjected to a liquidation process. Moreover, 9,1% of these companies went bankrupt and 5,2% merged with another one.

The Automation & Mechanics industry, lastly, registered 78,6% of active entities, 6,3% of bankruptcy among its companies, 6,8% was subject of a legal proceeding and the remaining 8,2% of firms were involved in a merger.

Table 6 Legal status of quasi-medium firms in 2017 that changed ATECO code

LEGAL STATUS	ATECO					
	NO CHANGE		CHANGE		OF WHICH TO SERVICES TO ENTERPRISE	
	A.V.	%	A.V.	%	A.V.	%
Active	971	62,5%	210	13,5%	29	1,9%
Merged	100	6,4%	9	0,6%	2	0,1%
Bankrupt	105	6,8%	14	0,9%	2	0,1%
Legal Proceeding	127	8,2%	18	1,2%	8	0,5%
Active (Default of payment)	52	3,3%	9	0,6%	5	0,3%
Dissolved (Demerger)	1	0,1%	1	0,1%	1	0,1%
Dissolved (In liquidation)	21	1,4%	1	0,1%	0	0,0%
Dissolved	12	0,8%	3	0,2%	1	0,1%
In liquidation	41	2,6%	4	0,3%	1	0,1%
% on 1554 total companies	1303	83,8%	251	16,2%	41	2,5%

Source: Author's Elaboration

With regards to the ATECO code of the companies (Table 6), it is possible to observe that, of the total 1554 companies, 16,2% (251) have changed the ATECO classification of belonging, of which 2,5% (41) to an ATECO code that relates to service activities. The majority of this 16,2% is still active in the Made in Italy industry (13,5%), 0,6%

was subject of a merger operation, 1,2% underwent some kind of legal proceeding, and the remaining 0,9% went bankrupt.

The types of service which some companies switched their activity to predominantly refer to advisory and management activities for companies.

3.3.2 Cross-analysis between macro-industry and macro-area

When crossing data between macro-industry and macro-area (Table 7), quasi-medium firms operating in the Automation & Mechanics industry account for the biggest portion of firms in each macro-area: in North-East it's the 51,3% of firms, in the North-West the 60,1%, in central Italy 45,6% and in southern Italy and in the islands it's the 40,9% of firms that operate in this Made in Italy industry. Furniture & Home Appliances companies in the North-East are almost equal to the 21%, whereas in the South and in the islands it is only the 8%. With regards to the Food & Beverages companies, those amount to the 40,1% in the South and in the islands, while in central Italy the percentage is slightly less than 10%. The Fashion & Apparel industry is mostly present in central regions of the country: in fact, 29,5% of all the companies of this macro-area operate in the industry.

Table 7 Quasi-medium firms in 2017 by macro-industry and macro-area

Macro-Industry 2017	A.V.	%	Macro-Area			
			North-East	North-West	Centre	South-Islands
Fashion & Apparel	329	21,7%	17,8%	20,5%	29,5%	10,9%
Food & Beverages	194	12,8%	10,0%	10,3%	9,8%	40,1%
Furniture & Home Appliances	200	13,2%	20,9%	9,0%	15,0%	8,0%
Automation & Mechanics	790	52,2%	51,3%	60,1%	45,6%	40,9%
Total	1513	100,0%	100,0%	100,0%	100,0%	100,0%

Source: Author's Elaboration

3.3.3 Classification by revenues stream

Considering all Made in Italy companies (Table 8), it can be noticed that, in the period 2007 - 2017, 29,9% (452) of the firms registered revenues over 13 million Euros, 13,7% (208) remained in the segment with revenues between 10 and 12,99 million Euros,

21,4% (324) saw their revenues going down to the 5 - 9,99 million segment and finally the ones that downgraded to the under 5 million segment equal to 7% (106).

Analysing now the breakdown of the companies based on their revenues stream and the macro-industry they belong to, it is possible to notice that the majority of firms in the Food & Beverages industry surpassed the threshold of 13 million Euros of revenues between 2007 and 2017. However, a consistent portion of companies of this industry, equal to 18,6%, relates to firms in liquidation, dissolved or merged. In addition, the firms whose revenues decreased and went under 9,99 million Euros amount to 13,4%, whereas in the other three industries the portion of companies that registered decreased revenues under the 9,99 million Euros threshold are equal to 30% circa.

In the Fashion & Apparel industry, almost one fourth of the companies registered revenues over 13 million Euros, in the Furniture & Home Appliances industry they are equal to 20% and in Automation & Mechanics they are just above 30%.

In every Made in Italy industry, the percentage of companies whose revenues remained in the 10-12,99 million Euros segment ranges from 12,5% to 14,6%.

Table 8 Made in Italy after 10 years: revenues changes of quasi-medium firms by macro-industry

Revenues movements between 2007 and 2017	A.V.	%	Macro-Industry			
			Fashion & Apparel	Food & Beverages	Furniture & Home Appliances	Automation & Mechanics
Revenues went over 13 million	452	29,9%	24,6%	45,9%	20,0%	30,6%
Revenues stayed between 10 - 12,99 million	208	13,7%	12,5%	13,4%	13,0%	14,6%
Revenues went down, between 5-9,99 million	324	21,4%	21,6%	11,3%	20,5%	24,1%
Revenues went under 5 million	106	7,0%	10,3%	2,1%	10,0%	6,1%
Firms in liquidation, dissolved or merged	324	21,4%	25,2%	18,6%	25,0%	19,6%
N.D.A:	99	6,5%	5,8%	8,8%	11,5%	5,1%
Total	1513	100,0%	100,0%	100,0%	100,0%	100,0%

Source: Author's Elaboration

With regards to the geographical division based on revenues stream (Table 9), northern Italy registered just over 30% of companies which surpassed the threshold of 13 million

Euros of revenues, whereas in the Centre the percentage is equal to 29,1% and in the South and in the island amounts to 27,7%. Again, both northern sides have 15% of companies whose revenues remained in the 10 – 12,99 million Euros segment, while the percentage is lower in central Italy and in the South and in the islands, equalling to 12,8% and 8% respectively.

Over one fifth of companies in the North-East, North-West and Centre registered decreasing revenues to the 5 – 9,99 million Euros segment, and in southern Italy and in the islands the percentage of companies belonging to this segment equals to 16,1%.

Companies that registered revenues under 5 million Euros are a minimal portion in the North-East (3,8%). In the North-West they are the 6,6% and in the rest of the country they are just a little less than 10%.

Table 9 Made in Italy after 10 years: revenues changes of quasi-medium firms by macro-area

Revenues movements between 2007 and 2017	A.V.	%	Macro-Area			
			North-East	North-West	Centre	South-Islands
Revenues went over 13 million	452	29,9%	30,9%	30,4%	29,1%	27,7%
Revenues stayed between 10 - 12,99 million	208	13,7%	15,0%	15,1%	12,8%	8,0%
Revenues went down, between 5-9,99 million	324	21,4%	21,6%	22,5%	21,5%	16,1%
Revenues went under 5 million	106	7,0%	3,8%	6,6%	9,2%	9,5%
Firms in liquidation, dissolved or merged	324	21,4%	24,4%	21,0%	20,1%	20,4%
N.D.A:	99	6,5%	4,4%	4,4%	7,4%	18,2%
Total	1513	100,0%	100,0%	100,0%	100,0%	100,0%

Source: Author's Elaboration

3.4 How have companies survived challenging years?

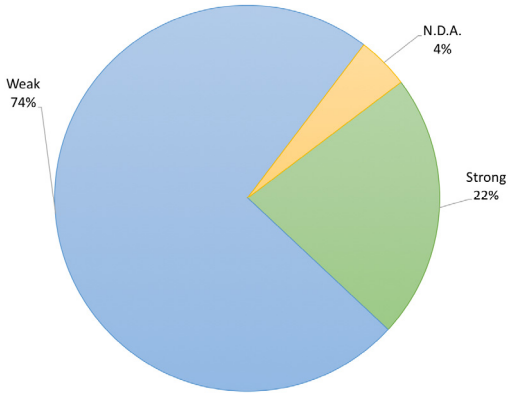
Concentrating more specifically the analysis on companies' performance, this dissertation focuses now its attention on the improvements or worsening of the performances of the sample's firms. The sample taken into account includes 1513 companies, the companies that changed their ATECO code into service activities are not taken into consideration. In particular, it tries to comprehend if companies, after the first economic downturn in 2009 have understood how to manage the unexpected and put this new knowl-

edge into practice when the following critic wave hit in 2012. These two years are identified, in the period 2004 – 2017, as years of the crisis based on the recording of the most negative peaks of the national GDP variation exactly in 2009 and 2012, equal to -3,63% and -1,48% respectively.

To measure the shock that hit companies in 2009, named "Shock 1", the following steps are taken. Firstly, the revenues' variation between 2009 and the year before, 2008, is calculated for each company, and then the national GDP variation in the same year. Then, the shock is determined as the difference between revenues' variation and GDP variation. When this difference results in a positive number, it means that the company was able to react to the critical situation and responded effectively. In this case the company is labelled as "strong". When, on the other hand, the difference results in a negative number, the company was not able to promptly react to the contingency and therefore was negatively affected by it. When this is the case, the company is labelled as "weak". An identical procedure is adopted to calculate companies' shock in 2012, which is named "Shock 2". These calculations are done also taking into consideration only the companies of one Made in Italy industry and the corresponding industry GDP.

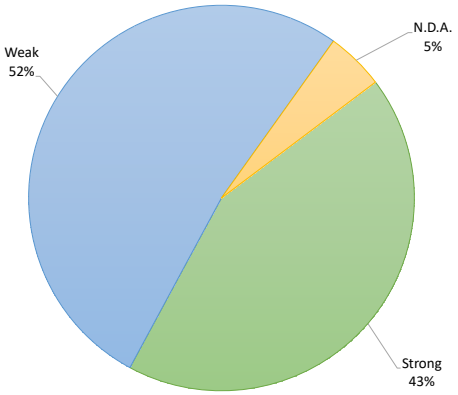
These computations show us the overall percentage of sample's companies that made it through the 2009 crisis being strong or weak (Figure 2). It is evident that the majority of firms, 74%, suffered from the shock and only the 22% managed it adequately. However, going into details, it is possible to have a better understanding of how companies carried out their activities in the face of a crisis comparing their performance to the GDP of the industry they belong to. It is to be noticed that in the Fashion & Apparel industry (Figure 3), the percentage of strong companies reached 43% of the total, whereas in the Automation & Mechanics sector (Figure 4) those companies that were able to adapt and withstand Shock 1 amount to the 51% of all the companies of the sample that are included in this industry. The greater part of Furniture & Home Appliances' companies, 56%, instead, were affected by the 2009 crisis (Figure 5), whereas only the 37% of Food & Beverages companies (Figure 6) resulted to be shocked by the challenging period. In fact, 57% of them managed to resist Shock1.

Figure 2 Strong/Weak firms - Shock 1 - National GDP



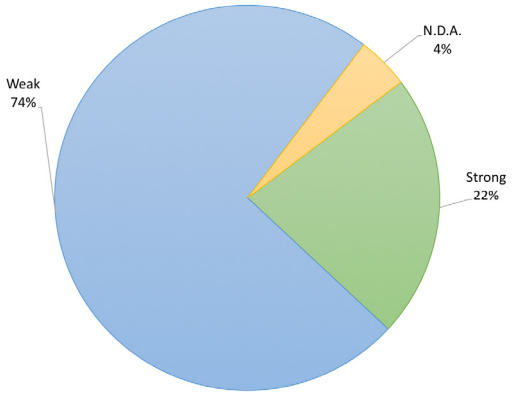
Source: Author's Elaboration

Figure 3 Strong/Weak firms - Shock 1 - Fashion & Apparel GDP



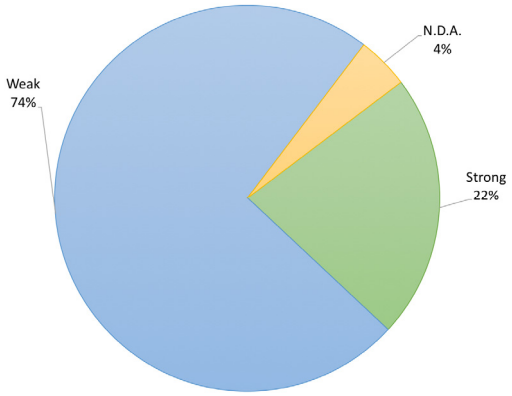
Source: Author's Elaboration

Figure 4 Strong/Weak firms - Shock 1 - Automation & Mechanics GDP



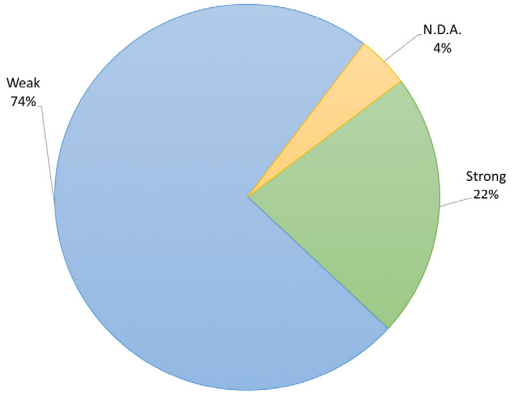
Source: Author's Elaboration

Figure 5 Strong/Weak firms - Shock 1 - Furniture & Home Appliances GDP



Source: Author's Elaboration

Figure 6 Strong/Weak firms - Shock 1 - Food & Beverages GDP

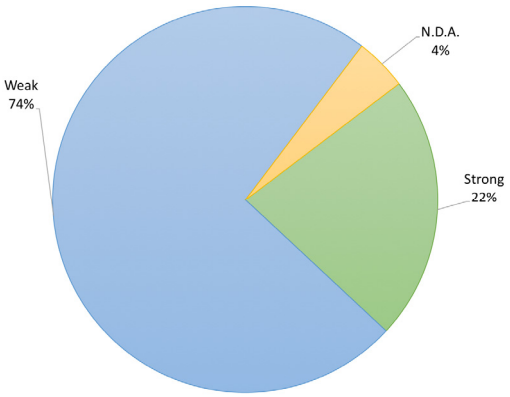


Source: Author's Elaboration

The same kind of analysis is carried out with regards to Shock 2. Comparing the results of all the companies based on the national GDP in 2012, with the results obtained in 2009, it is clear that many companies improved the shock's management and put into practice what they had learnt previously. In fact, the percentage of firms that were strong during Shock 2 nearly doubled compared to Shock 1, reaching 39% (Figure 7). When breaking down the analysis based on the Made in Italy industry of belonging and taking into consideration each industry's GDP, it can be noticed that of all Fashion & Apparel companies (Figure 8), 47% have positively reacted to the 2012 downturn, compared to Shock 1's 43%. In the Automation & Mechanics industry (Figure 9), the percentage of weak firms has slightly increased, reaching 46%, whereas the strong ones amount to 45% of the total, which is less than the percentage in 2009. With regards to

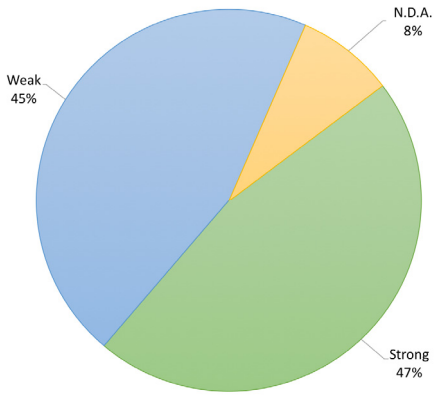
the companies belonging to the Furniture & Home Appliances industry (Figure 10), a decrease of weak enterprises is to be accounted for, as well as a slight reduction of strong companies. The percentages amount to 49% and 40%, respectively. Lastly, Food & Beverages companies (Figure 11) that managed to resist Shock 2 are equal to 48% of the total, decreased of 9 points in comparison to 2009, whereas those who suffered from the shock amount to 44% of the total (+7%).

Figure 7 Strong/Weak firms - Shock 2 - National GDP



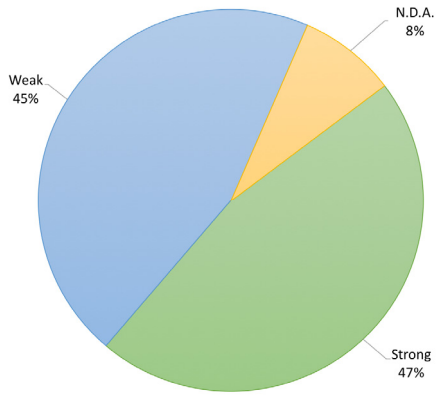
Source: Author's Elaboration

Figure 8 Strong/Weak firms - Shock 2 - Fashion & Apparel GDP



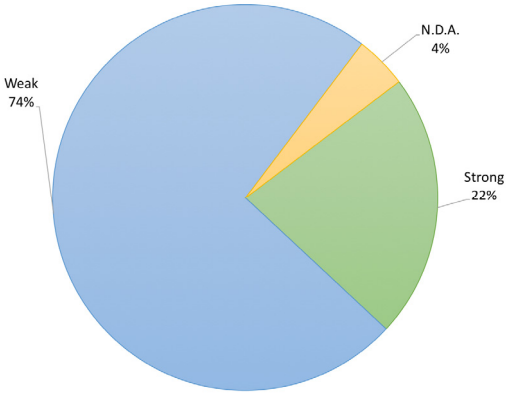
Source: Author's Elaboration

Figure 9 Strong/Weak firms - Shock 2 - Automation & Mechanics GDP



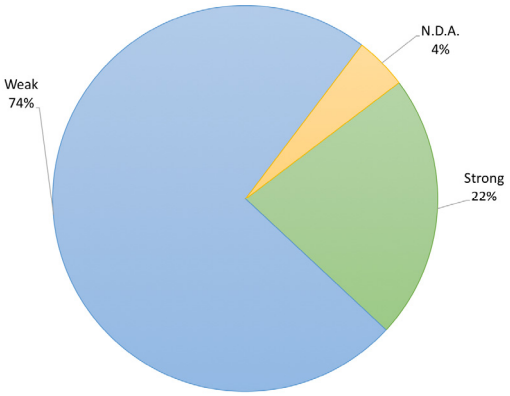
Source: Author's Elaboration

Figure 10 Strong/Weak firms - Shock 2 - Furniture & Home Appliances GDP



Source: Author's Elaboration

Figure 11 Strong/Weak firms - Shock 2 - Food & Beverages GDP



Source: Author's Elaboration

3.5 The Learning Effect

Once the 2009 and the 2012 shocks are determined, the analysis goes on with the objective to classify each company as a "Learning" or "No Learning" entity. In order to achieve this, the difference between "Shock 2" and "Shock 1" is calculated for each company. When the result of this difference is a positive number, it implies that the company learned from "Shock 1" and reacted more effectively in "Shock 2" (Learning). The opposite situation, when the difference results in a negative number, indicates that the company performed better during "Shock 1", whereas in "Shock 2" it suffered more the crisis and was more affected (No Learning).

The fact that one company is labelled as a "Learning" entity does not imply that its performance went from negative to positive (from weak to strong). One possibility is that it was already strong in "Shock 1" and in 2012 it simply improved its ability to react to the problematic situation. In the same way, when one is a "No Learning" entity, it is not necessarily true that it went from strong to weak. As a matter of fact, it could be possible that a company that suffered a negative shock in 2009, in "Shock 2" its performance got even worse, as well as that a company that resulted as strong in 2009, still was in 2012, but with a slightly worsened performance.

For this analysis, the sample is smaller, amounting to 1364 companies. That is because to be considered out of the sample are those entities who don't fall under the Made in Italy classification anymore, given they changed their ATECO codification into service activities, and those firms who are missing some indispensable data to make the necessary computations.

Of this diminished sample, it is to be highlighted that 45,4% of the firms registered a positive learning effect that had an impact on the 2012 performance, whereas the remaining 54,6% of the sample didn't apprehend from one shock to the other (Table 10).

Table 10 Learning Effect Shock 1 - Shock 2

LEARNING EFFECT	A.V.	%
Learning	619	45,4%
No Learning	745	54,6%
Total	1364	100,0%

Source: Author's Elaboration

When examining in detail companies' performances and comparing the outcome in Shock 1 with the one obtained in Shock 2 (Table 11), data shows that over 26% of the companies have registered in both periods strong behaviours, whereas just a bit over one fourth of the sample went from withstanding the crisis in 2009 to suffering in 2012. Those instead that certainly improved their performance from one shock to the other amount to 23,3% of the sample. Lastly, those who were not able to move from the "weak" category to the "strong" one amount to 25,1%.

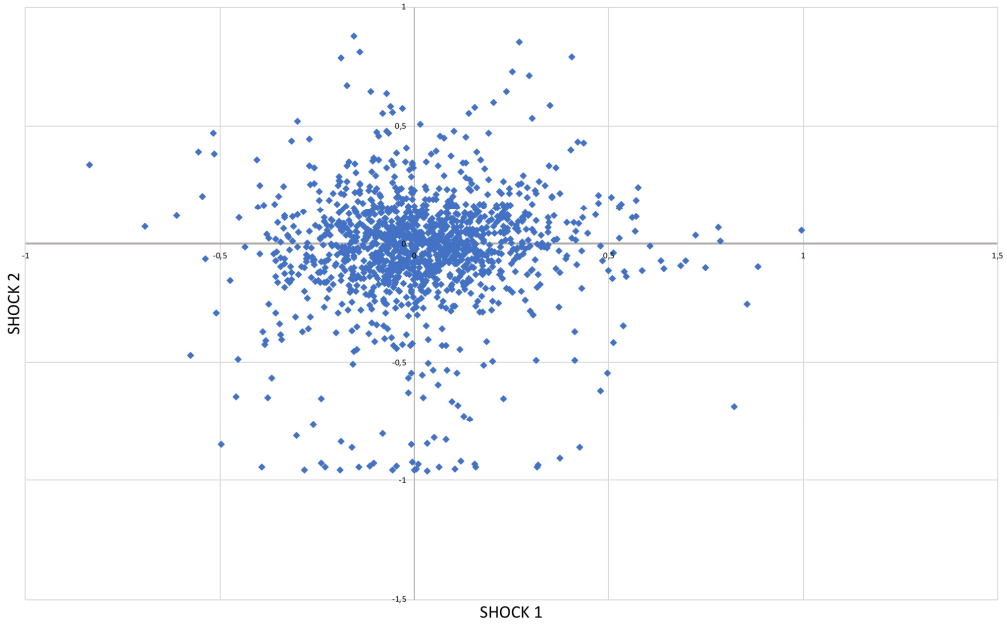
Table 11 Performance Shock 1 - Shock 2

PERFORMANCE SHOCK 1 - SHOCK 2	V.A.	%
Strong - Strong	358	26,2%
Strong - Weak	346	25,4%
Weak - Strong	318	23,3%
Weak - Weak	342	25,1%
Total	1364	100%

Source: Author's Elaboration

The cross-analysis of the companies' performances in the two shocks is clearly displayed in Figure 12. For this plot representation to be meaningful and more understandable, nineteen of the 1364 sample's companies (1,39%) are considered outliers and therefore are not included in the plot.

Figure 12 Cross-analysis of companies' performance

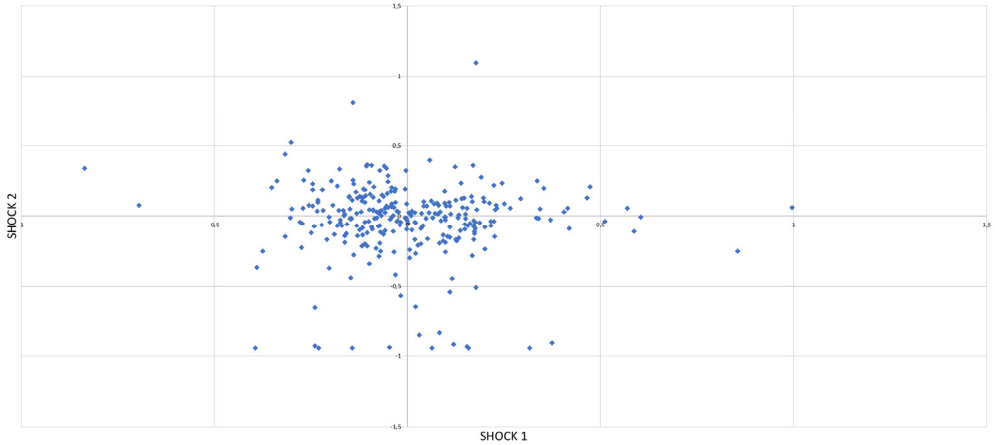


Source: Author's Elaboration

For a better understanding of the plot, it is useful to distinguish the four quadrants and give them a label each, and also draw an imaginary bisector. The top-right quadrant is that of those companies that in both shocks were strong. On the right side of the bisector are those that went from good to less good, on the left side those that went from good to better. The companies that are positioned in the top-left quadrant are those that suffered the shock in 2009 but improved in 2012. The bisector divides those firms that went from bad to good on the right, from the firms that went from bad to better on the left. Then, in the bottom-right quadrant of the plot, there are those companies whose performance worsened, given that they were strong in Shock 1, but suffered through Shock 2. More precisely, the bisector distinguishes on the right those firms that went from good to bad, and on the left those that went from good to worse. Lastly, in the fourth quadrant, at the bottom-left, there are those enterprises that both in 2009 and 2012 were negatively affected by the downturns. In particular, those firms that are positioned on the left of the bisector are the ones that went from bad to less bad, whereas those that are on the right are the ones that went from bad to worse.

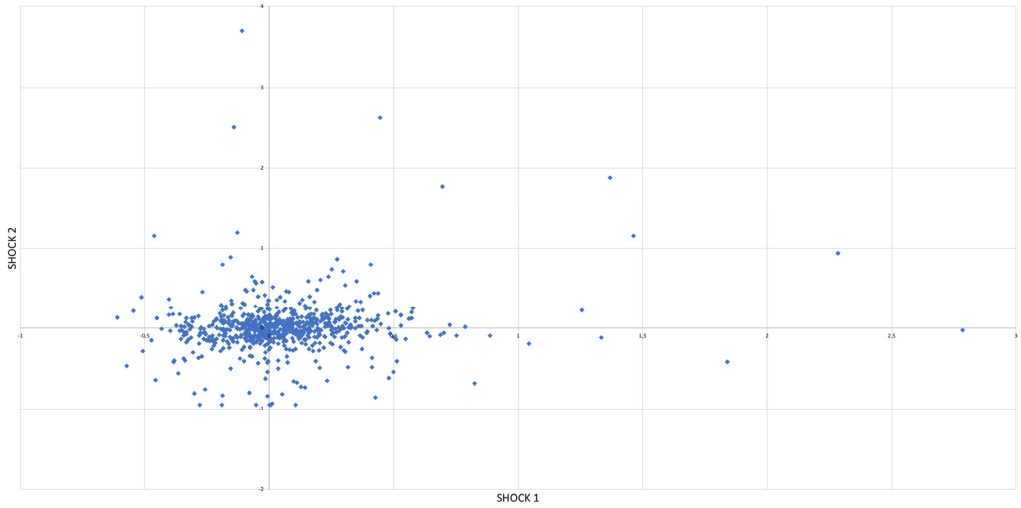
The same partition of the plot's quadrants goes for the following figures, which represent each Made in Italy industry's situation.

Figure 13 Cross-analysis of companies' performance - Fashion & Apparel



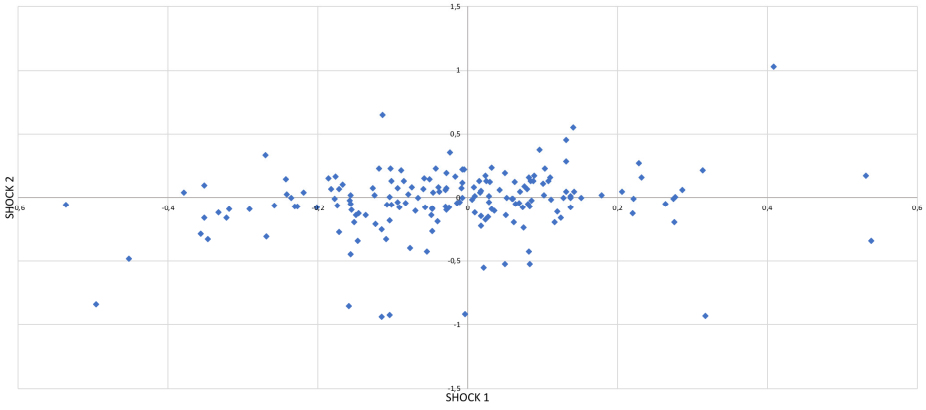
Source: Author's Elaboration

Figure 14 Cross-analysis of companies' performance - Automation & Mechanics



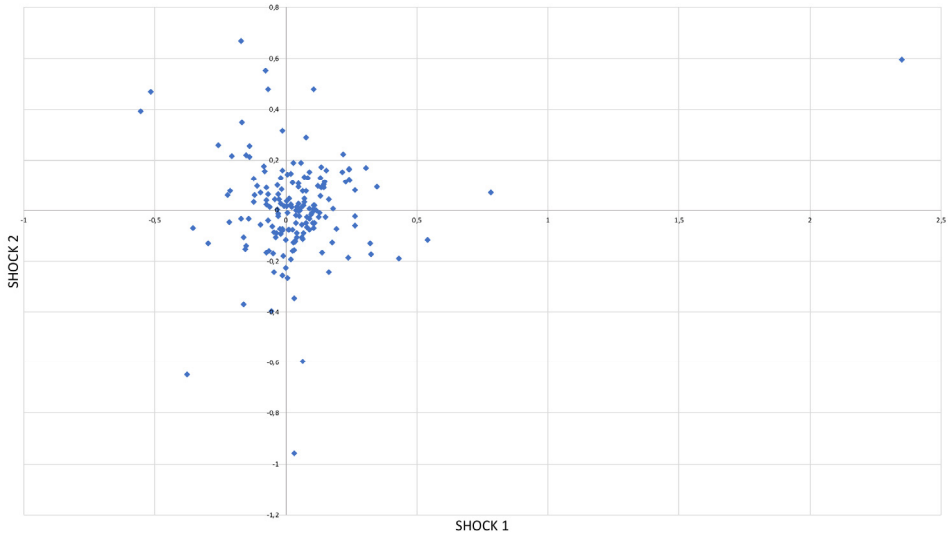
Source: Author's Elaboration

Figure 15 Cross-analysis of companies' performance - Furniture & Home Appliances



Source: Author's Elaboration

Figure 16 Cross-analysis of companies' performance - Food & Beverages



Source: Author's Elaboration

3.6 Conclusion

In this chapter, we could figure out that being able to respond in a helpful and prompt way to a crisis and make it out of it positively does not always imply that the same company is able to overcome a similarly unsettling situation the same way and with the same final results. In each of the four Made in Italy industries there were companies that were able to properly deal with the crisis, resulting as strong enterprises, but also companies that proved to not be able to deal with the troublesome situation, resulting as weak in the downturn. How well both of these two types of companies managed the information retrieved after a crisis and put them into practice afterwards, is displayed in their ability to learn or not after a challenging period.

In the following chapter, a further analysis is conducted to understand which kind of variables may have had an influence on the companies' capability to assimilate new knowledge and, therefore, register a learning effect which can benefit the organization in future critical situations.

4. CHAPTER 4

THE LEARNING EFFECT: WHAT HAS AN IMPACT ON IT

4.1 Introduction

Being able to have the most constructive attitude and to use the most appropriate methods in handling a shocking and unexpected event can be defining and decisive for succeeding in managing the before mentioned event and being strong. This very approach is what would lead a company to overcoming a crisis and is therefore one to keep in mind for forthcoming similar situations, which is, however, to be constantly revised, updated and shared in the organization.

From the analysis undertaken in the previous chapter, it was possible to understand whether and how many companies of the sample were able to do exactly that. That being the ability and efficiency to properly guide the organization through a troublesome period, to learn from it, assimilate the new lesson and put in practice all this whenever necessary in following occurrences. In this sense, each company was given a label as either a "Learning" enterprise or a "No Learning" enterprise.

In this chapter, the aim is to comprehend whether there are some elements in these companies that affected their learning ability from one shock to the other. The elements considered are the geographical area where the companies are established, the Made in Italy industry they belong to, their average age in the period 2009 – 2012, and either the rate of change of their equity or the rate of change of their net financial position in the four-year period.

This could be summarized in the following research question: What kind of elements had an impact on the ability of an enterprise to learn from the 2009 crisis and adopt this new knowledge to better perform during the 2012 downturn?

4.2 Research design, sample and variables

In order to understand what kind of variables had an impact on a company being labelled as "Learning" or "No Learning", a statistical analysis was conducted. Specifically, a multiple linear regression was used to identify a connection between the dependent variable "Learning Effect" and several independent variables. The analysis was conducted through SPSS, a software by IBM.

The sample taken into consideration for this statistical analysis contains less companies compared to the beginning. In fact, the database was "cleaned" using as a criterion, firstly, the Learning Effect, so basically all those companies that don't have the necessary data to calculate it available were eliminated, and secondly, the companies' average age, so those who lack information about their year of establishment. The final, general sample used for the linear regression is composed of 1294 companies. After a first analysis, the Learning Effect variable is used to calculate the amount of companies that compose the 2,5% of outliers. As a consequence, data of 34 companies are excluded in a second analysis and the resulting sample consists of 1260 firms.

4.2.1 The main dependent variables

This chapter aims at analysing the effect of different characteristics and parameters of the companies on their ability to learn from past experiences and consider this new knowledge whenever a similar situation presents itself to them in the future. This is referred to as Learning Effect and is the dependent variable of the model (Table 12).

Calculations of this Learning Effect, as previously explained, are based on the GDP and each company's revenues. It is calculated as the difference between Shock 2 and Shock 1. Each shock is the result of the difference between the rate of change of each companies' turnover and the rate of change of the GDP. This kind of computation is done considering both national GDP and each industry GDP. Therefore, the multiple linear regression analysis is carried out considering both cases, labelling the dependent variables as *Learning* and *Learning_Sector*.

Table 12 Dependent variables - Details

VARIABLE NAME	VARIABLE LABEL	TYPE	DESCRIPTION
Learning	Learning Effect based on national GDP	Dependent Variable	Calculated as the difference between one company's shock in 2012 and the same company's shock in 2009. Each shock is obtained subtracting the national GDP's rate of change from the company's revenues rate of change.
Learning_Sector	Learning Effect based on industry GDP	Dependent Variable	Calculated as the difference between one company's shock in 2012 and the same company's shock in 2009. Each shock is obtained subtracting the industry GDP's rate of change from the company's revenues rate of change.

Source: Author's Elaboration

4.2.2 The independent variables

The independent variables (Table 13) used in the statistical analysis concern companies' Net Financial Position's rate of change, Equity's rate of change, average age in the period 2009 - 2012, the Made in Italy industry they operate in and the geographical area where their establishment is located. The last two variables are considered as dummy variables.

When the analysis concerns the industry-related Learning Effect, the independent variables that have reference to the Made in Italy industry companies belong to, are not included. Moreover, in all the models, one of the geographical variables and one of the industry variables are dropped to avoid perfect multicollinearity.

Table 13 Independent variables - Details

VARIABLE NAME	VARIABLE LABEL	TYPE	DESCRIPTION
Var_PFN	Rate of change 2009-2012 of Net Financial Position	Independent Variable	Calculated with data retrieved from the AIDA database. It's the rate of change of each company's Net Financial Position between 2009 and 2012.
Var_PN	Rate of change 2009-2012 of Equity	Independent Variable	Calculated with data retrieved from the AIDA database. It's the rate of change of each company's Equity between 2009 and 2012.
AvgAge	Average Age 2009-2012	Independent Variable	Calculated with data retrieved from the AIDA database. Based on the year of establishment of each company, it is the average age of each company between 2009 and 2012.
Ind_Food	Food & Beverages	Independent Variable	Dummy (0, 1): this variable is equal to 1 if the firm belongs to the Food & Beverages industry.
Ind_Home	Furniture & Home Appliances	Independent Variable	Dummy (0, 1): this variable is equal to 1 if the firm belongs to the Furniture & Home Appliances industry.
Ind_Auto	Automation & Mechanics	Independent Variable	Dummy (0, 1): this variable is equal to 1 if the firm belongs to the Automation & Mechanics industry.
Ind_Fashion	Fashion & Apparel	Independent Variable	Dummy (0, 1): this variable is equal to 1 if the firm belongs to the Fashion & Apparel industry.
Reg_NW	North-West	Independent Variable	Dummy (0, 1): this variable is equal to 1 if the firm is located in the North-West of Italy.
Reg_NE	North-East	Independent Variable	Dummy (0, 1): this variable is equal to 1 if the firm is located in the North-East of Italy.
Reg_C	Centre	Independent Variable	Dummy (0, 1): this variable is equal to 1 if the firm is located in the Centre of Italy.
Reg_SI	South-Islands	Independent Variable	Dummy (0, 1): this variable is equal to 1 if the firm is located in the South of Italy or in the Islands.

Source: Author's Elaboration

4.3 Data analysis

The presentation of the analysis' results is divided in two parts. The first relates to the model based on the general sample, composed of 1294 companies. On the other hand, the second part includes results obtained considering the sample reduced of the 2,5% of outliers. The aim of the analysis remains the same: understanding what variable affects more a company's learning ability.

4.3.1 Results based on general sample

The multiple linear regression is carried out four times, two times for each dependent variable, considering once the net financial position's rate of change and once the equity's rate of change.

Table 14 Multiple linear regression - Learning - Var_PFN

COEFFICIENTS		
MODEL	T	SIGN.
(Costant)	-1.094	.274
Var_PFN	-.698	.485
Ind_Food	.217	.828
Ind_Home	-.109	.913
Ind_Auto	4.319	.000
Reg_NW	1.326	.185
Reg_NE	1.313	.190
Reg_C	.621	.535
AvgAge	2.017	.044
Dependent variable: *Learning*		

Source: Author's Elaboration

Table 15 Multiple linear regression - Learning - Var_PN

COEFFICIENTS		
MODEL	T	SIGN.
(Costant)	-1.110	.267
Var_PN	.538	.590
Reg_NW	1.398	.162
Reg_NE	1.411	.158
Reg_C	.803	.422
AvgAge	2.120	.034
Ind_Food	.121	.904
Ind_Home	-.230	.818
Ind_Auto	4.162	.000
Dependent variable: *Learning*		

Source: Author's Elaboration

When the dependent variable taken into consideration is Learning (Table 14, Table 15), the companies' average age turns out to have a significant and positive effect; its p-

value is equal to 0.044 and 0.034, so it is significant even at the 5% level. Same goes for the Automation & Mechanics industry, while the other sectors and the geographical area do not have a significant impact, neither do the net financial position's rate of change or the equity's rate of change.

Table 16 Multiple linear regression - Learning_Sector - Var_PFN

COEFFICIENTS		
MODEL	T	SIGN.
(Costant)	-2.708	.007
Var_PFN	-.703	.482
Reg_NW	1.240	.215
Reg_NE	1.268	.205
Reg_C	.543	.587
AvgAge	2.118	.034
Dependent variable: *Learning_Sector*		

Source: Author's Elaboration

Table 17 Multiple linear regression - Learning_Sector - Var_PN

COEFFICIENTS		
MODEL	T	SIGN.
(Costant)	-2.843	.005
Var_PN	.557	.578
Reg_NW	1.311	.190
Reg_NE	1.367	.172
Reg_C	.741	.459
AvgAge	2.216	.027
Dependent variable: *Learning_Sector*		

Source: Author's Elaboration

When referring to Learning_Sector as dependent variable (Table 16, Table 17), firms' average age turns out again to have a positive and significant impact on the learning ability of companies.

4.3.2 Results based on reduced sample

As before, the multiple linear regression is carried out four times, two times for each dependent variable, considering once the net financial position's rate of change and once

the equity's rate of change. This time, however, the sample is smaller, counting 1260 companies after the elimination of the 2,5% of outliers.

Table 18 Multiple linear regression - Reduced sample - Learning - Var_PFN

COEFFICIENTS		
MODEL	T	SIGN.
(Costant)	-.539	.590
Var_PFN	-1.101	.271
Reg_NW	2.314	.021
Reg_NE	1.977	.048
Reg_C	.909	.364
AvgAge	1.840	.066
Ind_Food	-.504	.614
Ind_Home	-.645	.519
Ind_Auto	5.116	.000
Dependent variable: *Learning*		

Source: Author's Elaboration

Table 19 Multiple linear regression - Reduced sample - Learning - Var_PN

COEFFICIENTS		
MODEL	T	SIGN.
(Costant)	-.515	.606
Var_PN	.619	.536
Reg_NW	2.251	.025
Reg_NE	1.922	.055
Reg_C	.850	.396
AvgAge	1.899	.058
Ind_Food	-.494	.622
Ind_Home	-.661	.509
Ind_Auto	5.125	.000
Dependent variable: *Learning*		

Source: Author's Elaboration

With a reduced sample and referring to the dependent variable Learning, average age loses some of its significant impact, with a p-value equal to 0.066 and 0.058, in Table 18 and Table 19 respectively. Being part of the Automation & Mechanics industry has still relevance when it comes to learning. Two additional independent variables gain

significance, them being North-West and North-East. The latter is slightly less significant in comparison with the former.

Table 20 Multiple linear regression - Reduced sample - Learning_Sector - Var_PFN

COEFFICIENTS		
MODEL	T	SIGN.
(Costant)	-3.668	.000
Var_PFN	-1.104	.270
Reg_NW	2.223	.026
Reg_NE	1.976	.048
Reg_C	.954	.340
AvgAge	1.999	.046
Dependent variable: *Learning_Sector*		

Source: Author's Elaboration

Table 21 Multiple linear regression - Reduced sample - Learning_Sector - Var_PN

COEFFICIENTS		
MODEL	T	SIGN.
(Costant)	-3.637	.000
Var_PN	.677	.498
Reg_NW	2.157	.031
Reg_NE	1.916	.056
Reg_C	.890	.374
AvgAge	2.060	.040
Dependent variable: *Learning_Sector*		

Source: Author's Elaboration

Considering now Learning_Sector as dependent variable, results don't change. Average age, North-West and North-East have still a positive and significance impact on the learning effect for companies.

4.4 Discussion

Main results in sum

From the data analysis, it is clear that companies' average age, operating in the Automation & Mechanics industry and, additionally, being located either in the North-West or North-East of Italy have a positive and significant impact on the ability of the compa-

nies to learn a lesson from critical and unexpected events, such as a financial crisis, preserve that new knowledge and put it into practice whenever a similarly challenging situation comes up again.

With regards to a company's age, to put it more clearly, results show that the older a company is, the more it had benefits from a learning effect emerging between one crisis and the other.

Ownership structure matters

The role played by age in explaining the ability to learn from shocks is a matter of interest. The majority of the sample's enterprises in our sample are family firms. It is well-known, there is a strongly diffused and deeply-rooted sense of belonging to the company among the owners, that makes it hard for the entrepreneurs to "abandon ship".

Instead, they feel more connected to their company, given that it has been their life-long purpose to nurture it and make it blossom, or it is a family legacy which the entrepreneur feels a sense of duty and pride for and he/she is therefore driven to preserve and improve, no matter what.

However, on the other hand, another possibility is that the owner is motivated to safeguard his/her company because of a lack of other better options and/or the high exit barriers that a potential company's closing would involve.

Long-term relationships matter

Moreover, with age come developing and improving dynamic capabilities, that Teece (2007) describes as to being able to make it possible for businesses to build, expand, and preserve the "intangible assets that support superior long-run business performance" (p. 1319). Basically, organizations get better at creating those kinds of competences that, most of the times, it is only possible to develop, enhance, smooth over time and with a solid and rich background.

Alongside this goes what Nobel prize winner and economist North affirms, which is that "History matters." (1990). It is thanks to an organization's years-long presence in the market that some specific knowledge is available in the company, because of past experiences and vicissitudes.

Furthermore, it can be stated that organizational culture could play a crucial role inside organizations, given that it can foster togetherness, motivation and sense of belonging, not only in the owners, but also among employees.

An additional element that strengthens the relevance of companies' age when it comes to improving learning from shocks is represented by the network that one organization has the ability to build over the years. Relationships are a meaningful and precious source of knowledge and insights, especially those with customers, suppliers, academic institutions and also other industry players.

This is further supported by Saunders, Gray and Goregaokar's study (2013), previously mentioned in chapter 2, which explains how even informal networks can be a resourceful element for an organization's betterment and development. Moreover, when a company has been a player in one industry for several years, it makes it a legitimate player in that industry, given that the organization should have built itself a reputation overtime, that usually speaks for itself and becomes essential in case of need.

Local institutions matter

Taking now into consideration the geographical area where companies are located, North-West and North-East result to be the two variables that have a significant impact on the learning effect of companies. This can be considered as a positive externality which can help to cultivate learning in the organizations, probably also thanks to the social capital and the institutions that are present in the northern part of Italy which positively influence companies. Additionally, infrastructures can play a crucial role in the improvement of companies' performance, given their central importance in firms' activities, as well as those of other supply chain's subjects.

The presence in the Italian territory of industrial districts can also be of relevance when it comes to one company being able to learn. In fact, being part of such a district and, most importantly, being located near companies that are probably going through the same difficulties can favour an organizations' improvement of its know-how and capabilities. Furthermore, in these kinds of areas, where similar companies are concentrated, that possibly make use of comparable technologies and know-how, the presence of clusters of distinct specializations is very likely.

Industry matters

Lastly, Automation & Mechanics emerges as a positively significant variable in the statistical analysis. An assumption for this result could be that this industry is one that in the last years has been going through an epochal change with regards to innovations and technologies and is presumably more compatible to developing environments, where unexpected events are common.

With regards to this industry, it's to be highlighted the fact that if comparing carefully Figure 4 and Figure 9, which represent the partition of companies in this industry between weak and strong in the two crisis, it is possible to notice that the portion of strong enterprises slightly decreased in the second shock compared to the first. However, if the N.D.A. share of companies is examined, it should be reported that of the 68 firms (equal to 9%) that don't present data available to evaluate the 2012 shock, 38 were involved in a merger operation in the period 2009 – 2012. This could be interpreted as a positive element: in fact, it could represent the fact that, overtime, the Automation & Mechanics industry has become more and more appealing, attracting external investors, resulting, as a consequence, in mergers and acquisitions operations.

Balance sheets are not the mirror of learning effect

With regards to the rate of change of both net financial position and equity, these two have never resulted to be of any significance in relation to the learning effect on enterprises. This could mean that financial and economic elements, and more in general balance sheet's information do not represent impactful and significant components on companies' ability to improve their overall performance from one crisis to another.

4.5 Limitations, managerial implications and future researches

This dissertation has been able to answer to the research question, which aims at understanding what kind of elements had an impact on the ability of an enterprise to learn from the 2009 crisis and adopt this new knowledge to better perform during the 2012 downturn. Extensive explanation of which are these variables and what the meaning being them could be, have been presented throughout the chapter. To sum up, it could be stated that companies that count several years of experience in the market could claim to have registered a significant learning effect, as well as those enterprises that belong to the Automation & Mechanics industry. In addition, further analysis allowed to observe

that also being located in northern Italy has proven to have had an impact on the organizations' ability to learning from a shock.
In the following subparagraphs, this study's limitations are presented, as well as possible managerial implications. Moreover, some future research suggestions are given.

4.5.1 Limitations

However meaningful this study's results may be, there are still some limitations to it. As a matter of fact, this work only considers certain elements as possible significant components of companies' leaning ability. For instance, equity and net financial position somehow express an organization's strategy, the firm's average age is just a reality, whereas the geographical location and the Made in Italy industry of belonging are elements that, to be changed, would entail an extremely burdensome effort for the company. Moreover, the study is based on a quite extensive database, which only allows to examine information at a macro-level.
This work does not contemplate some components internal to the company that may actually be interesting, of relevance and, therefore, worth taking into consideration. The elements that could have a positive effect on the ability of a company to extrapolate a learning lesson from a shock, for example, may be a company's orientation towards innovation and R&D investments, which in Saunders, Gray and Goregaokar's study (2013) proved to be positively correlated to commitment to learning, the type of available innovation in the company or the existence of patents. Whether or not an organization is part of a global supply chain or even its level of internationalization could be also of significance for a company. These are elements that it is possible to better retrieve and analyse with the adoption of case studies. Thus, in this dissertation this kind of study is not carried out, for obvious reasons.

4.5.2 Managerial implications

Learning from crisis has proven to be more evident in companies that are located in the North-West and North-East of Italy and that belong to the Automation & Mechanics industry. Moreover, the organizations' average age in the period 2009 – 2012 results to have a positive and significant impact on companies' learning effect.

All this would be translated in the fact that companies should consider where to locate their establishments, taking into account also the presence in the Italian territory of industrial districts which can be thought of, among other things, as specialization conglomerates, where a deep, specific and experienced know-how is concentrated.
Moreover, the fact that companies' average age has relevance could be transposed in terms of managerial implications in a recruiting process that focuses on human resources that have years-long experience in the same industry, as this would mean that alongside them would come a relationship bundle that could only be resourceful and helpful for the organization. In addition to their network, people's contribution to a company would also include a set of knowledge, abilities and experiences that is deeply-rooted and extremely constructive, but hardly shared and translated into standard form. Besides, being experienced workers might help an organization to face and withstand a shock, given that the before-mentioned experience entails that the person has very likely already gone through difficult situations and, as a consequence, has already learned a lesson. This is something that is obviously lacking in the new generations of workers.

4.5.3 Future researches

To conclude, some future research suggestions are given. Firstly, given the results of this dissertation's statistical analysis, balance sheet data seem not to have had an impact on companies' learning effect. However, further analysis could include some performance indexes that are not taken into account in this work, which would somehow represent a measure for a company's ability to learn from shocks. On the other hand, relational and organizational elements of the companies could be investigated.
Additional studies could focus more on invisible assets and external elements of the organizations and a deeper analysis of those companies that were able to "defeat" the market could be carried out, given these firms' great performances despite the surrounding tough situation.
In particular, it would be interesting to enrich the analysis expanding the investigation on these organizations' internal structure, perhaps focusing on their governance composition and decision-making process at the time of the crises. It could be relevant

also to understand more how the geographical location can impact an organization's improvement process by deepening the analysis of elements connected to the territory. Lastly, a more detailed examination of companies could be realized, perhaps with the support of case studies or questionnaires.

REFERENCES

AHUJA G., 2016. Competency Trap. In: Augier M., Teece D. The Palgrave Encyclopedia of Strategic Management. Palgrave Macmillan, London, pp. 1-5.

ALLINGER, G. M., *et al.*, 2015. Team resilience: How team flourish under pressure. *Organizational Dynamics*, 44(3), 176-184.

ANTONACOPOULOU, E. P., SHEAFFER, Z., 2014. Learning in Crisis: Rethinking the Relationship Between Organizational Learning and Crisis Management. *Journal of Management Inquiry*, 23(1), 5–21.

BAUMARD, P., STARBUCK, W., 2005. Learning from Failures: Why It May Not Happen. *Long Range Planning*, 38, 281-298.

BENNETT, N., LEMOINE, G. J., 2014. What VUCA really means for you. *Harvard business review,* 92(1/2), 27.

CANNON, M. D., EDMONDSON A. C., 2005. Failing to Learn and Learning to Fail (Intelligently): How Great Organizations Put Failure to Work to Innovate and Improve. *Long Range Planning*, 38(3), 299–319.

CERNIGLIA-LOWENSEN, J., 2015. Learning From Mistakes and Near Mistakes: Using Root Cause Analysis as a Risk Management Tool. *Journal of Radiology Nursing,* 34(1), 4-7.

COPE, J., 2003. Entrepreneurial learning and critical reflection. Discontinuous events as triggers for 'higher-level' learning. *Management Learning*, 34(4), 429-450.

CUCCULELLI, M., 2017. Crisi, apprendimento e governo dell'impresa. *Piccola Impresa / Small Business,* 0(1). Available on: http://rivistapiccolaimpresa.uniurb.it/index.php/piccola/article/view/221/234. [Accessed on: November 2nd, 2018]

CUCCULELLI, M., BETTINELLI, C., 2015. Corporate governance in family firms, learning and reaction to recession: Evidence from Italy. *Futures*, 75, 92-103.

GARVIN, D., EDMONDSON, A., GINO, F., 2008. Is Yours a Learning Organization? *Harvard Business Review*, 86(3), 109-116.

GINO, F., B. STAATS, 2015. Why Organizations Don't Learn: Our Traditional Obsessions - Success, Taking Action, Fitting In, and Relying on Experts - Undermine Continuous Improvement. *Harvard Business Review*, 93(11), 110–118.

GUBITTA, P., TOGNAZZO, A., FAVARON, S. D., 2013. Lepri che vincono la crisi: Storie di aziende (quasi medie) vincenti nei mercati globali. 1° ed. (s.l.): Marsilio Editori.

JACOBS P., 2005. Five Steps to Thriving in Times of Uncertainty. *Harvard Management Update*, 10(12), 3-5.

JAHN, J. L., 2017. High Reliability Organizations. In the International Encyclopedia of Organizational Communication (eds. C. R. Scott, J. R. Barker, T. Kuhn, J. Keyton, P. K. Turner and L. K. Lewis).

LA PORTE, T. R., 1996. High Reliability Organizations: Unlikely, Demanding and At Risk. Journal of Contingencies and Crisis Management, 4, 60-71

MAITLIS, S., CHRISTIANSON, M., 2014. Sensemaking in Organizations: Taking Stock and Moving Forward. *The Academy of Management Annals*, 8(1), 57-125.

NACHBAGAUER, A., 2017. *Beyond Risk Management: Managing the Unexpected.* Strategica, 5th ed., Shift! Major Challenges of Today's Economy, pp. 133 – 146. Bucharest, September 29th, 2017.

NATHAN, M. L., & KOVOOR-MISRA, S., 2002. No Pain, Yet Gain: Vicarious Organizational Learning from Crises in an Inter-Organizational Field. *The Journal of Applied Behavioral Science*, 38(2), 245–266.

NORTH, D.C., 1990. Institutions, Institutional Change and Economic Performance. 1° ed. New York NY : Cambridge University Press.

ROCHLIN, G. I., LA PORTE, T. R., AND ROBERTS, K. H., 1987. The Self-Designing High-Reliability Organization: Aircraft Carrier Flight Operations at Sea. *Naval War College Review*, 40(4), 76-90.

ROSENTHAL, J., 2009. A terrible thing to waste. *The New York Times Magazine*. Available on: https://www.nytimes.com/2009/08/02/magazine/02FOB-onlanguage-t.html [Accessed on: November 7th, 2018].

SAUNDERS, M. N. K., GRAY, D. E., GOREGAOKAR, H., 2014. SME innovation and learning: the role of networks and crisis events. *European Journal of Training and Development*, 38(1/2), 136-149.

SCHULMAN, P., 2004. General attributes of safe organisations. *Quality and Safety in Health Care,* 13, 39-44.

SEVILLE, E., VAN OPSTAL, D., VARGO, J., 2015. A Primer in Resiliency: Seven Principles for Managing the Unexpected. *Global Business and. Organizational Excellence*., 34(3), 6-18.

SU, H.C., 2017. The impact of mindful organizing on operational performance: An explorative study. *Operations Management Research*, 10(3-4), 148-157.

TEECE, D. J., 2007. Explicating dynamic capabilities: the nature and micro foundations of (sustainable) enterprise performance. *Strat. Mgmt. J*., 28, 1319-1350.

TOGNAZZO, A., GUBITTA, P., FAVARON, S. D., 2016. Does slack always affect resilience? A study of quasi-medium-sized Italian firms. *Entrepreneurship & Regional Development,* 28 (9-10), 768-790

VÄLIKANGAS, L., 2010. The resilient organization. How Adaptive Cultures Thrive Even When Strategy Fails. New York: McGraw-Hill.

VAN DER VEGT, G. S., *et al.*, 2015. Managing Risk and Resilience. *Academy of Management Journal,* 58(4), 971-980.

VEIL, S., 2011. Mindful Learning in Crisis Management. *Journal of Business Communication*, 48(2), 116-147.

WEICK, K. E., SUTCLIFFE, K. M., 2007. Managing the Unexpected. Resilient performance in an age of uncertainty. 2° ed. Hoboken NJ : Jossey - Bass.

WEICK, K. E., SUTCLIFFE, K. M., 2015. Managing the Unexpected. Sustained performance in a complex world. 3° ed. Hoboken NJ : John Wiley & Sons.

WEINZIMMER, L. G., ESKEN, C. A., 2017. Learning From Mistakes: How Mistake Tolerance Positively Affects Organizational Learning and Performance. *The Journal of Applied Behavioral Science*, 53(3), 322–348.

YAKOLA, D., 2014. *Ten tips for leading companies out of crisis*. McKinsey & Company, n. March, pp. 1-9. Available on: https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/ten-tips-for-leading-companies-out-of-crisis [Accessed on: November 3rd, 2018].