BELRIM PRIZE 2022

«The incorporation of a failure learning orientation in the organizational culture: from theory to practice»

This is the file sent to the Belrim Prize organization by Juliette Lonhienne, graduated from HEC Liège, Liège Université, Belgium in 2021.
Recommended by the Professor D. Van Caillie, Full Professor and Director of the CEPE at HEC Liège, Liège Université, Belgium.

Juliette Lonhienne

Identification sheet

University information:

University:	University of Liège
Faculty:	HEC Liège
Address of the faculty:	14 rue Louvrex 4000 Liège
Phone number of the faculty:	+ 32 4 232 72 11

Student information:

Last name:	LONHIENNE
First name:	Juliette
Date and place of birth:	14 October 1998, in Liège, Belgium
Address:	Rue du Pont 22, 4000 Liège, Belgium
Phone number:	+47 457 24 514
University, faculty:	University of Liège, HEC Liège
Student number:	s162844
Bachelor degree:	Bachelor in Business engineer at HEC Liège, Liège University from September 2016 to June 2019.
Master degree:	Master in Sustainable Performance Management at HEC Liège, Liège University from September 2019 to June 2021.
Research Thesis:	Thesis titled: “The incorporation of a failure learning orientation in the organizational culture: from theory to practice”.
Date of presentation:	June 2021
Jury members:	Pr. D. Van Caillie (supervisor) Nathalie Crutzen Raphaëlle Mattart

THE INCORPORATION OF A FAILURE LEARNING ORIENTATION IN THE ORGANIZATIONAL CULTURE: FROM THEORY TO PRACTICE

Jury:
Promoter:
Didier VAN CAILLIE
Readers:
Nathalie CRUTZEN
Raphaëlle MATTART

Dissertation by
Juliette LONHIENNE
With a view to obtaining the diploma of
Master degree in Business Engineering,
specialized in Sustainable Performance Management
Academic year 2020/2021

Acknowledgements

First of all, I would like to thank Pr. Didier Van Caillie, Full Professor at HEC Liège and the promoter of my thesis. He trusted me with a topic that was very important to him. He guided me when I had doubts and was always interested and curious to know where I was leading my research. I am very grateful for his availability but also the help and support that he provided me.

Secondly, I would also like to thank the six people who have accepted to share their experience with me for the validation of my model. They took some of their time to meet with me and explained, always very kindly and carefully their views on failure learning orientations.

I am also very grateful to the ones who have helped me find the people I interviewed. I had the chance to have a great network of friends, friends of friends and family members who did everything they could to find the people I was looking for.

I would like to thank Mrs. Nathalie Crutzen and Mrs. Raphaëlle Mattart, the two members of my jury, for their valuable time. I hope that they will appreciate my work which is the most exhausting but also exhilarating and exciting realization of my five years at HEC-Liège.

Also, I would like to thank my family, especially Vegard and my parents, who have been of an unconditional support during the whole realization of this thesis. They have encouraged me and pushed me to give the best of me at all times, for that I am very grateful.

Finally, I would like to thank my friends, Louise, Giulian and Lauriane, for the company and support during the redaction of this thesis. In the difficult years that were 2020 and 2021 on a social level, being able to share moments and rely on good friends was priceless.

Overview

Glossary

Abbreviations

FLO = Failure Learning Orientation

OLC = Organization Learning Capability

Synonyms

Organization = firm = company

Key words

Failure, learning, orientation, failure learning orientation, organizational learning, risk management, organizational culture.

1. Introduction

1.1 General context

Nowadays, the business world is more unstable than ever. With the globalization, opportunities but also threats and competitors are multiplying and companies must be more profitable than before to have a chance at being successful. Bennett and Lemoine (2014) explain how the term "VUCA" (Volatility, Uncertainty, Complexity and Ambiguity) is the best fitted to describe this challenging era for organizations around the world. Behaviors must change to be able to face challenges created by the VUCA world. Often, several components of VUCA are present together in situations and it demands even more skills and abilities to deal with them. The role of leaders is changing due to this environment and they must take actions to improve their companies' performance. (Bennett & Lemoine, 2014)

The most recent example of this instability is the Covid-19 crisis, that occurred early 2020, and paralyzed the world for more than a year, stopping the economy and the lives of every individual on the planet. In this context, VUCA applies more than ever, according to Bennett and Lemoine's (2014) definitions, as nothing is predictable (Volatility), we do not have any knowledge about the virus (Uncertainty), the situation is a mix of many connected parts (Complex) and there is no information about the causes and effects of the virus and the pandemic (Ambiguity).

In such a context, many organizations are at risk and must double efforts to try to survive and keep making a decent profit. More than ever, organizations need to be flexible and must be able to respond to unknown, unprecedented and unexpected threats. As many types of corporate risk exist, they all have one common consequence if they are not handled efficiently: the termination of the business (Horváthová & Morkrisová, 2018).

1.2 Objective of this paper

As the topic of all types of risks and their management is well covered in the literature, other topics are less developed. Indeed, research on risk is mostly about predictions and management. But very few have studied how to deal with the failure that might be caused by the mishandling of risk or by organizational context. Instead of avoiding failure, organizations must learn to

manage it in an effective way. This is why this paper aims at answering the following question: "how to incorporate a failure learning orientation in the organizational culture of Belgian companies?". It has become essential to answer this question as, within the VUCA world, risk is more and more difficult to predict and therefore to manage. Failures are multiplying and the loss of businesses is also reinforcing the VUCA environment (Bennett & Lemoine, 2014). Organizations must start learning from their failures in order to be able to respond to unexpected risks and situations.

Several authors have been conducting researches about failure learning orientation since the 70's, trying notably to understand the causes of failure and their implications. More recently, the literature has started to focus on how to design these orientations in all organizational cultures (Cannon and Edmondson (2005), Wilson and Dobni (2020), Argote (2013), Cardon, Steven and Potter (2011), …). The area of the current research is now focused on how organizations can use their failures as a factor of success and thrive on basis of what they have learned through their failing experience.

1.3 Structure of the paper

This paper is structured as follows. First, the general approach and methodology are explained. After that, a review of the literature is presented as it creates a better understanding of the topic and the various areas of interest. In addition, a detailed description of what we have identified as our three reference models is given. On basic of this theoretical analysis, we have built a model that comprehends a list of enablers that should be incorporated in the organizational culture to build a failure learning orientation. In the next section, we have led interviews to validate the model but also to see if any adaptation was needed. Finally, according to the results of the interviews, a revised and final version of the model is presented.

2. Methodology

2.1 General purpose

This paper is a study on how to incorporate a failure learning orientation in the organizational culture, going from theory to practice. In order to lead this research, a specific methodology was followed. The methodology is separated in four main parts: the theoretical background, the deductive approach, the interviews and the data analysis.

2.2 Theoretical background

For this research, the theoretical background is essential. In order to conduct the deductive analysis (that will be described in the next section), a strong analysis and understanding of the existing literature is needed. A general scanning of the literature has been done and a classification of the main themes and topics has been decided. The first part is dedicated to the definitions of "business failure" in the literature but also the different types of failures that are identified by different authors. The second part is dedicated to the origin of the research on failure learning orientations and the main purpose behind it. Thirdly, we have identified several authors and papers that have dealt more in depth with the subject of organizational learning and the influence of the learning capability of an organization on its performance. Finally, the last section is dedicated to the transformation of failure into a success factor and the different steps that need to be taken by organizations to use the learning efficiently.
For the theoretical background analysis, papers are dated, at the latest, from the end of 2020.

2.3 Deductive approach

The main approach followed in the research was to build, from the existing literature, a model that was later evaluated and validated by field interviews. This type of approach is called a "deductive approach". A deductive approach means starting from a theoretical hypothesis and later validating it with a field research (Saylordotorg, 2021). In the context of this paper, we have created a theoretical model, exclusively based on existing literature that we have later validated with field interviews.
In our approach, three models have been identified as "main models" or as "references" in the literature:

- Cannon and Edmondson (2005) – *Failing to learn and learning to fail*

- Wilson and Dobni (2020) – *Implementing a failure learning orientation*
- Wilson and Broderick (2020) – *Female perspectives of implementing a failure learning orientation*

Based on these three models, that are presented in details in the "models" section, but also, with the literature in general, that is presented in the "theoretical background" part, a list of enablers, has been drawn in the form of a "model". This model will be defined as a key element to implement in the organizational culture in order to incorporate in it a failure learning orientation.

2.4 Interviews

2.4.1 Sample

To validate the previously built model, a panel of individuals were interviewed[1]. Four main criteria were applied to the interviewees. Firstly, the selected organization had faced failure, or had been close to failure in their past and has been able to successfully cope with it. This means that they must have been close to going bankrupt or close to going into administration before they could review their organizational culture and structure in order to save themselves and are now well-functioning organizations. This parameter was based on a hypothesis that we made in order to identify failure learning orientated firms. Indeed, we assumed that companies which had been through difficult times but survived could do it because they were able to change their culture and habits to fix their problem and not face them again.

Secondly, the interviewees have a decisional position in their organization. This is because they need to have a global view of the operations of the company and must have an overall knowledge of the culture and the measures in place.

Thirdly, the selected companies have at least 10 employees. This number is set in order to have a real cultural dimension in the company. With a smaller number of employees, the culture might not be strong enough to install failure learning orientations.

Fourthly, the interviewed leaders are Belgian and are talking about their experience in Belgian companies. This condition is set to help the analysis of the results and remove all potential

[1] See appendix I

cultural disparities in the answers. It also adds a cultural dimension to the results as they will be describing the behavior of Belgian leaders in Belgian companies which could be slightly different from leaders in other countries or continents.

The interviews were conducted until data saturation was reached. Data saturation means, according to Richards and Morse (2013), that the data is large, affluent and non-replicated. For this paper, saturation was reached after 6 interviews. All interviews were conducted in April 2021.

2.4.2 Survey and interview process

The interviews were conducted as a semi-structured interview. This type of interview allows the interviewee to elaborate the answers to the questions and give a lot of information. The questions[2] are open questions and are meant to collect as much information as possible. The person who asks the questions must remain neutral and let the interviewee speak their mind. (Kamto Kenmogne, 2020).

Since the survey was aiming at validating a model, the questions were organized according to the model itself. Each enabler of the model corresponded to one "chapter" of questions. For each enabler, approximately four questions were asked. The purpose was to see the reaction of the interviewee to the topic and analyze whether their answer went in the same direction as the model suggested or in a different one. Depending on the interviews, and how the interviewees responded to the questions, some slight changes were made to the questionnaire. Also, as the questions were open and the goal was to let the interviewees ramble on what seemed important to them, not all questions were asked to all because some could anticipate upcoming questions. When all interviews were conducted, the answers to the survey were used to help validating the model.

As they were conducted with Belgian leaders only, the interviews were done in French. The questions and the answers, classified in a table that will be presented later, were all translated to English for this paper.

[2] See appendix II

2.5 Analysis of the results

When all the interviews were fully conducted and that data saturation was reached, the results were analyzed. The methodology used for the analysis is the following. First, all data collected was sorted according to the predefined themes of the deductive model. Secondly, when all data collected had been sorted out, information was compared and centralized in each theme in order to recognize patterns, similarities and differences between the answers. Thirdly, the information collected and sorted out was compared with the enablers drawn in the model. The information that validated the model was highlighted as such and the guidelines corresponding were confirmed as a valid part of the model. Information that contradicted or corrected the model was carefully studied. If the information was giving a more detailed definition of the guideline that the model should comprehend, it was kept and served to adjust the guidelines. If the information was contradicting the enabler or was brand new and had not previously been discussed in the model, it was studied in more depth. Its occurrence among interviewees was observed and depending on its frequency and its accuracy in regard to the literature, the piece of information was added to the guidelines or was ignored.

The table used for the comparison of the results from the different interviews is presented in the section “analysis of the results”.

Finally, a last version of the model is proposed, comprehending all comments, modifications and corrections received through the interviews. Nonetheless, the model was still firstly based on the existing literature and the final version had to suit it, at least overall.
After the presentation of the final version of the model, potential limitations and propositions for future researches were made.

3. Theoretical background

3.1 Business failure definitions

When writing a paper about failure learning orientations, it seems essential to start by defining the word of interest: "failure" or in particular "business failure". Many definitions exist in the literature for this expression.

3.1.1 Definitions in the literature

Crutzen and Van Caillie (2008) propose a clarification of the concept of "business failure". They identify two aspects of business failure: the economic aspect and the juridical aspect. On the economic point of view, organizations start declining when they are not able to anticipate, recognize, avoid, neutralize or adapt to threats, whether they are internal or external, in order to survive in the long-term (Weitzel & Jonsson, 1989). On the legal side, Crutzen and Van Caillie (2008) refer to Gerard et al. (1998) (from Crutzen and Van Caillie (2008)) who argue that in Belgium, failure is strongly associated with bankruptcy which is the procedure that leads to the juridical death of the business. Overall, "business failure is not a sudden event and the potential bankruptcy of the failing firm is the result of the combination of diverse factors over time" (Crutzen & Van Caillie, 2008, p. 292).

Cannon and Edmondson (2005, p. 300) define failure as "a deviation from expected and desired results. This includes both avoidable errors and the unavoidable negative outcomes of experiments and risk taking". They decide to define failure in a broad way, including both large failures (the ones ending a business) and smaller ones, related to technical or human mistakes. This vision is a broader and vaguer definition of the concept as many different types of actions can be seen as failures. Nonetheless, it allows the inclusion of various mistakes and errors in the failure process that also widens the field for failure learning.

Everett and Watson (1998), have collected the 5 most common definitions of small business failure. The first definition they present is "discontinuance of ownership of the business"[3] and the second one, rather close, is "discontinuance of the business itself"[4]. It is argued by Fredland

[3] (Churchill 1952, Ganguly 1985 and Williams 1993)

[4] (Bates and Nucci 1989, Dekimpe and Morrison 1991)

and Morris (1976) that the use of the word "discontinuance" makes the definitions broad as it suggests that the end of a business because the owner is old or because he wants to sell would be considered as failure which, in general, is not always the case.

The third definition presented by Everett and Watson (1998) is "bankruptcy"[5]. This definition is very close to the juridical aspect of failure defined by Crutzen and Van Caillie (2008). While this definition is an objective measure of failure, it is rather narrow as it excludes many types of failures that do not go through a juridical ending but would still commonly be defined as failed organizations (Everett & Watson, 1998).

The fourth definition presented by Everett and Watson (1998) is "firms that were disposed of (sold or liquidated) with losses to prevent further losses"[6]. The authors add that the losses include the owner's capital which means that a business might be failing regarding this definition, without observing losses to creditors. Few researchers use that definition because it is not very specific and lacks precisions.

Finally, the fifth definition listed by Everett and Watson (1998) is that "failure should mean inability to 'make a go for it', whether losses entail one's own capital or someone else's, or indeed, any capital"[7]. According to Everett and Watson (1998), this definition is more global than the fourth one as it considers all types of loss to all capital involved. However, they argue that some businesses might continue operating even if they are considered as failed businesses regarding this definition. As the definition suggests that the business does not have an "adequate return", it is very subjective to define such return and the failure could only be declared by someone close to the business (Everett & Watson, 1998). This last definition is rather close to the definition presented by Cannon and Edmondson (2005) who say that failure is "a deviation from expected and desired results" as the same level of subjectivity is applied and that someone internal to the company must be the one noticing the failure.

Everett and Watson (1998) conclude by saying that the definition that a researcher must choose depends on the data available for the research. And that is why having many definitions is interesting: this makes it possible for every author to find the definition that fits their research.

[5] (Massel 1978, Hall and Young 1991)

[6] (Ulmer and Nielsen 1947)

[7] (Cochran 1981)

3.1.2 Different categories of failures

Other than pure definitions, several authors have classified failures regarding other criteria. Not all failures are the same and many factors can cause potential failures (Edmondson, 2011).

In her paper "Strategies for learning from failure" (2011), Edmondson describes the three main categories of failures: preventable, complexity-related and intelligent.

The first category: "preventable failures" are what can be considered as "bad" failures. These types of errors occur most of the time in pre-defined manufacturing or operation processes where high-volumes are at stake. They are usually the result of a lack of attention, a lack of training or deviance. These failures are easily avoidable when individuals are provided with proper training and are given clear guidelines to follow. While such failures are bad and cannot provide broad learning, they are usually easy to identify and can be solved efficiently. (Edmondson, 2011)

The second category is the "complexity-related" failures. These failures are related to markets and industries uncertainty and to unexpected alignment of factors. Serious failures of this type can mostly be averted by following a good practice and having a good risk management system but smaller failures are inevitable. To limit the impact of those small failures they should be quickly identified and corrected. (Edmondson, 2011)

The third sort of failure and the most interesting one is the "intelligent" failure. In this category, the failure is considered "good" and is encouraged as it creates new knowledge for the organization to improve its processes and sometimes to afford a competitive advantage. By practicing "intelligent failure", managers can avoid most of the bad failures while being more innovative. (Edmondson, 2011)

Cannon and Edmondson (2005) explain that to make the most of intelligent failures, entrepreneurs must learn to have long term visions. According to the authors, short visions that focus on immediate profit and on cost management are usually causing troubles in the long run. They underline that when being able to plan on longer periods and set long term objectives, organizations get opportunities to learn and grow in a better environment.

As mentioned before, Cannon and Edmondson (2005) also like to differentiate small and large failures. Small failures are all the small steps which can go wrong in a project while large failures are the consequences of the addition of the small failures and often end-up as the end of the project or the business (Cannon & Edmondson, 2005). While developing failure learning orientations, Cannon and Edmondson (2005) advise that organizations pay more attention to small failures and spend more time analyzing them in order to prevent bigger ones.

Crutzen and Van Caillie (2008), quote Thornhill and Amit (2003) (from Crutzen and Van Caillie (2008)) who also distinguish young and old failures. According to them, firms can fail at two different times in their lives: either at a young stage or at an old age. On the one hand, younger firms would generally fail because they were not able to find a viable strategic position. On the other hand, older firms, which have managed to reach a strategic position would fail because they are not able to sustain this position. The poor or the weakening position would, over time, make insufficient sales and decreased turnover which would lead to the impossibility of covering the charges.

3.1.3 Definition in this paper

In this paper, the term "business failure" will be referring to the definition proposed by Cannon and Edmondson (2005): "A deviation from expected and desired results. This includes both avoidable errors and the unavoidable negative outcomes of experiments and risk taking". This definition is also close to the economical definition presented by Crutzen and Van Caillie (2008), emphasizing the variety of factors that can influence the ability of a firm to match their expected and desired results.

As Cannon and Edmondson (2005), we believe that the discontinuance of a business does not occur in one day. Often, several alarm signals will be seen before a business has to stop. It is essential that all failures, no matter how small they can be, should be handled the same way as big ones.

Entrepreneurs who go through a very difficult time with their business, whether it terminates the operations or just puts it at great risk, develop different views and skills. The process of failure learning must include any type of failure and must be very generalized in the company to ensure an efficient and permanent improvement of procedures and behaviors.

3.2 Organizational failure

Many different factors are part of organizational failures. In this section, we identify, in the existing literature, which factors are put in relation with organizational failure and how they are perceived and viewed by the main authors in the field.

3.2.1 Origin of the research

Failure is a paramount part of entrepreneurship, with its causes and consequences playing a role on individuals, organizations and society (Cardon, Stevens, & Potter, 2011).
According to Cardon et al. (2011), the literature on entrepreneurial failure suggests that 2 dimensions must be revised. On the one hand, organizational failure can come from two sources: entrepreneur's mistakes, which means an individual has made the wrong decision, or misfortunes, which means that the mistake comes from external sources or factors that are part of the environment of the company. On the other hand, the outcome of failure must be defined, whether it is innovation or destruction.

Regarding the first dimension, while "most studies fail to differentiate between failure of entrepreneurs and failure of their firms" (Cardon, Stevens, & Potter, 2011, p. 80), Cardon et al. (2011) try to evaluate different failure experiences and determine if the failures originated more from mistakes, made by individuals or from misfortunes, due to the environment and external factors. They conclude that, in general, failures are equally due to entrepreneurs' mistakes and by environmental misfortunes (Cardon, Stevens, & Potter, 2011).

As for the second dimension, we know that business failure exist and often ends in the destruction of the business (Miller, 1977). Nonetheless, the idea that organizations and their members should learn from failure to turn it into innovation is becoming more and more popular (Cannon & Edmondson, 2005). Failure learning organizations are rare but authors try to explain why it is difficult to learn from failure and what it takes to implement learning orientations (Cannon & Edmondson, 2005). The first thing to change in the general opinion is that "failure is not always bad. In organizational life it is sometimes bad, sometimes inevitable, and sometimes even good" (Edmondson, 2011, p. 2). What makes the research difficult and slow is that most of failing businesses disappear and that the entrepreneurs that have failed often do not desire to talk about their mistakes and prefer moving forward, leaving this experience that they consider as negative, behind them (Pretorius, 2008).

3.2.2 Risk related to business failure

Business failure is often the consequence of most of the risks that organizations are exposed to. If a company cannot manage its risks, they will, eventually, fail. The identification of risks related to business failure is therefore an important factor when talking about organizational failure. Everett and Watson (1998) define three categories of external factors, determining the success of a business: economy based risk, industry based risk and firm based risk.

- The economy based risk is the risk that is general to everyone, in all industries and companies, it is the most global risk.
- The industry based risk is more specific as it applies to the industry only and is often common to the organizations in the same industry.
- The firm based risk is very specific to the organization itself. It is related to its management, technological development and everything that the company is doing itself.

In addition to the three categories of risk, Everett and Watson (1998) differentiate systematic and unsystematic risk. The authors identify economy based risk as the only systematic risk while firm and industry risk are unsystematic. The difference between those two is that unsystematic risk is not rewarded because diversification strategies limit those risks (Everett & Watson, 1998). Everett and Watson (1998) identify an impact of the three risks they describe on small business failure which highlights the importance of managing risk efficiently.

Dobni and Sand (2018) also discuss the impact of risk on business failure. They explain that in the current corporate world, where environments are changing fast and often, strategic considerations are slowing down companies in the adaptation process. They describe a trade-off between strategic agility and the amount of risks and control that an organization wants to develop. In fast changing environments, risk-averse companies and individuals are, according to the authors, becoming more and more dangerous.

3.2.3 Various failure causes and symptoms

In the literature, many different causes and symptoms of failures are listed. In this paper particularly, we focus on the reaction of the organization and its member, after a failure has occurred. Nonetheless, when discussing failure learning, having an idea of most common causes and symptoms is essential to have a full understanding of the subject.

A general tendency attributes the causes of failures to external factors as blaming others and be exempted of individual responsibilities is easier, but studies have shown that failures are "often caused from within the company and by intrinsically interrelated factors that frequently are rooted in the behaviors of managers" (Miller, 1977, p. 43).
According to Miller (1977, p. 43), whether factors are internal or external, they are never random. He describes them as "a logical scenario in which various primary factors played a vital role in causing secondary symptoms to develop".

Crutzen and Van Caillie (2008) have built, a sequence of chronical failure symptoms that they have identified. The sequence starts with a poor position on the market and therefore poor sales and heavy charges. This leads to a lack of profitability and a decrease in competitiveness which ends up in a lack of cash-flow. This lack of cash-flow, when coupled with high investments to try to improve the situation will create a lack of liquidities. As liquidities decrease, the management of the firm must look for external sources of money, creating debts. The debts, will increase the financial charges which, combined with the deterioration of the organizational situation, will lead to a bigger decrease of profitability and competitiveness. The cycle goes on and on. (Crutzen & Van Caillie, 2008)

Everett and Watson (1998) identified three main causes of failure. The first two causes are a lack of appropriate management skills and an inadequate capital. This is for both the launching period or the continuous period. They explain that when a company is not well-governed and that not enough capital is introduced, there is very little chance that the company will last over time. The third one is the influence of macroeconomic exogenous factors on the firm's environment. Those factors are impossible to control but are sometimes possible to predict therefore their consequences can partially or totally be avoided. (Everett & Watson, 1998)

Pretorius (2008) defines four categories of causes associated to failure: human, internal and external, structural and financial causes. For the human causes, he relates to different spheres, such as leadership, management, individual skills and features or behaviors, which is close to what Everett and Watson (1998) define as poor management skills. Regarding external and internal causes, he explains that for external causes, the changing and growing environments force ventures to adapt and to be more alert. Internal factors are closer to the other categories: human, structural and financial causes. For the structural causes, he lists several reasons such as the centralization, the lack of long-time planning, the age, the size or the turnover. Finally,

for the financial causes associated with failure, Pretorius (2008) lists a weak cash-flow and the level of debt as main causes, but he explains that financial data is particularly useful for prediction models.

Crutzen and Van Caillie (2010) have built, on basis of a field research led in collaboration with the Court of Commerce of Liège, Belgium (now called "the Court of Entreprises of Liège), a list of five explanatory business failure patterns (EBFPs). This list comprehends: shocked firms, firms serving other interests, apathetic firms, firms that have failed because of a punctual managerial error and badly-managed firms. These findings, according to Crutzen and Van Caillie (2010), are consistent with the existing literature and are an original taxonomy of five EBFPs.

3.2.4 Failure's spheres of impact

"Failure is a complex phenomenon that can have a serious and detrimental impact on numerous aspects of an entrepreneur's life" (Cope, 2011, p. 610). According to Cope (2011), failure can have an impact on six different spheres: financial, emotional, physiological, social, professional and entrepreneurial. When developing the results of his research on entrepreneurial learning from failure, Cope (2011) emphasizes that financial damage is common to most failures even if it can vary in size, but other less obvious damage can have an even bigger impact such as the emotional and social factors. Because they experience "extreme levels of commitment and stress associated to the failure" (Cope, 2011, p. 610), entrepreneurs describe failure as an emotionally exhausting experience (Cope, 2011). He argues that "the negative emotional impact of failure is inextricably linked to its complex social cost" (Cope, 2011, p. 611). Cope (2011) explains that the social relations of failing entrepreneurs can also be affected on several level. Their marriage and family life can be put at risk but also their future professional opportunities as their image as entrepreneurs has been damaged (Cope, 2011).

Cardon et al. (2011) highlight the social impact as well. They explain that the reputations of entrepreneurs are threatened by failure as observers could consider them less capable of managing a firm once they have failed. Consequently, this has a great impact on the psychological health of leaders who could be more likely to be in denial, blame others or hide the failure (Edmondson, 2011).

3.2.5 The concept of "blame game"

Failure and fault are, in every aspect of life, closely intertwined (Edmondson, 2011). It is one of the reasons why very few organizations could switch to a psychologically safe culture where failure does not imply punishment and therefore where learning is an actual outcome to failure (Edmondson, 2011). Edmondson (2011) refers to this as "ending the Blame Game". She argues that most leaders think that there is a dilemma between not punishing for failure but not being sure that employees will try their best to succeed and punishing for failure but then not encouraging taking initiatives. She continues by explaining that a balance must be found. Organizational cultures where it is safe to innovate, fail and learn have to put high standards for performance (Edmondson, 2011). Nonetheless, when analyzing the causes of a failure, leaders must keep in mind that some mistakes may be blameworthy such as deliberate deviance or lack of effort (Edmondson, 2011). But even in this context, Edmondson (2011) emphasizes the need for leaders to analyze the situation: "was the lack of effort due to extreme fatigue after a long work shift?". In certain cases, the reason of the blame should be studied carefully (Edmondson, 2011).

3.2.6 The concept of responsibilities of leaders in the failure

The responsibilities of leaders are often questioned in the case of failure. Many wonder if the failure is the consequence of mismanagement or the accumulation of unlucky events and partnerships (Cardon, Stevens, & Potter, 2011). What is generalized is the approach of leaders towards their own failure and their interpretations of causes and consequences.

The perception of leaders in management responsibilities in the failure can vary depending on where they stand. Most respondents interviewed by Wagner III and Gooding (1997), would change their analysis whether they are talking about their own organization in which they are actors or if they are analyzing another firm as a simple observer. When positioned as actors, leaders have a tendency to credit successes on the organization, praising its well-functioning procedures and strengths while they would blame failures on the external environment of the firm. As observers, analyzing firms that they are not a part of, managers would tend to attribute success to the environment of the firm, making it look as a factor of luck, while they would blame failures on the weaknesses and malfunctioning areas of the organization. (Wagner III & Gooding, 1997)

Most people associate firms with their managers. In that context, many leaders refuse analysis of their business failures because they fear that their own image will be affected. As they want to avoid personal fault, managers would deny the failure. It is therefore a very complex and tricky subject to treat as central actors often refuse to discuss it or do not provide an objective judgement of the situation. (Starbuck & Baumard, 2005)

3.3 Learning orientations

This paper is focusing on organizational learning from failure. However, in the literature, organizational learning has its own place and it is important to understand the concept of organizational learning alongside organizational learning from failure as the second one is only a category of the first one.

3.3.1 Organizational learning topics

Many topics related to organizational learning are discussed in the literature. Baumard and Starbuck (2005) describe, the four facets of the debate regarding organizational learning, that they identify in the literature. The first facet they describe is that learning is essential to survival and success in a changing and demanding environment. Economic and social environments constantly change and organizations that fail to adapt are often punished. They also argue that some companies try to adapt but cannot maintain the adaptations on the long-term or simply do not plan any long-term adaptations. The second facet is opposed to the first one and sustains that long-term decisions do not really matter because what is important is how individuals' behaviors in the company change. Anyway, statistics tend to show that the survival of companies is the result of random processes. The third facet is related to competitive advantages. The authors explain that some would argue that learning is essential but does not create a competitive advantage. Learning can only create such advantage if it is quick, rare and difficult to imitate. A competitive advantage is easier to keep in markets where the competitors' reactions are slow. The fourth and last facet that they describe is related to the learning capacity of managers. While cognitive learning should be the most effective, a majority of managers have erroneous visions of their firm and environment. Despite that behavior, managers tend to encourage learning from successful behaviors and deny unsuccessful experiences. (Starbuck & Baumard, 2005)

"Organizational learning is the process through which the past affects the present and the future" (Argote, 2011, p. 439). Argote (2011) defines 3 main processes to organizational

learning: creating, retaining and transferring knowledge. The author explains that retaining and transferring knowledge is well-covered in the literature but the creation of knowledge should be further developed. Overall, Argote (2011) argues that many topics still have to be developed and researched in order to have a greater understanding of learning orientations and be able to improve the performance of organizations through such learning.

3.3.2 Learning as a tool for performance

According to Alegre and Chiva (2013), there is a positive link between Organizational Learning Capability (OLC) and firm performance. In their research, the authors try to show the relationship between entrepreneurial orientation and firm performance. Their data analysis highlighted that OLC has a strong mediating effect on the relationship between entrepreneurial orientation and firm performance. Real et al. (2014) support these findings but add that the relationship between firm performance and both entrepreneurial orientation and learning orientation are mostly indirect, through organizational learning. This places organizational learning in a central position when it comes to performance.

Zhao et al. (2011), explain that through organizational learning, organizations acquire information, understanding, know-how, techniques and practices that improve the performance of the firm. This means that high levels of learning can be associated to innovation which helps outperforming rivals. In other words, organizational learning is a necessary tool for organizations which aim at developing competitive advantages. (Hurley & Hult, 1998)

3.3.3 The leader's role for implementing learning orientations

According to Edmondson (2011), leaders are major players in creating a failure learning oriented culture. Their role is to create and continuously reinforce a culture that avoids blaming individuals for failure and encourage the analysis of failure. Leaders have the responsibility of reminding individuals and teams that failure is allowed and should be used as a factor for success (Edmondson, 2011).

Another role of the managers when it comes to learning is to assign the right task to the right person, knowing who is good at doing what (Argote, 2013). Pretorius (2016) defines the leadership role as rather substantial. The author highlights areas where this role takes effect. He underlines that leaders must recognize overloads of information that describe preconditions

to failures, they must make decisions, even on learning processes and finally they must deal with stakeholder perspectives.

According to Senge (1990), the image of the traditional authoritarian leader has become inadequate. He argues that now, the role of the leader of an organization is to shape the culture. Of course, depending on the contribution of the leader to the creation of the company, his role will change (Senge, 1990). The author adds that leaders need a different set of tools and skills.

Those skills, according to Senge (1990), must be distributed in the whole organization and it is not enough for one or two individuals to master them. The first skill that he describes is "building a shared vision". He explains that the company has as many visions as it has members. The goal is that as the members are developing the entity together and therefore developing their vision of it, they start seeing similarities and start sharing ideas. As the shared vision develops, individuals still have their own vision but can also see the common one, the one they have built all together. To encourage the switch from individuals' visions to a shared one, leaders have an essential role. They must communicate and share their own vision and know that the process is a continuous one that will never really end.

The second very important skill, according to Senge (1990) is surfacing and challenging mental models. He argues that leaders must be able to see that they might have a theoretical vision of management but it is not always the same as the one in use in their organization. This is encouraged by the fact that most individuals do not show their genuine thinking in public. The author explains that as individuals do not speak-up their minds truthfully during meetings and work discussions, the idea they have of how things should be done, cannot be translated properly in the organizational culture. Senge (1990) encourages leaders to change this tendency and open discussions about real visions and feelings.

The last skill that is underlined by the author is the "systems thinking". What Senge (1990) describes as the best leaders he has observed are the ones who see systems instead of individual processes and who have a global vision over time instead of focusing on daily operations. To encourage this type of behavior, Senge (1990) explains that leaders should move past blame individuals or circumstances but also recognize which types of complexity are important on a strategic level or not.

3.4 Failure as a tool for success

Failure has negative connotations in every aspect of life. No one likes to fail and it is common to most societies. Nonetheless, researches, such as this one, try to highlight how and why it is important to fail and how failure can lead to successful projects and organizations.

3.4.1 Limitations to learning from failure

In today's society, success is always better seen and welcome than failure. What should become the norm is that when facing failure, organizations would be able to learn from the causes and consequences of the failure and use the learning for future successes. McGrath (1999) explains that by seeking success at any cost and therefore by always trying to avoid failure, companies would introduce more errors and mistakes than expected. This type of behavior does not only inhibit the learning but also increases the chance of failing and make it more expensive (McGrath, 1999).

In learning orientations, the learning that follows a success is not ensured to be a source of future success, it can also be a source of failure. Moreover, the learning that should follow a failure experience does not always occur and sometimes, when it occurs, it is misused and it teaches the wrong lessons. Organizations should spend more time and resources focusing on the learning, trying to make it efficient but should also pay more attention to the processes that were created and that make the learning difficult or wrong. (Starbuck & Baumard, 2005)

3.4.2 Changing the perception of failure

The problem is, according to Cannon and Edmondson (2005), that for most organizations, failure is a negative experience and should be avoided at any cost. Very few organizations use their failures as a tool for learning, mostly due to strong barriers in the organizational culture that are both social and technical (Cannon & Edmondson, 2005). They also argue that "organizations should not only learn from their inevitable failures but they should learn to fail intelligently as a deliberate strategy to promote innovation and improvement" (Cannon & Edmondson, 2005, pp. 299-300).

The need of failing to later achieve success is a recurring topic in the literature and authors often argue that failing is an inevitable step for learning organizations on their way to success (Cope, 2011). It is also argued that "entrepreneurs who have experienced failure are arguably more prepared for the trials and tribulations of entrepreneurship than those who have only

enjoyed success or prospective entrepreneurs yet to experience the often harsh realities and intense 'pressure points' of the entrepreneurial process" (Cope, 2011, p. 621). Edmondson (2011) also argues in that sense and says that "the wisdom of learning from failure is unconvertible, yet organizations that do it well are extraordinary rare" (Edmondson, 2011, p. 1).

McGrath (1999) argues that linking both the positive and the negative outcomes of running the business can help creating value for the organization without suffering from the distortion of trying to avoid failure at any cost and loosing opportunities in the process. According to her, since the central point in studying entrepreneurship is to understand wealth creation, small, not very costly failures that can turn into innovation and substantial financial return should not be feared as much by organizations. She continues by explaining that failures are beneficial because it is often easier to understand the causes of failures than of successes and therefore it is important to see a failure as a tool for entrepreneurship learning and business development.

3.4.3 The concept of the recovery process

The recovery process that entrepreneurs go through when they face failure is very similar to the recovering of the loss of a loved one (Shepherd, 2003). Shepherd (2003) describes some practical implications of the recovery process that an entrepreneur can face. One of those, and certainly the most important step to recovering is to acknowledge that feelings are normal and should not be a shame or embarrassment (Shepherd, 2003).

When talking about the recovery process, it appears that the word "failure" has a negative connotation for most entrepreneurs and that the fact of changing its name can help viewing it differently (Wilson & Dobni, 2020). Several authors such as Wilson and Dobni (2020) and Cannon and Edmondson (2005) define this process as "reframing failure".
Broderick and Wilson (2020) argue that entrepreneurs would prefer words such as "missteps" or "opportunities of improvement" rather than "failure". To help using the right vocabulary, Cannon and Edmondson (2005) have summarized, in a table[8], the shift that entrepreneurs should operate when talking about failure.

[8] See appendix III

According to Shepherd (2013), “businesses fail, entrepreneurs learn”. While businesses fail, entrepreneurs do not. They simply learn from the event, they are motivated to try again and they proceed to it, which is the recovery process. In order to be successful it is necessary to first have faced failures. The underlying assumption is that learning from failure is somewhat automatic and instantaneous. (Shepherd, 2013). Nonetheless, a big barrier to recovery is that the loss of the business can often be associated to grief and while the grief is in process, the ability of individuals to analyze the causes of the loss will be decreased (Shepherd, 2003). Therefore, an important step in the process of recovering from failure is to take an emotional and psychological distance from the, sometimes traumatic, experience (Cope, 2011).

Shepherd (2013) argues that two solutions are possible for dealing with grief. The first option is “grief work”. This technique is based on developing an objective understanding of the failure and break down emotional bounds. By creating such understanding, individuals are able to place themselves at a distance from the lost object. The second option is a “restoration orientation”. Such an orientation is made up of two elements. The first one is distraction. Individuals must distract and stop themselves from thinking about the failure. Doing so, the individuals will avoid having an emotional reaction that triggers the grieving process. The second element is to be proactive towards secondary causes of stress. Individuals can draw their attention away from the failure itself by focusing on other issues caused by the failure. It can be personal actions, looking for a job, moving away, etc. In this “restoration orientation” approach, it can be difficult to see how individuals could learn from their failure if they are trying to be distracted from it. The key to this is to be able to mix both approaches. The entrepreneur must try to understand the failure, but when emotions are getting too heavy and negativity is taking over, the entrepreneur must switch to a restoration orientation and get distractions, away from the failure to recharge emotional batteries.

The recovery process is a long and difficult path that often takes time and competences. Entrepreneurs must keep in mind that we rarely get it all wrong. When analyzing failure and working on solutions, organizations must try to differentiate what should be further developed or what should be abandoned (Wilson & Dobni, 2020). What is really important is “to not dwell on the fact that a misstep has occurred, but rather, work towards uncovering the root cause and solution” (Wilson & Broderick, 2020, p. 115). While many consider failing as inevitable, the response given by the executives is essential when it comes to using failure to learn, or not (Wilson & Broderick, 2020).

4. Models

Among the literature treating of failure learning orientations, and especially of the incorporation of such an orientation in the organizational culture, three main articles, presenting 3 models, have been identified as a solid basis to develop our research and our model on.

4.1 Cannon and Edmondson (2005) – Failing to learn and learning to fail

Cannon and Edmondson (2005) describe 2 types of barriers: social and technical. These barriers are associated with 3 key activities: identifying failure, analyzing failure and deliberate experiment. They associate these 2 types of barriers with each key activity and develop 6 recommendations for action.

4.1.1 Barriers

The two types of barriers described by Cannon and Edmondson (2005) are defined as barriers to "learning from failure". According to the authors, organizational outcomes are shaped both by tasks and technologies and by social, psychological and structural factors. (Cannon & Edmondson, 2005)

4.1.1.1 Barriers in technical systems

Barriers in technical systems are mostly due to the lack of technical knowledge in the organization. Issues can arise from the lack of understanding of the systems or technologies used by the organization. It can be very difficult for individuals to identify and analyze failure. (Cannon & Edmondson, 2005)

4.1.1.2 Barriers in social systems

Social barriers "start with the strong psychological reactions that most people have to the reality of failure" (Cannon & Edmondson, 2005, p. 302). As failure is generally perceived as a negative consequence to entrepreneurship, a majority of people are scared of putting at risk the image and esteem that others may have for them. (Cannon & Edmondson, 2005)

Another human characteristic, called "positive allusion", describes the fact that individuals tend to see themselves and their organization as better than it really is. While this characteristic is natural and is even described by some psychologists as a sign of mental health, it is also a social barrier to identifying failure. (Cannon & Edmondson, 2005)

Also, as organizations reward success and penalize failure, individuals and entrepreneurs have a tendency to dissociate themselves from the failure. This can apply to all level in the

organization, but certainly tends to start from the top management. As the managers do not acknowledge and underline their own failure, the individuals, through the organizational culture, do the same. Sometimes a negative organization culture can even encourage finger-pointing or public-shaming attitudes. (Cannon & Edmondson, 2005)

What makes social barriers so strong is that they are all deeply embedded, not only in organizations, but in society. To overcome such barriers, entrepreneurs must deconstruct well-known and developed behavior, which without a clear model can be a very difficult task. (Cannon & Edmondson, 2005)

4.1.2 Key activities for failure learning orientations

4.1.2.1 Identifying failure

Identifying failure in a proactive and a time-efficient way is the basis of the learning process. The concept of catching errors or mistakes before they have an impact on the business has become more common, especially in manufacturing habits where the inventory has been reduced to avoid issues and additional costs. The biggest problem in business failure is that catastrophic failures are often preceded by small, solvable failures that are most of the time not dealt with. What creates such situations is the tendency of individuals to deny or ignore failure instead of facing it. If businesses took more time identifying the small failures, they would have to deal less with the big ones that could in majority have been avoided. (Cannon & Edmondson, 2005)

A major factor to promote identification of failure is the culture. The organization must know that "creating an environment in which people have an incentive -or at least do not have a disincentive- to identify and reveal failures is the job of leadership" (Cannon & Edmondson, 2005, p. 305).

4.1.2.2 Analyzing failure

It is rather obvious that organizations cannot learn from failures if they do not analyze them in depth. The potential learning cannot be realized unless open discussion and conscientious analysis of the failure is done. The major barriers when it comes to thorough analysis of failures are social systems. First, it is often difficult for individuals to face their own failure because it creates negative emotions and it diminishes their self-confidence. Secondly, to conduct such analysis, a spirit of openness, a great amount of patience and self-tolerance is required and most entrepreneurs are not known for mastering such features. Thirdly, psychologists have identified a psychological bias that "hinders the ability of humans for sense-making, estimation and

attribution" (p. 306). Due to this bias, entrepreneurs are more likely to deny the failure or attribute its causes to something or someone else which does not set good grounds for a deep analysis of the failure. (Cannon & Edmondson, 2005)

To enable an efficient analysis, it requires "people, at least temporarily, to set aside these tendencies to explore unpleasant truths and take personal responsibility" (Cannon & Edmondson, 2005, p. 306).

4.1.2.3 Deliberate experiment

The last key activity is the most proactive. Some exceptional organizations do not only identify and analyze failure, but they also innovate and experiment more in order to seize their opportunity to fail and therefore to learn. In this context, innovative ideas are always put to the test but in a controlled and "safe" environment. It has been proven that organizations that experiment a lot are often more productive, innovative and successful in the overall. (Cannon & Edmondson, 2005)

One barrier to deliberate experimentation is the fact that organizations are more likely to reward success and tend to despise failure. In this context, a culture including deliberate experimentations is difficult to implement. Also, organizations like to confirm their ideas more than they want to learn what they might have done wrong. Deliberate experiment requires openness and critical minds. (Cannon & Edmondson, 2005)

4.1.3 Recommendations

The recommendations proposed by Cannon and Edmondson (2005) are organized according to the two barriers and the 3 activities. Each recommendation is designed to be the response to the combination of one barrier associated to one of the activities to learn from failures.

4.1.3.1 Barriers in technical systems

The first step when starting the process of lowering technical barriers is to teach the employees that overcoming such barriers is a task that requires very specific skills. The role of the organization is to help individuals to recognize when they have limited skills and when they need additional training. (Cannon & Edmondson, 2005)

4.1.3.1.1 Identifying failure

A barrier to identifying failure that is embedded in technical systems is the fact that small failures are complex to notice. Because organizational systems are large, it is very difficult to detect small mistakes in processes. To overcome this barrier, organizations must create

information systems that are capable of capturing the data and organize it to help the identification of every failure, even the smallest ones. (Cannon & Edmondson, 2005)

4.1.3.1.2 Analyzing failure

When it comes to analyzing the failure, technical systems can be a barrier because the individuals lack skills and technical know-how to capture lessons and extract knowledge from the failures. Individuals often lack information to be able to produce a rigorous analysis. To overcome such barriers, organizations must create a "recipe" for reviewing failures. It should take the form of specific guidelines to follow in order to give an overall and an effective analysis of the failure. (Cannon & Edmondson, 2005)

4.1.3.1.3 Deliberate experimentation

In order to learn from deliberate experimentations, some technical barriers must be overcome. To offer proper learnings, experimentations have to be designed efficiently. Unfortunately, designing experimentations is not an easy nor an exact sciences and it requires a large panel of skills. Most individuals in organizations do not have the special knowledge that it requires to design such experimentations. Training all employees into experts in every field could be very costly and inefficient in the long run. What the organization needs is to be able to identify when specific skills are required and who is able to bring that knowledge. This can be achieved internally or with the help of external consultants who can also train some individuals on specific topics. (Cannon & Edmondson, 2005)

4.1.3.2 Barriers in social systems

In addition to coping with the technical barriers, organizations also have a great deal of work to do when it comes to overcoming barriers embedded in social systems. Barriers in social systems are subtler and more difficult to address since social beliefs are so deeply rooted in individuals' minds and in our society. (Cannon & Edmondson, 2005)

4.1.3.2.1 Identifying failure

The main social barrier to identifying failure is the fear of being held responsible for the failure that one identifies. Often, individuals do not report failures or malfunctions because they are afraid that the responsibility will be put on them. To overcome this barrier, "organizations must avoid 'shooting the messenger' and instead put in place constructive incentives to speak-up" (Cannon & Edmondson, 2005, p. 314). Those measures must be promoted by leaders, as a psychologically-safe atmosphere to decrease the risk of self-esteem bias and others' judgment.

In addition to the promotion of such behaviors, leaders should also show the way and be examples to the organization, ensure the understanding of what is expected from individuals. For an optimal implementation, the psychological safety must be introduced in small working-groups and spread naturally in the organization. (Cannon & Edmondson, 2005)

4.1.3.2.2 Analyzing failure

In the analysis process, very important factors are on the one hand, knowledge and on the other hand the effectiveness of the discussion. As the knowledge issues were treated in recommendation for overcoming technical barriers, the effectiveness of the discussion is linked to social barriers. While the safe environment enables the identification of failure, it does not ensure an efficient discussion and analysis of the experience. To ensure the well-functioning of the analysis processes, organizations must offer time and space for discussion but should also plan the management of possible conflicts or misunderstandings that can emerge while going through what went wrong in a project. In addition to space, time and conflict management, leaders must also gather several experts in different fields to offer a deep and global analysis, discovering all the causes of the failure. The experts, who will lead the learning-oriented discussions, can be internally trained or come from external organizations. (Cannon & Edmondson, 2005)

4.1.3.2.3 Deliberate experimentation

In learning-oriented organizations, incentives to successful experimentations may inhibit the willingness to experiment and to fail for the sake of learning. Organizations must be consistent with their incentives and rewards systems in relation with failed experiments. If organizations plan for 30% of failure in experimentations, but only reward individuals who have succeeded more than 80% of their experiments, it will stop encouraging individuals to identify and analyze their failed experiments. Some key areas must be dedicated to experiments and public reviews of those experiments, failed or successful; must be held in order to maintain the failure learning orientation of the organization. (Cannon & Edmondson, 2005)

4.1.4 Bottom-line of the model

Overall, these recommendations are examples of how to start the implementation of a failure learning orientation in the organizational culture. As the recommendations are designed to answer specific problems, they need to be accompanied with a general shift in the managerial mind-set and the organizational culture in regard of failure and its interpretation. (Cannon & Edmondson, 2005)

4.2 Wilson and Dobni (2020) – Implementing a failure learning orientation

In their paper, Wilson and Dobni (2020) are conducting a field research in order to discover how to implement a failure learning orientation. The sample they used is a group of CEOs of large US-based technology firms. They conducted semi-structured interview until data saturation (which was reached after 10 interviews). Wilson and Dobni (2020) used a qualitative analysis software to analyze the data they collected. After this analysis, five major themes that are relating to the implementation of failure learning orientations were highlighted.

Those five themes are:

- Creating an appropriate culture for learning;
- Reframing failure to have a positive connotation;
- Dedicating resources to discovery;
- Incentivizing and acknowledging risk-taking;
- Removing negative consequences of failure. (Wilson & Dobni, 2020)

4.2.1 Create an appropriate culture for learning

A main characteristic is the importance of the creation, by the top management, of a culture that encourages learning from failure. It is paramount that the top management leads the way as employees might show skepticism at first. The cultural decisions are critical in the beginning of the organization and must be taken early. The culture has to be centered on the commitment to learning continuously and especially from failure. Even if the culture must be created at the top, it is also argued that every employee must continuously support the culture. Appropriated staff and time resources must also be dedicated to that purpose. (Wilson & Dobni, 2020)

4.2.2 Reframe failure

Learning from failure is all about changing mentalities and focusing on the “how” and the “why” instead of the “who”. A general observation is that most CEOs deeply dislike the word “failure” and words such as “discoveries” are preferred. The major problem with the word “failure” is its negative connotation which is in contradiction with learning that must be seen as a positive process. The main point is to be able to identify what went right and what went wrong in order to correct it. In addition, failing fast is often described as a key to succeeding faster. (Wilson & Dobni, 2020)

4.2.3 Discover faster

As mentioned earlier, failure is viewed as a key factor for faster success of the business. The allocation of the right resources is a necessary contribution to failing fast. It is argued that if you are not 100% invested in innovating and trying new things, you'd better not do it at all. As the allocation of resources helps innovation and potentially failing fast to succeed faster, it is also an opportunity to build a competitive advantage for the firm. To be able to implement such orientations, it is needed to be solution-oriented instead of problem-oriented. Continuously having critical opinions on new ideas is also a way to prevent being stuck in trying to realize it while other ideas could have been a better option. In order to keep this openness, encouraging discussions of ideas can make the abandon or divestment of an idea less personal and more systematic. Overall, organizations should have open minds regarding innovation and possible failure and always try to react in a positive way because that is how you can build learning orientations. (Wilson & Dobni, 2020)

4.2.4 Incentivize and acknowledge failure

As rewards and punishments have always been part of organizations, it is very important to change this when implementing a failure learning orientation in the organizational culture. Regarding the rewards, two types must exist: monetary incentives and organizational acknowledgment. On the one hand, successful risk-taking initiatives must be celebrated and rewarded by financial bonuses. These practice are well-spread among organizations as innovation has always been rewarded by the market itself. On the other hand, unsuccessful initiatives must be rewarded by organizational acknowledgement and learning. (Wilson & Dobni, 2020)

4.2.5 Removing failure consequences

In parallel to the last section, it is also important to remove negative consequences to failure such as punishments. When negative consequences are at stake, individuals have a tendency to keep safe and try to avoid punishment at any cost. When implementing a failure learning orientation and encouraging risk-taking, negative consequences are barriers to the well-functioning orientation. Nonetheless, strategic risk-taking and uncalculated risk-taking are not the same, so a good analysis of the situation is often needed. (Wilson & Dobni, 2020)

4.2.6 Bottom-line of the model

These five themes are strategies to implement FLO's. They aim at improving the performance of organizations in an environment where failure can come from many different horizons. (Wilson & Dobni, 2020)

4.3 Wilson and Broderick (2020) - Female Perspective of Implementing a Failure Learning Orientation

In this paper, Wilson and Broderick (2020) have analyzed failure learning orientations viewed by female executives. Based on the literature and as a continuity to the first paper written by Wilson and Dobni (2020). In this paper the goal of the authors is to emphasize the point of view of female executives on failure learning and how it might differ from a masculine approach. They have conducted this field research with executives from Canadian-based technology firms. They conducted the semi-structured interviews until data saturation (which was reached after 8 interviews) and analyzed the results with a qualitative software. Out of the process, six main themes related to the implementation of failure learning orientations were defined.
The six themes are:

- Reframing failure;
- Uncovering root-causes;
- Encouraging open discussion;
- Operating proactively;
- Stimulating risk-taking in experimentation;
- Providing a calm-presence. (Wilson & Broderick, 2020)

4.3.1 Reframing failure

As Wilson and Dobni (2020) have underlined it, most executives need to reframe failure in order to not see it too negatively and be able to address it in the best way possible. Wilson and Broderick (2020) have found the same results for the female executives. They explain that words such as "missteps" or "opportunities of improvement" are preferred to the word "failure". (Wilson & Broderick, 2020)

Uncovering the root cause

It is paramount to focus on why something happened instead of who is responsible. On that point, female executives respond in the same way as male executives in the research of Wilson and Dobni (2020). The organizational environment should be safe for individuals to dare

innovate and to want to analyze what went wrong if something did. The members of the organization must focus on discovering the root causes of the problem as focusing on blaming individuals is largely unproductive and time-consuming. (Wilson & Broderick, 2020)

4.3.2 Encouraging open discussion

Open discussion between the employees and the management is a necessary condition for implementing a failure learning orientation. Encouraging open discussion is part of the safe culture that is necessary for an efficient failure learning orientation. To be able to organize such discussions, the whole organization must be aware of the overall goal and this goal, that individuals must be working towards, has to be clearly defined. When communication is fluid and encouraged, problem-solving discussion automatically occur. (Wilson & Broderick, 2020)

4.3.3 Operating proactively

In addition to open discussion, it seems important to often check with the employees that everything is alright to avoid bigger failures. When being proactive and trying to discover small failures before they can impact large projects, executives can avoid major failures thanks to a better management of the crisis. (Wilson & Broderick, 2020)

4.3.4 Stimulating risk-taking in experimentation

It is understood that the implementation of a failure learning orientation has to be accompanied by the incentivizing of risk-taking initiatives. Of course this risk must be strategic, calculated and not totally randomized. These initiatives aim at uncovering possible problems and being able to cope with them before they occur. Also, when practicing deliberate experimentation, organizations can practice failing fast and succeed faster. Of course, such type of organizational behavior must be accompanied by a safe culture and a good analysis of the root causes. (Wilson & Broderick, 2020)

4.3.5 Providing a calming presence

The last theme that was uncovered is “providing a calming presence”. This theme is the one that is the most specific to the female executives. According to the female executives, by providing a calm response to the failure, it ensures that the individuals can be reassured and that the process of analyzing the failure, discussing it and finding solutions is improved. Failing is inevitable in every organization but it is the response given to the failure that will influence the outcome the most. (Wilson & Broderick, 2020)

4.3.6 Bottom-line of the model

This model, as the Wilson and Dobni (2020) model is listing strategies for the implementation of a failure learning orientation in the organizational culture. Its main addition to the literature is the sixth enabler that emphasizes the need for a human and calm presence. (Wilson & Broderick, 2020)

4.4 Our proposed deductive model

Thanks to a thorough analysis of the literature, major authors and topics of interests have been identified. The three reference models[9] were chosen because they are the ones covering the topics more clearly and efficiently, in regard to the conducted analysis. As a result of the analysis of the literature and specifically of the three models (detailed in the last section), a model could be developed.

4.4.1 Logic behind the model

The goal of this model is to unite and structure the three reference models, with regard to the existing literature as well and try to offer a solution for various organizations. The model is called the "Retro-permanent model" and proposes enablers to follow in order to design a FLO in the organizational culture. To identify the different enablers we have centralized the reference models on one document[10] and we have sorted out the different guidelines that were proposed in those models. By buildings those categories, major themes have been identified and with the analysis of the literature, the enablers could be defined in detailed.

These enablers are organized according to a certain order. This order was decided depending on the literature and the big tendencies that we have identified but also the concept of "maturity grid". Maturity grids are used in the literature to build a hierarchy inside a theoretical model. The principle is that one level must be reached to "unlock" the next one. (Maier, Moultrie, & Clarkson, 2012). In our paper, levels are mostly used to show the order of importance in the implementation process. However, the levels are not as strict as described in the literature on maturity grids and they must be incorporated according to the time frame that fits the organization best.

[9] Cannon and Edmondson (2005), Wilson and Dobni (2020) and Wilson and Broderick (2020)

[10] See appendix IV

The model is shown in Figure 1 - Our proposed model, and is structured as a waterfall: enablers start at the top and fall down. The five enablers are separated into four "levels". The logic behind this model is that to be able to develop a "level", the organization must have implemented the previous level(s). We believe that incorporating the enablers as the waterfall suggests it, makes it more efficient and logical. The different levels can be seen as conditions or pre-requisites for the next levels to be successfully implemented. Of course, once a condition or a level is incorporated in the culture it needs to stay permanently. It is because of that component that the word "permanent" is part of the name of the model. This level-organized system, is an addition to the existing literature as it sets conditions and gives an order on how to incorporate the enablers to failure learning orientations.

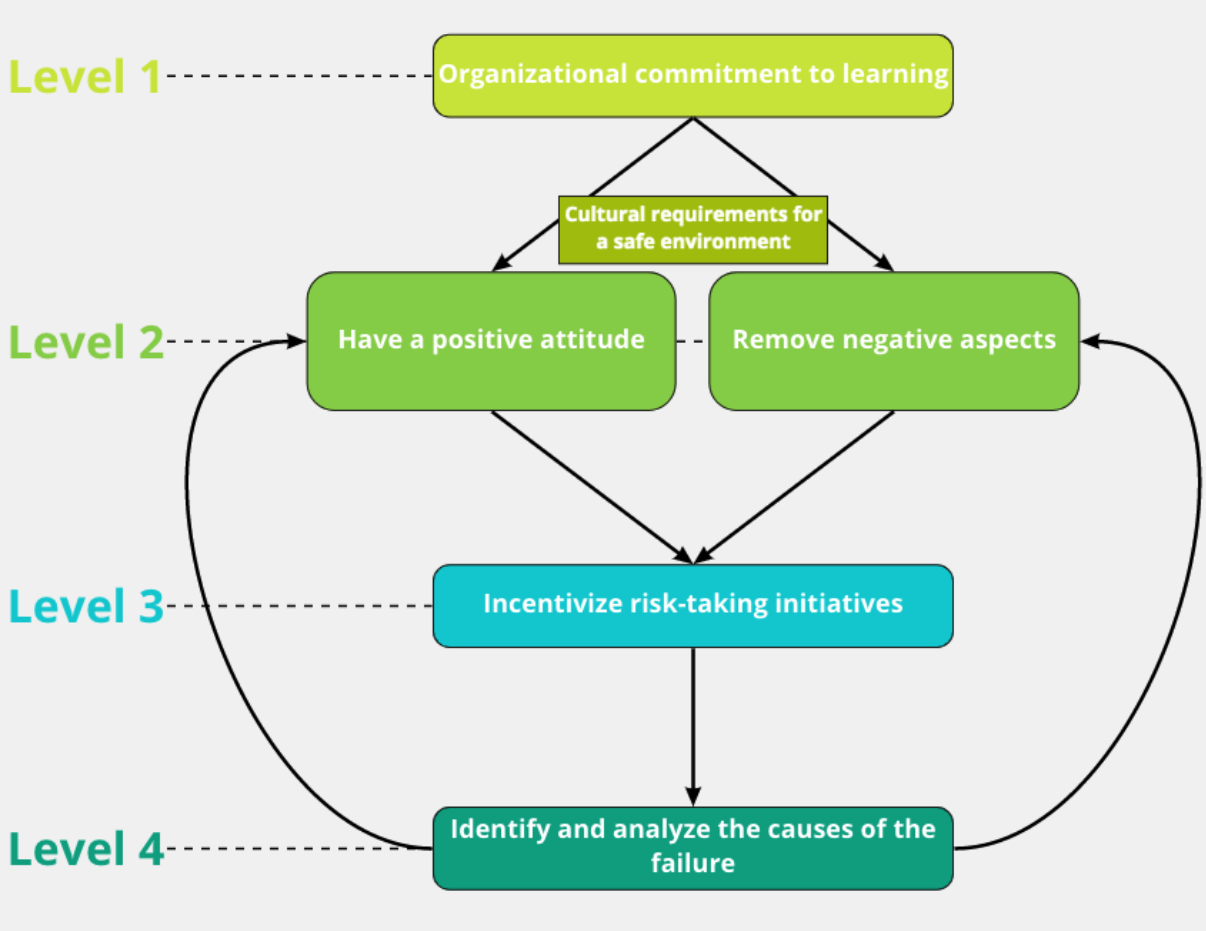


Figure 1 - Our proposed model

4.4.2 Level 1 – Organizational commitment to learning

The first enabler that is identified is the need for "organizational commitment to learning". Wilson and Dobni (2020) emphasize the need for such commitment in their model and argue that management must impulse the cultural change. They explain that it is through the culture that commitment to learning can be implemented. According to them, the intention of learning

from everything and at all time must be translated into actions, such as the recruitment of specific staff or by encouraging innovation in all functions of the company. Senge (1990) supports this idea and makes a parallel between organizations and humans. He explains that since they were born, children have been learning and that is how they develop and become functional adults. According to him, organizations should do the same and focus on learning instead of focusing on performing because it is through learning that organizations can perform in the long-run.

In the retro-permanent model, the organizational commitment to learning has a very important place. In order to pretend to the incorporation of a failure learning orientation, an organization must be fully committed to learning. This commitment, as Wilson and Dobni (2020) and Edmondson (2011) explain it, should come from senior management but needs to be understood, supported and applied by every individual in the organization. The commitment to learning is the first level as it sets a basis for the rest of the model. It is essential that willing to learn is part of the organizational culture and is deeply incorporated into the habits and the minds of all individuals in the company.

4.4.3 Level 2 – Cultural requirements for a safe environment

When the commitment to learning is incorporated in the culture, the retro-permanent model plans that the organization adds two requirements. The first requirement is to have a positive attitude towards failure and the second one is to remove negative aspects of failure. These two requirements need to be specifically applied to failure, but must be incorporated in the organization and in the minds at all levels before facing failure. This is what we could call the "implementation of a safe environment".

4.4.3.1 Having a positive attitude towards failure

Wilson and Broderick (2020), give a very detailed explanation on how having a positive attitude towards failure helps learning from it. In their research (2020), the authors are specifically studying female executives and recognize the calm and reassuring response as a feminine characteristic (in comparison with the study conducted by Wilson and Dobni (2020) with male executives). Nonetheless, we believe that this parameter should be applied to all FLO's, as it is a very important part of the safe environment that companies should be able to provide. Indeed, the organization must provide a safe environment for individuals to evolve and to improve. When facing failure, individuals must feel reassured and receive a calm answer from their management in order to find positive solutions and learn from what went wrong.

Wilson and Broderick (2020) also highlight that providing a calm presence is very important to start the recovery process faster, as it opens the dialogue. They describe open discussion between management and employees as the best way to find solutions to problems and to move away from failure.

4.4.3.2 Removing negative aspects of failure

Wilson and Dobni (2020) have underlined in their model that associating negativity with failure is not the right solution to be able to learn from it. Wilson and Broderick (2020) agree and add that a part of the safe environment, is to not blame individuals and not punish them for mistakes. According to Wilson and Dobni (2020), negative aspects are mainly punishments which are usually applied through identification of individual responsibilities. Edmondson (2011), states that identifying responsibilities usually hinders the dialogue and discourage individuals to speak-up when they notice a malfunctioning or a mistake because of the fear of being finger-pointed. The "end of the blame game" as Edmondson (2011) describes it is definitely a major requirement in our model.

In this deductive model, the removal of negativity linked to failure and the procurement of a calm response to failure and reassuring management are most important conditions for an efficient FLO. The safe environment, has to be fully applied after failure occurred, to respond to it in the best way possible. Nonetheless, in the model, the creation of the safe environment is the second level. Indeed, we believe that it is through the safe environment, that initiatives will be best incentivized and that proper reactions will arise from failing. If the safe environment is not set from the beginning, individuals might be scared to innovate, or might not want to point out mistakes or failures when they occur because they could be afraid of being blamed or punished.

4.4.4 Level 3 – Incentivize risk-taking initiatives

The third level is "incentivize risk-taking initiatives". This enabler is underlined in all three reference models (Cannon and Edmondson (2005), Wilson and Dobni (2020) and Wilson and Broderick (2020)). According to these authors, in order to use failure as a factor for success, you should trigger failing as fast as you can to succeed even faster. They argue that the best way to do so is by innovating, experimenting and by taking risks. Cannon and Edmondson (2005) explain how social and technical barriers to deliberate experiment can be overcome (see in the "models" section). They explain that it is by taking chances to failure, through

experimentations, that discoveries are made. It is therefore worth taking risks, as it offers a chance to succeed faster and better. McGrath (1999) agrees and explains that it is essential to fail because it is much easier to understand the causes of a failure than of a success, therefore, you must fail first, to learn and then use what you have learned and apply it to your successes. Wilson and Dobni (2020) also emphasize that proper resources must be allocated to the innovation process and discoveries. Wilson and Broderick (2020) add that the risk must be calculated. And that taking unconsidered risk is as unproductive as not taking any risk.
As the name of the level indicates it, another dimension is the incentivizing of such behaviors. Wilson and Dobni (2020) have highlighted that public financial rewards and acknowledgement of success through risk-taking initiatives is essential and is a way of rewarding individuals. However, they precise that the incentivizing is just one part of the equation and that others, such as the safe environment and the commitment to learning are as essential.

In the retro-permanent model, we consider that risk-taking initiatives are important. As described earlier, if it is possible to learn from unforeseen failures and use it as a success factor, then it should also be possible to create an environment where individuals can try hard, where they will certainly often fail but in this same environment, they will learn a lot. As explained in the last section, it is also thanks to the safe environment that was previously created that individuals will be able to innovate and take risks freely and certainly more confidently. It is therefore essential for leaders to encourage risk and initiatives and welcome innovative ideas.

4.4.5 Level 4 – Identify and analyze the causes of the failure

The last level is "identify and analyze the causes of the failure". After incorporating commitment to learning in the culture, when a safe environment is created and time and resources have been allocated to innovations, which will result in failures (or in successes), the organization must be prepared for the identification and analysis of what went wrong (or right). Cannon and Edmondson (2005) describe in details why identification and analysis of failures are important and how to overcome social and technical barriers to the identification and analysis of failure. They describe several processes, from the procedure itself to the cultural change (see in the "models" section). Wilson and Broderick (2020) also describe the importance of analyzing failure and call it "uncovering root causes" and "operating proactively". In these enablers, Wilson and Broderick (2020) explain that by identifying the root-causes and analyzing them, the organization makes useful discoveries about unsuccessful processes or procedures.

In the deductive model, the identification and analysis of failure causes is very important. After the identification of specific causes, the organization must provide a deep and thorough analysis of failures, because it is through this kind of analysis that flaws, weaknesses and strengths will be uncovered and therefore can be later used as tools for successful projects. Once again, it is through the commitment to learning that such behaviors can be encouraged. Also, thanks to the incorporation of the safe environment described in level 2, the identification and analysis of the causes and the reasons of the failure will be discovered with a positive approach. Individuals who know that they will receive a calm response, will not be blamed and not be punished, can analyze the situation thoroughly and safely. Because the identification and analysis will be a good experience for everyone, individuals will be more likely to try again and keep innovating.

4.4.6 Retroactivity of the model

The different levels have been described and a last comment is necessary: the model must be retroactive. The retroactivity of the model is illustrated by the arrows on the outside of the model (see Figure 1 - Our proposed model). As explained in the previous sections , the model should be seen as a cycle that must be repeated over and over again. The first level is a bit particular because it is the basis of the FLO and it needs to be incorporated once to then "only" be maintained as part of the organizational culture. Then, level 2, that is separated in 2 enablers for creating a "safe environment" can be incorporated. When level 2 is well-installed and has entered the culture of the company, level 3 can be incorporated and then, finally, level 4. Once level 4 is reached, there is a need to go all the way back to level 2 in order to offer the best possible response. Indeed, what is important is that when analyzing the causes of the failure, the organization offers a calm presence and removes all negative aspects. If this safe environment is properly installed from the beginning, as suggested by the structure of the model, level 3 and level 4 will be informally encouraged by the culture. After a positive response has been given to the analysis, new initiatives can be started. There, the process starts again. This is the part that gives the "retro" component to the name of the model.

4.5 Validation of the model

As described in the methodology section, this model had to be validated by field interviews. The field interviews must trigger improvements and corrections of the model if needed. The interviews are also made to adapt the model to Belgian companies.

5. Results

As explained in the previous sections, 6 interviews were conducted with Belgian leaders of Belgian companies that can be described as having a failure learning orientation according to our four criteria (see "methodology" section). The objectives of those interviewees were to validate the model that was previously built from the literature and maybe to add some improvements or corrections, depending on the Belgian context.
In this section, every level of the proposed model[11] was compared to the data obtained in order to evaluate the accuracy of the model.

5.1 Analysis table

To proceed to the analysis of the results from the interviews, we built a table summarizing the different interviews and the similarities between the answers obtained. For each enabler, the main topics discussed by each interviewee were highlighted. After all the interviews were completed and the table was filled out, we drew conclusions for each "topic" to underline the similarities and differences between the interviews and the model.

For practical reasons regarding the presentation of the table, the table is split in 3 parts, showing the answers of the interviewees two by two. Nonetheless, the categories created for the analysis are the same for all participants and the participants were not classified according to their answers, only by the date of the interview[12].

[11] See Figure 1 - Our proposed model

[12] See appendix I

Type	P1	P2	Category
Commitment to learning	"Learning can only be done through a proactive and reactive behavior, encouraged by the top management"	An employee is working part-time on training and learning only. Organizing training sessions and reminding the importance of the commitment to self-improvement and continuous learning.	Proactivity and reactivity as key elements
	Employees in continuous training. Always encouraged to improve their skills and develop new abilities.	Continuous improvement as company value.	Continuous learning and improvement are key to show the commitment to learning
	"There are no failures, only learnings"	New principals come from the crisis and have been installed in the new culture that was built in response to the difficult times.	Importance of the values and the culture
Remove negative aspects of failure	“Punishment is useless: it is practice from another era. It does not bring any solution and only discourages employees to speak-up and report problems.”	“Fighting finger-pointing attitude is essential.”	Blame game is over and useless
	Individual responsibilities are useless. It is more interesting to see how the team could be more efficient. To remove all form of guilt.	Identification for personal improvement but only to accompany the employees in their development.	No recognition of individual responsibilities for blame

		Need to make mistakes to be able to improve.	Utilization of collective responsibilities for general improvement
Give a positive response to failure		"Being a leader mostly implies having responsibilities. As the boss, I am often questioning myself to know if I gave the right task to the right person. If someone makes a mistake or does not do what we were expecting from him/her, I will always assume that it is because I was not clear enough when I gave the assignment."	Responsibility of the managers (must be humble when responding to failure)
	"The very first thing I do is reassure my employee. Often, when they have to talk with their boss they would be afraid that we fire them. It is therefore essential for me to start the conversation by saying that their job is not at risk and that we only want to have a calm discussion to understand the recent events." Stay calm and reassuring		Open dialogue and calm attitude

	Dialogue must be open fast, right after events.		
			Transparency
		Failure is paramount for learning	Others
Incentivizing risk-taking initiatives		Personally, as an entrepreneur, not risk averted as it is part of the job. “Risk is part of my job. And now, more than 50% of my tasks are related to assessing risk. If I disliked risk too much, I could not do what I do.”	Entrepreneurship and risk-taking is obvious
	Initiatives are welcome but not pure risk. For risky propositions, a risk analysis must be conducted.	Encouraging initiatives is important but the risk should be limited.	Employees must be careful: initiatives always welcome, risky ones should be examined
	"We have discussed implementing incentives, but for now, nothing is done, it is difficult to find a functioning formula."		Incentivizing creates tensions and competitions
	Personally too careful for taking risk (as a CFO)		Others
Identification and analysis	Identification is also a full process.		Identification and analysis are two steps

of the causes of the failure	Loads of resources are needed to analyze causes in depth.	"No need for an analysis of the causes if the corporate governance is not performing, because then, we know where the problem comes from. The governance also needs to be well-functioning for the analysis as they need to have a clear vision of the market and the company's activities."	Resources are needed
	The process is a step by step approach where we identify all causes and then each cause is analyzed in depth. Always trying to uncover deeper roots.	Action plan: what can be solved, what cannot?	Action plan for a structure analysis
	"Something that is also important is to work with participative dynamic. Everyone should be included in processes and feel valued and listened to. We need to give a voice to all the employees because that is how we can really learn from failure."	"Every cause must be analyzed in detail but a cost (in time and money) analysis must also be done for what should be saved or not"	Importance of details but not be picky

Type	P3	P4	Category
Commitment to learning	"The only way to not be behind is to be in front".	Most important is to learn from mistakes to not make them again.	Proactivity and reactivity as key elements
	Need for training for all functions, even for management. “Sometimes leaders would ask their employees what they need to be trained on or what they would like to have conferences or new formations about. In my opinion, my role as the managing director is also to propose topics that my employees might not think of or might not even know about. If they do not know about something, they cannot ask to receive specific training on that topic.”	Training on 2 levels: - Knowing how to be - Technical level	Continuous learning and improvement are key to show the commitment to learning
	"Where do we come from? Who are we? Where do we go?"		Importance of the values and the culture
Remove negative aspects of failure	Guilt and blame culture is useless.		Blame game is over and useless
	Individual responsibilities are totally removed as the company works as a team.		No recognition of individual responsibilities for blame

		Weekly meetings to share tricks and tips about good and bad experiences.	Utilization of collective responsibilities for general improvement
	The organization should communicate on all that is right and wrong	On a positive side, each employee has full responsibility for his/her tasks (autonomy)	Others
Give a positive response to failure	Responsibility of the managers if there is problem of lack of clarity.	Responsibility for the manager to recruitment and distribute tasks correctly: "Of course, each individual is responsible for their own tasks, they are the specialists but I am not. In any case, someone does not do their job, the overall responsibility will be mine. It always comes back to management. And that is also why recruitment is a key activity."	Responsibility of the managers (must be humble when responding to failure)
	Dialogue only orally (phone or live) as written language removes nuance and can create problems and misunderstandings. Listen, encourage and reassure.	Stay calm in all situations. Translation of values in behaviors such as honesty, carefulness and humility.	Open dialogue and calm attitude

		Culture of the questioning: "We always ask a lot of questions to many people in order to have a very clear picture of what happened, how and when. Through questions, which is not a stressful process, we can gather many information that are helpful to improve ourselves and open the dialogue"	
	Need for transparency: “Leaders are often afraid of communicating when the company is doing good. They fear that every employee would come to them and demand a pay-raise. They are also afraid of telling the workers when the company is doing less well as they fear panic. None of those two is right and a good leader should be able to communicate on both the good and the bad. The workers should know when their work is successful but also when difficulties are faced. Knowing such information will also improve the commitment of the employees.”	Need for transparency at any level for the employees and the management	Transparency
	"It is not because things are difficult that we do not dare, it is because we do not dare that things are	Only averted to physical risk. Otherwise, as an entrepreneur, risk is part of life.	Entrepreneurship and risk-taking is obvious

Incentivizing risk-taking initiatives	difficult". Entrepreneurship spirit wants initiatives to be taken.	Optimistic about the future "everything always works out"	
	"I love hearing new ideas and propositions for improving the company. When someone wants to change our way of working into something different and more efficient, I am always happy to hear it." Employees must always know the risk they are taking and it should always be assessed and discussed.	Very open to innovation and employees' participation. Risk for the employees: Proposition and study of the risk by the management team. It is always considered as internal propositions are really appreciated.	Employees must be careful: initiatives always welcome, risky ones should be examined
	"For having worked in many different countries and cultures, I think that individual (monetary) rewards for innovation does not really work in Belgium. It often creates a feeling of competition between employees and hinders communication and team work. Also, rewards for innovations are sometimes unfair for employees who work in less 'creative' departments, such as accounting or quality control, compared to R&D. In my opinion, the best way to offer rewards is to do it for teams when a project is finished in time and successfully. But again, it	"Regarding incentives, nothing formal is done. We try to remind employees that we are open for suggestions and that they should tell us what needs to be change. We also emphasize the need for transparency, openness and dialogue during our weekly meetings."	Incentivizing creates tensions and competitions

	would be a drink with the whole department or a pizza party, no promotion. Of course, promotions exist but are more a reward for a constant and long-time dedication to the company's goals."		
Identification and analysis of the causes of the failure		Identification and analysis are two separated steps. You need to first know what happened and then try to understand why it happened.	Identification and analysis are two steps
		"People and time should be dedicated to that purpose"	Resources are needed
	Structured procedure: questionnaire, diagnostic and crossed matrix between the diagnostic and the improvements in order to check that everything was taken into account.		Action plan for a structure analysis
	"Here too, I try to not lose myself in stupid details, I have to keep an analytical mind."		Importance of details but not be picky
		Rapid, flexible and reactive attention to all causes.	Others

Type	P5	P6	Category
Commitment to learning	Ability to bounce back fast		Proactivity and reactivity as key elements
	The worse thing to hear is "we have always done it like that". Training at all level and for the management too (more specifically)	Learning is huge and essential. We are never done learning. Continuous training is promoted for everyone with external associations.	Continuous learning and improvement are key to show the commitment to learning
	Failure is a very difficult personal experience. But the learnings are huge. Mistake = investment		Importance of the values and the culture
Remove negative aspects of failure			Blame game is over and useless
		"When you face failure, wasting time on individual responsibilities is very easy, but also very costly"	No recognition of individual responsibilities for blame
	Always the team's work that must be analyzed and not the players alone.	Collective responsibilities above individual ones.	Utilization of collective responsibilities for general improvement

Give a positive response to failure	Management must take their responsibilities otherwise they lose all credibility towards stakeholders.	"Often if someone makes a mistake, it is because they did not understand what was expected. It is therefore the fault of the leader who is in charge for not being clear."	Responsibility of the managers (must be humble when responding to failure)
	Feel when the time is right to have a discussion.	“Management through committees helps the dialogue and calm the situation as decision are taken by the whole team and not only directors.”	Open dialogue and calm attitude
	Always something positive but need to be true. If only negative, employee will freak out.	Transparency is the key. For people to take initiatives, they need to know what the general direction and focus are.	Transparency
Incentivizing risk-taking initiatives	Entrepreneurship rhymes with risk.	"I am not a crazy risk taker but I am definitely not averted to risk... I mean, calculated risk of course."	Entrepreneurship and risk-taking is obvious
	Innovation is great, openness to new ideas but assessment of the risk in details with management. Not sure that the initiative taking is clear for employees.		Employees must be careful: initiatives always welcome, risky ones should be examined
		"We are currently assessing possibilities for rewards and incentives for innovation. What is	Incentivizing creates tensions and competitions

		difficult is to ensure that employees will not be competing"	
	"I hope that the employees know that we are open to suggestions but I am not sure… I should check that out"		Others
Identification and analysis of the causes of the failure		First we identify the causes, but yet we do not act on it. It takes an emergency situation for everyone to agree that it is time to analyze the causes and solve as many problems as possible: "When we entered our difficult period, we already knew what was wrong, we had identified it. However, as everyone was caught in their job and we were still presenting a positive balance, no actions were taken to analyze in depth the causes and find solutions. (...) It is only when we had fallen very low that we finally could decide to take actions. So for me, identification does not always mean analysis and therefore, action. It can take years before we act."	Identification and analysis are two steps
			Resources are needed

	When a business plan and a budget exist, it is easier to analyze what went right and wrong. Common error in SMEs	Use of different tools for analysis	Action plan for a structure analysis
	"It is important to analyze everything and understand what came from where. So an in-depth analysis is essential. The risk when making such analysis is to get lost in the details. So, for me, a thorough analysis is useful but we should always keep in mind the bigger picture."		Importance of details but not be picky
	Help from experts and external consultants.		Others

5.2 Level 1 – Organizational commitment to learning

Level 1 corresponds to the organizational commitment to learning. As explained in the presentation of the model, commitment to learning is essential for the incorporation of a failure learning orientation. This commitment must be common to all individuals in the organization and must be deeply engraved in the culture.

The leaders who were interviewed all agreed with the importance of this first level and emphasized the key role played by management to spread the commitment, through the organizational culture, at every level of the organization. According to one of them:

> "Learning can only be done through a proactive and reactive behavior, encouraged by the top management."

Several leaders have also underlined the importance of continuous learning and personal training in the organization. In their opinion, continuous learning is achieved through the opening of new horizons for employees, as one of the leaders said:

> "Sometimes leaders would ask their employees what they need to be trained on or what they would like to have conferences or new training sessions about. In my opinion, my role as the managing director is also to propose topics that my employees might not think of or might not even know about. If they do not know about something, they cannot ask to receive specific training on that topic."

Concerning what Wilson and Dobni (2020) describe as the allocation of resources such as time and money to the purpose of learning, another manager also said that one of his employees dedicates at least half of his time to learning activities. That person is responsible for the information and the formation of individuals in the company. Many other interviewees also spend resources on learning especially through training sessions and continuous formation.

All the people who were interviewed really emphasized the fact that commitment to learning must be a priority and has to be part of the DNA of the company. One of the leaders even had decided that "continuous improvement and learning" should be one of the company's values. Another director said:

> "Recently we have reviewed our values because we wanted them to match the culture better. But I do not think that values are enough, they are only words. That

> is why we have created a list of behaviors that should be adopted according to the values. That is an easy and fast way to help employees understand and use the values in their daily work."

This statement highlights the importance of the translation of the culture into actions, largely defended by Wilson and Dobni (2020). With everything we have quoted here over, it can be said that the first enabler is widely validated by the field interviews.

5.3 Level 2 – Cultural requirements

The second level is composed of two enablers needed to create a "safe environment". On the one hand, there is "have a positive attitude towards failure": this enabler stands for the creation of a positive atmosphere in which management gives a positive response to failure, offering a calm presence and an open dialogue. On the other hand, there is "remove all negative aspects of failure", which means that no blame or punishment should be applied to individuals who have committed or have discovered a mistake, a malfunctioning or a failure.

Have a positive attitude towards failure

Wilson and Broderick (2020) have highlighted how important it is for management to provide a calm response to failure. The people interviewed for the purpose of the validation of this model have, in majority agreed with that statement. According to all of the leaders, an open dialogue should always be possible. One of them explained that to ensure a good communication, the discussion should always be live: on the phone or in person, but that written communication must be avoided when it comes to sensitive subjects. Another one added:

> "The very first thing I do is reassure my employees. Often, when they have to talk with their boss they would be afraid that we fire them. It is therefore essential for me to start the conversation by saying that their job is not at risk and that we only want to have a calm discussion to understand the recent events."

All leaders also agree that their role is to listen and try to understand what happened. They do not have full knowledge or expertise and must be open-minded enough for others to explain the situation.

Another parameter going with open-discussion is transparency. This is something that was especially emphasized in the interviews. To perform, employees need to be aware of how and

what they are contributing to. They need to know the overall goals and results of the company. One of the interviewees said:

> "Leaders are often afraid of communicating when the company is working well. They fear that every employee would come to them and demand a pay-raise. Also, they are afraid of telling the workers when the company is doing less good as they fear panic. None of those two is right and a good leader should be able to communicate on both the good and the bad. The workers should know when their work is successful but also when difficulties are faced. Knowing such information will also improve the commitment of the employees."

Another leader also emphasized that in more personal meetings, the employees must be told the truth whether it is positive or negative. If they only hear what is wrong, they will be stressed and will not perform as expected. The leader must be able to highlight the whole picture and also discuss positive aspects.

Through the interviews, it really seemed that the managers agreed that being angry and showing it to employees were only ways to scare them and nothing constructive could come out of such interventions. They all explained that when the mistake or the failure has already happened, the best way to cope with it is to give a calm presence and start a constructive and open discussion. Adding transparency at every level is important.

Remove negative aspects of failure

The removal of negative aspects of failure is also very important for the creation of a safe environment. As detailed above, Wilson and Dobni (2020) and Wilson and Broderick (2020) identify two main components to the removal of negative aspects of failure. The first one is punishments. During the interviews, all leaders fully agreed on the idea that punishments were useless and counter-productive. One of the leaders said:

> "Punishment is useless: it is a practice from another era. It does not bring any solution and only discourages employees to speak-up and report problems."

The second component, is the identification of the individual responsibilities, and therefore the blame or finger-pointing of the "guilty" ones. Most managers said that individual responsibilities are futile and only make the management team and the employees lose time, by trying to find out who did what. An interviewed summarized it by saying that:

> "Fighting finger-pointing attitudes is essential."

What some of the managers said is that in some situations, knowing where the mistake came from can still be useful in order to fix the problem and not face it again. But once more, even in this context, managers insisted on the fact that the goal is never to blame that person but only to improve the person's work or the internal processes that might have caused the issue.
Other managers argued that the team responsibility can be highlighted, but once again it is only for improvement purpose and never for blaming. One of the interviewees said:

> "It is often the addition of several small mistakes that makes big problems. That is why we need to work together with the team in order to correct and avoid as many mistakes as possible."

This is very close to what Cannon and Edmondson (2005) define as small and large failures. According to the authors, it is by identifying, analyzing and avoiding small failures that big ones are easily avoided.

Some of the CEOs also took their own responsibilities in the failure. According to them if employees fail, it is because they did not receive clear assignments:

> "Being a leader mostly implies having responsibilities. As the boss, I am often questioning myself to know if I gave the right task to the right person. If someone makes a mistakes or does not do what we were expecting from them, I will always assume that this is because I was not clear enough when I gave the assignment."

This statement correlated what McGrath (1999) describes as the manager's role. According to her, one of the main role of a manager is to give the right assignment to the right employee. Following that idea, it means that employees should not feel guilty if they are not able to complete a task, even if they should always try their best to accomplish what they were asked to. Another manager also said:

> "Of course, each individual is responsible for their own tasks, they are the specialists and I am not. But in any case, if someone does not do their job, the overall responsibility will be mine. It always comes back to management. And that is also why recruitment is a key activity."

During the interviews, all managers validated the second enabler for the "safe environment", which means that the second level is fully validated, with as main addition, the need for transparency between management and employees.

5.4 Level 3 – Incentivize risk-taking initiatives

Level 3 is "incentivize risk-taking initiatives". In the literature, and especially the three reference models used in this research, innovation is essential for learning from failure. All three papers highlight how triggering failure is the key to learning from it. Nonetheless, Wilson and Broderick (2020) precise that the risk taken must be calculated and that non-strategic risk-taking is not constructive. When it comes to the interviews we conducted, people's opinions on innovation and especially risk-taking diverge.

Concerning innovation, the interviewees were all on the same wavelength. They explained that they really liked receiving suggestions from employees as it also shows the implication and the dedication of those who want to contribute to the success of the business.

> "I love hearing new ideas and propositions for improving the company. When someone wants to change our way of working into something different and more efficient, I am always happy to hear it."

Regarding the risk-taking initiatives, all leaders agreed on the fact that risk is an entire part of the entrepreneur's life and that if someone is fully averted to risk they should not own a business. In that sense, one of the manager said:

> "Risk is part of my job. And now, more than 50% of my tasks are related to assessing risk. If I disliked risk too much, I could not do what I do."

What appeared in the interviews is that most leaders saw a difference between the risk they take and the risk their employees take. When they were asked about their reaction to a risky initiative taken by an employee, the managers were less enthusiastic. They considered that most risk should be avoided as often as possible. In some cases, they would take the time, with the managing team to assess the proposition and calculate the potential consequences of the risk itself. This approach is close to what Wilson and Broderick (2020) call "calculated risk". Nonetheless, most interviewees really seemed less keen on letting employees develop ideas when there was an underlying risk, no matter the type of risk. Regarding this, a cultural analysis of risk perception is conducted in the "discussion" section.

Lastly, regarding the incentivizing of initiatives taking, the answers were also different. Some of the managers hoped that everyone in the company knew that they were encouraged to take initiatives, even if no clear system was in place. According to them, they hoped that through

the culture and the values of the company, employees felt that initiatives are welcome and appreciated. For others, incentives and individual rewards are not necessary the fairest and not the most adapted to the Belgian culture. One of the managers highlighted:

> "For having worked in many different countries and cultures, I think that individual (monetary) rewards for innovation does not really work in Belgium. It often creates a feeling of competition between employees and hinders communication and team work. Also, rewards for innovations are sometimes unfair for employees who work in less 'creative' departments, such as accounting or quality control, compared to R&D. In my opinion, the best way to offer rewards is to teams when a project is finished in time and successfully. But again, it would be a drink with the whole department or a pizza party, no promotion. Of course, promotions exist but are more a reward for a constant and long-time dedication to the company's goals."

According to this manager but also others, they have not found a proper way to reward without creating competition. In general, a more unformal and collective way of rewarding seems to be the approach that is preferred. At least 3 leaders said that they were currently discussing the implementation of a reward system but had not found the good recipe yet.

Through the field interviews, we noticed that innovation and calculated risk-taking initiatives are mostly welcome and encouraged by the managers. However, such behaviors are, as for now, mostly informally encouraged through the organization and no incentivizing system exists.

5.5 Level 4 – Identify and analyze the causes of failure

As Cannon and Edmondson (2005) explain, both the identification and the analysis of failure causes are important for failure learning orientations. On the one hand, they explain that through identification, organizations can avoid some troubles because large failures are often the consequence of the addition of smaller ones. On the other hand, they argue that the analysis is essential because if you do not analyze the failure, you cannot learn from it.

Regarding the identification and analysis, most managers see them as two different steps. For the identification, they have different techniques: going from an internal investigation in the different services that were implicated to a structured and organized action plan to follow. One of the managers explained:

> "I have created a document that is applicable to all failure situations. It helps me make an audit of the situation and point out everything that was done wrong or even not right enough. Once I have collected all the information I need to have an overview, I draw what I call a 'diagnosis', for each sector that is implicated. The diagnosis is later used in a matrix to analyze the consequences and see if overall the solutions proposed match the different causes."

Another leader referred again to the importance of not being in denial and the importance of facing the problem instead of avoiding it. This relates to what Cannon and Edmondson (2005) describe as overcoming the social barrier and not being afraid of what others could think or how the business manager would be associated to the failure itself.

For the analysis of the causes, several procedures were also described by the interviewees. The need for a clear action plan was again mentioned. The importance of having a good company governance was also highlighted:

> "No need for an analysis of the causes if the corporate governance is not performing, because then, we know where the problem comes from. The governance also needs to be well-functioning for the analysis as they need to have a clear vision of the market and the company's activities."

Later, when talking about the level of depth of the analysis, one of the CEOs said:

> "It is important to analyze everything and understand what came from where. So an in-depth analysis is essential. The risk when making such analysis is to get lost in the details. So, for me, a thorough analysis is useful but we should always keep in mind the bigger picture."

Both the identification and the analysis of the causes are seen by the interviewees as important steps in the failure learning orientation process. In this deductive model, we had decided to put identification and analysis on the same level as it seemed in the literature that they are very linked and that one does not exist without the other. Nonetheless, after the interviews, we noticed that many managers consider the identification and the analysis as two separate steps in the failure learning process. One CEO said:

> "When we entered our difficult period, we already knew what was wrong, we had identified it. However, as everyone was caught in their job and we were still presenting a positive balance, no actions were taken to analyze in depth the causes and find solutions. (…) It is only when we had fallen very low that we finally could

decide to take actions. So for me, identification does not always mean analysis and therefore, action. It can take years before we act."

In this declaration, the CEO underlines that the identification and the analysis which can lead to action are separated steps and that there can sometimes be years between those two.

5.6 Recommendations for improvement

As discussed in the previous sections, the results of the field interviews have helped validate the model we created. For most of the levels, the interviewees nearly totally agreed with what was presented and only some elements were added.

For level 3, concerning the incentivizing of risk-taking initiatives, most CEOs agreed that innovation and calculated risk are good for the company and are very welcome. Some still emphasized that the risk should really be as low as possible.
For the incentivizing part of this enabler, the results are slightly different. It seems that the Belgian culture is maybe not the most adapted to individual rewards for innovation and that often, it can create competition and hinder communication as employees would become more individualistic. As mentioned above, a cultural analysis has been conducted in the "discussion" section concerning this topic as the reference models are based on North American countries where the culture differs.

For the level 4 regarding "identification and analysis of the causes of the failure", the idea was fully validated. However, the form seems to create a debate. Most interviewees insist on the fact that identification and analysis are different steps and should be different levels. The improvement to the model, proposed in response to that is the creation of a fifth level, in order to have identification as level 4 and analysis in level 5. They would both have arrows going back to the safe environment as it is paramount to deal with both level 4 and 5 as well. The improved model is presented as Figure 3 - Our revised model.

Overall, all leaders agreed to say that it is thanks to the difficult period they had to deal with that they noticed that a change was needed. It is by re-structuring and re-building their organization that they could improve the culture and start acting like a FLO.

6. Discussion

6.1 Cultural dimension

The reference papers written by Wilson and Dobni (2020), Wilson and Broderick (2020) and Cannon and Edmondson (2005) are based on research led in the USA and Canada. Those two North American countries have different cultures from European countries, and Belgium in particular. Those cultural differences, especially in the corporate culture may explain some of the differences that were observed between the theory-based model and the corrections made by the field interviews with Belgian leaders. Those differences were more visible in the level 3, dedicated to "incentivizing risk-taking initiatives", where doubts have been expressed by the interviewees on the term "risk" and on the "incentivizing" part.

When discussing cultural dimensions in the world, Geert Hofstede can be recognized as a specialist as he conducted many researches on the topic and developed very insightful models on cultural differences in different contexts.

Of all his researches on cultural dimensions between countries around the world, the most famous work of Geert Hofstede is his classification of national cultures according to six dimensions. These dimensions are described together and called "the 6-D model of national culture", developed in 1967, focusing on more than 70 countries (Hofstede, 2021). In this model, the author defines six dimensions made of 2 opposite characteristics. The culture of each country corresponds more to one of the two components for each dimension. For each dimension, countries get a score which allows the comparison between two distinct countries. The goal of the model is only to compare one national culture to the other as all individuals are different and unique. The six dimensions described by Hofstede are: the power distance index, individualism versus collectivism, masculinity versus femininity, uncertainty avoidance, long term orientation versus short term orientation and indulgence versus restraint. (Hofstede, 2021)

Some authors have also expressed some criticism of the model developed by Hofstede as it might be too general. Cao (2020) has summarized three main critics applied to Hofstede's model. According to her, these critics are "small sample size and assumption of cultural homogeneity", "differences in abilities are not in the picture" and "the co-existence of

contradictory notions is ruled out". For the first critic, she explains that the number of participants for each country was pretty low to make such generalizations. Also, she argues that with globalization, most countries have many sub-cultures and that considering one country as one entity might not be the most accurate culture-wise. The second critic about abilities is built on the fact that abilities of the individuals are not the same on situational and clinical levels. The third one, related to the contradictory notions, means that for each bi-polar dimension, Hofstede describes a country as being close to one of the poles only, excluding a mixed option. Those critics seem relevant but do not influence this analysis as Hofstede's model is only used to observe general tendencies and explain small differences in cultural perceptions between North America (Canada and the USA) and Belgium.

In this paper, we are mainly interested in three of the dimensions covered by the model: Individualism versus collectivism, uncertainty avoidance and long versus short term orientation. These three parameters will allow us to understand better why some doubts were expressed by the Belgian leaders regarding risk-taking initiatives and incentives, compared to the results obtained in the literature on northern American studies which were used to build the original model in this research.

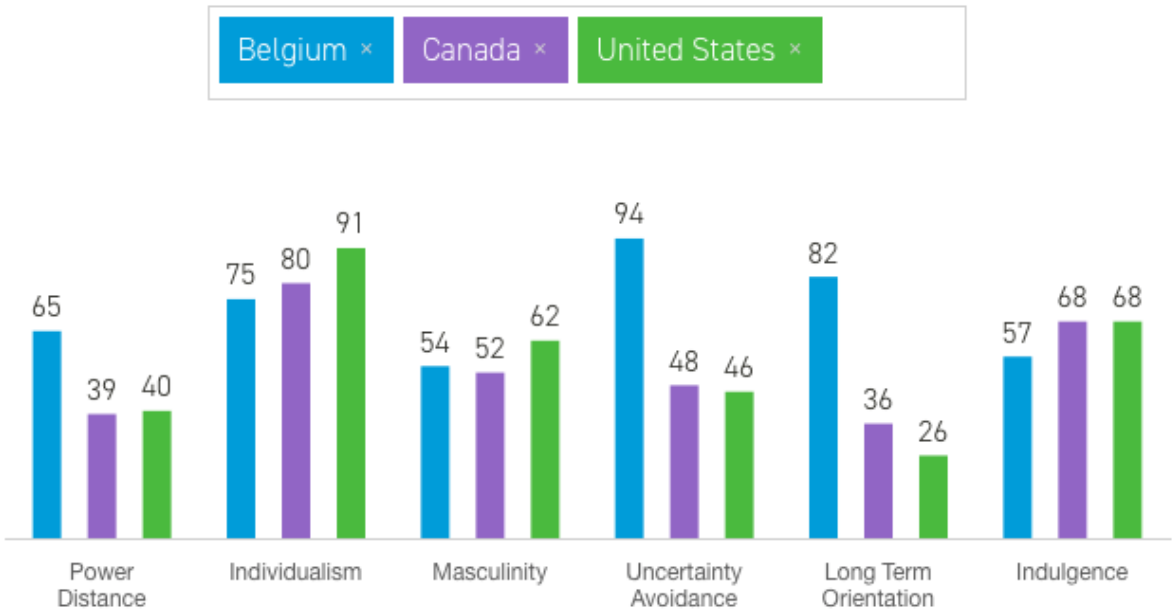


Figure 2 - Cultural scores in the 6D model by G. Hofstede (Hofstede Insight, 2021)

Note: the power distance index, individualism versus collectivism, masculinity versus femininity, uncertainty avoidance, long term orientation versus short term orientation and indulgence versus restraint. (Hofstede Insight, 2021)

6.1.1 Risk in Belgium

First, we noticed during the interviews that the Belgian managers were always a bit scared when we would pronounce the word "risk". They always said that as an entrepreneur they knew that they were taking risks but when it comes to employees taking initiatives that might represent a risk for the company, most managers were less positive. They generally explained that they would make, with the employee and the management team, a risk assessment and go only for less risky ideas. Even if Wilson and Dobni (2020) precise that risk-taking initiatives are only good for calculated risks, it seemed that the Belgian leaders would prefer no risk at all. When looking at the chart made on Hofstede Insight's website (Figure 2 - Cultural scores in the 6D model by G. Hofstede), we can see the differences for Belgium, Canada and the USA. For this part, what we are interested in is the "uncertainty avoidance" data.

Belgium, in blue, has a score of 94 which means that they have a very high and strong uncertainty avoidance in the culture. On the contrary, Canada and the USA have a much lower score with respectively 48 and 46 of uncertainty avoidance. This difference would explain part of the difference between the conclusions drawn by the authors of the reference paper and the conclusion made after the interviews with Belgian leaders. It seems that Belgian people are afraid of uncertainties which are directly related to risk taking. It would explain why most leaders interviewed got cold feet when asked about their employees taking risk, even calculated ones.

The parameter related to the "long term orientation" is also relevant regarding risk aversion. Indeed, we see on the chart that Belgium has a very high score for long term orientation (82), compared to Canada and the USA which have respectively 36 and 26. As Belgians tend to look for long term perspectives, they might also be more risk averted.

6.1.2 Incentives in Belgium

The second thing that was noticed during the interviews is the lack of incentives related to (risk-)taking initiatives. Most of the leaders that were interviewed explained that they did not have incentives and rewards to offer employees in case of innovation. Some said that they considered it but could not find an appropriate solution and others explained that seeing the cultural context in Belgium, incentives are not always well-received. According to the leaders, the problem is mainly that individual incentives and rewards are creating competition and hindering

communication between colleagues. This was not mentioned by the authors of the reference papers which can raise the question regarding cultural differences.

In his model, Hofstede has included a dimension called "individualism versus collectivism". This dimension describes the type of behavior that individuals have in society. If the culture of a country tends to be more individualistic, it means that people tend to put their own benefits and interests ahead of the group or community's interest. On the contrary, a more collectivist society is made of individuals who put the common good above their individual interests. (Hofstede, 2021)

If we look at the numbers from Figure 2 - Cultural scores in the 6D model by G. Hofstede, regarding the individualism of the 3 cultures of interest, we see some differences. Indeed, Belgium is the lowest with a score of 75, while Canada has 80 and the USA has 91. These numbers show that the three cultures are pretty close, with at most 16 points difference, between Belgium and the USA. Nonetheless, Belgium is still the lowest and if we add to these numbers the analysis of the long term orientation, it can widen the gap.
Indeed, as explained earlier, Belgium is much more long term oriented than Canada and the USA. From this perspective, it can explain why Belgian leaders would struggle to find fitting solutions for incentivizing discoveries and innovations. As Belgians are more focused on long lasting solutions, incentives for short term or punctual discoveries do not fit this logic. Also, long term relations between employees might be hurt or damaged by the implementation of rewards which could also be a parameter when it comes to decision-making on the process.

A final parameter that is important to note regarding incentivizes in Belgium is related to taxation rules. In Belgium, the tax system applied to remuneration is penalizing and can be very high when all social charges are included. This is also something that might influence leaders when considering financial rewards for employees. (Bombaerts, 2018)

6.2 Managerial dimension

6.2.1 Participative dynamic

During the interviews, the importance of involvement from the employees and the removal of hierarchical levels was often highlighted. These principles (and others) are characteristics of what is now called "participative dynamic". Participative dynamic is defined as a set of

collaborative methods and tools, based on collective intelligence in order to develop problem solving skills and make collective decisions. This also aims at improving communication and trust in the group or organization which would apply the principles. (Convidencia corp., 2021)

All the leaders interviewed emphasized the need for trust and transparency in the organization. Several of them even explained that they had restructured their firm in order to remove some hierarchical levels and had also created discussion groups and committees to facilitate communication and group decisions which in terms reinforces commitment and engagement in the teams. One of the managers said:

> *"Management through committees helps the dialogue and calm the situation as decisions are taken by the whole team and not only directors."*

Even if only one of the leader clearly talked about participative dynamic, all of them applied at least some of the basic principles dictated by this method.

This is something that is not clearly expressed in the model we developed, but yet some of our enablers match the participative dynamic principles. In this case we want to emphasize, in addition to the incorporation of all the levels, the importance of developing new management skills and involve employees in all stages of the life and the decision-making of the company. It is through such processes that a proper FLO can be incorporated in the organizational culture.

6.2.2 Positive feedback

In addition to the participative dynamic, the positive feedback is very important too. One of the interviewee highlighted this notion explaining that only saying what went wrong to the employees is not constructive and that they also need to hear the positive and be encouraged to pursue the good work.

In the theory related to positive feedback, the notion of "positive feedback loop" is often discussed. A feedback loop is "a process that 'loops' the outputs of a system back in as inputs (MonkeyLearn, 2021). A positive feedback loop in business is when the company uses the "complaints and criticisms to improve the work environment, company operations or internal functions and processes" (MonkeyLearn, 2021). This positive feedback loop is to oppose negative feedback loops that follow the same concept except that complaints and criticisms are used as a tool to hinder communication and decrease the level of satisfaction of the employees which only creates more complaints and criticisms.

What is really important is the word “feedback”. In this concept, it is through acknowledging someone’s work and developments that a feedback can be given and that someone will know where and how to improve. (Indeed, 2021)
This concept of “feedback loop” is very similar to what we described in our model as the retroactivity parameter. The goal is to create a positive snow-ball effect which would only encourage and increase positive communication, relationships and results in the organization.

6.3 Our revised model

Now that we have made all comments regarding the initial model, the analysis of the interviews and the different cultural and managerial dimensions influencing this research, the revised model must be clarified.

As explained in the proposed model, the model is built on basis of a system of maturity grids in which each level is a pre-condition or a requirement for the next one. The system works as a waterfall, going from top to bottom. Also, the model remains retroactive, which means that once the last level is reached, it goes back to the second level and, from there, works as a loop. The different levels can, theoretically, be implemented independently and do not need each other to exist. Nonetheless, each level is facilitated and eased by the previous incorporation of the precedent levels.

Our revised model is composed of 5 levels and 6 enablers. The shape of the model that is visible on Figure 3 - Our revised model is the same as the initial model.

The first level is called “Organizational commitment to learning”. The organization must incorporate, in its culture, the generalized willingness of always learning and always improving their ways. The importance of learning must be engraved in the culture of the organization but also translated into actions, with the allocation of resources and of personnel. Management must be fully committed to incorporating learning habits in the minds and the tasks of all the employees. These should also be understood and encouraged by everyone in the company.

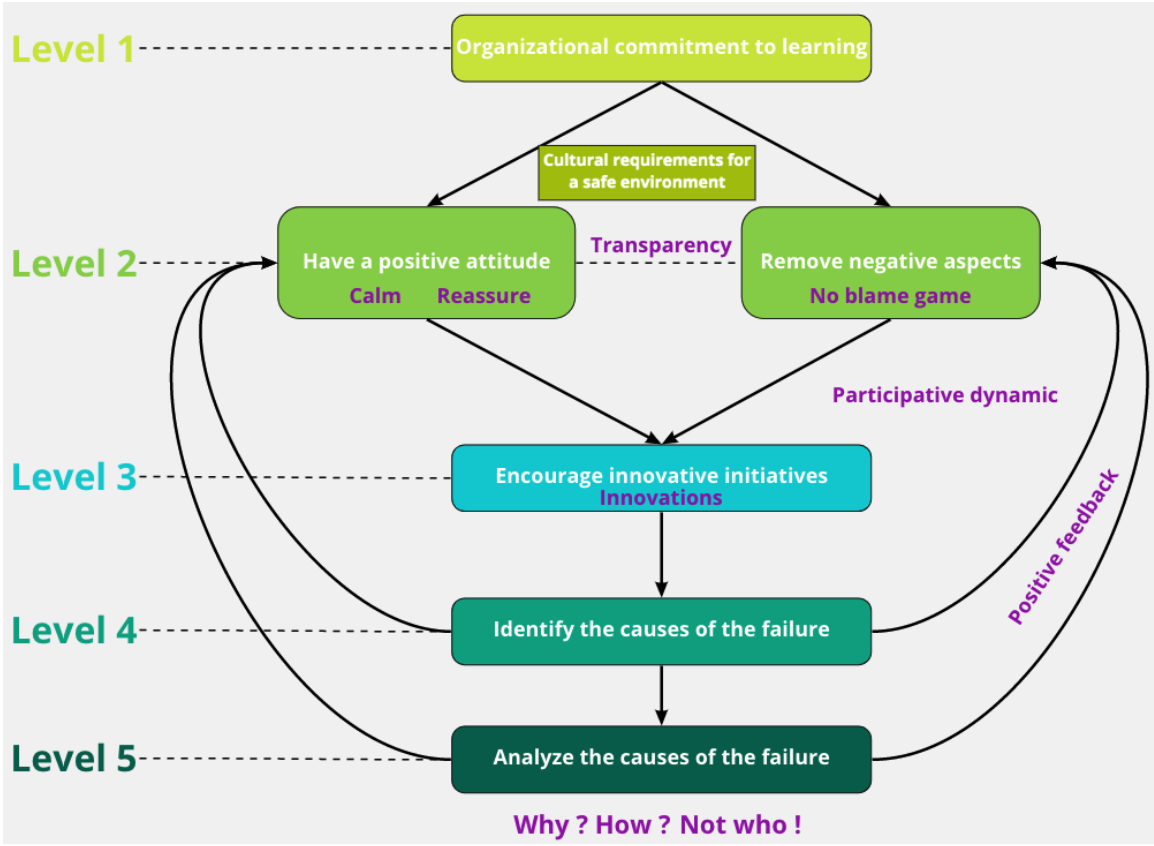


Figure 3 - Our revised model

The second level is the "Cultural requirements for the creation of a safe environment". The safe environment is built on basis of two parameters: giving a calm and positive response to failure and removing all negative aspects of the failure. To give a positive and calm response, management must be open-minded and want to open the dialogue regarding the issues that might have occurred. Reassuring the employees is also essential and must be done as a priority step before considering discussing the events. Transparency is paramount and everything, bad or good, should be shared with company members. To remove negative aspects, no individual responsibilities or blame should be given to people involved in the failure process. No punishment or actions with negative intentions should be tried. It is important for everyone to be aware of these components of the culture as they are essential for the development of the next levels.

The third level is "Encourage innovative initiatives". As the interviews have exposed it and the cultural analysis have explained it, Belgian leaders do not like the word "risk" and struggle to apply "incentives" to their organizations. Nonetheless, they seem to like innovations and productive initiatives and agree that innovating is always the best way to develop a business.

To adapt our findings from the literature to the Belgian context, we have renamed this level "encourage innovative initiatives". In this level, employees are encouraged to develop new concepts and ideas, to think outside the box and to propose solutions for improving the organization and the products and services that are offered. This is possible only because the safe environment is in place and because people feel safe to explore new opportunities.

The fourth level is "Identification of the causes of the failure". After initiatives have been taken, failure may occur. In the case of a failure, proper steps must be taken by the organization to start the learning process. The first one is the identification of the causes. To be able to learn from a failure, the organization must know what happened and where it happened. The identification is therefore an essential part. The identification is a level on its own because identifying causes does not necessarily mean analyzing them.

The fifth level is "Analysis of the causes of the failure". After the identification of the causes, it is possible for the organization to analyze, in depth, how the failure could happen. In this process, the organization must ask the right questions and focus on the "how" essentially, forgetting about the "who". This is also ensured by the previous incorporation of the safe environment, in the culture and the habits of the organization members. As some leaders have emphasized it, even if the analysis must be done in depth, to understand everything that happened, it is not necessary to be picky and get lost in details. The right approach should include a good balance between thoroughness and "overdoing" it.

This model is developed as a solution for incorporating a failure learning orientation in the organizational culture, the main focus being the learning. This is why the last step is the analysis of the causes and not the solving of the problems. The solving takes place after the analysis and as another type of process as analyzing failure causes does not always mean that we want to solve the problem, sometimes, only the learning is valuable.

Because the model is retroactive, it acts like a loop or a circle. Every time the end of the loop is reached, the cycle starts again. The first level "organizational commitment to learning" is the basis of the model and is therefore not considered as a part of the loop, since it must be permanently maintained. So the loop is mainly between the second and the fifth level (Figure 3 - Our revised model). It is thanks to the safe environment incorporated in level two that level

three, four and five can take place, but when the levels three, four and five happen, they must always refer to level two.

In addition to the enablers, important words were added to the model: calm, reassure, no blame game, transparency, participative dynamic, positive feedback, why, how and not who. Those words are the ones that we considered essential and central in the failure learning orientation approach. This is mainly to show that through this research, in the literature but also in the interviews, we have understood that building a FLO is much more than just applying a recipe. Even if the added words are not enablers themselves, they are an inevitable addition to the model and, therefore, to the culture of the organization.

7. Conclusion

7.1 Our answer to the research question

The overall goal of this paper is to answer the question: "how to incorporate a failure learning orientation in the organizational culture of Belgian companies?". To answer this question, we have, based on the literature, created a model that comprehends a list of enablers to implement in order to build such an orientation. The purely theoretical model that we built was then validated by field interviews with Belgian entrepreneurs and finally corrected to fit the Belgian culture and the reality of organizations.

To answer the research question, our analysis of the literature and the field interviews highlighted six very important enablers, separated in five levels. The role of the levels is to give an order in which the enablers should be incorporated in the culture.

The first level is made of one enabler that is called: "Organizational commitment to learning". This level is the first one in the model and is the true basis of the whole model. It is essential for each and every member of the organization to be fully involved and committed to always learning and always improving whether it is skills or habits.

The second level is "Cultural requirements for a safe environment". This level is made of two enablers. The first one is "remove negative aspects of failure", which means that no blame, responsibilities or punishment should be applied to people involved in the failure process. The second one is "give a positive response to failure". This enabler underlines the importance of reassuring employees, opening dialogue and trying to find constructive solutions to the failure situation.

The third level is made of one enabler called "Encourage innovative initiatives". On this level, what is important is that the company, especially through the management, encourages individuals to take initiatives and try to innovate. Through this process, chances will be taken at succeeding and failing but in any case, because the other levels will be well incorporated before that, any failure will be used to learn.

The fourth level is also made of one enabler which is “Identify the causes of failure”. After having taken initiatives which may fail, the company should be committed to identifying what went wrong. The identification is essential as it is the beginning of the learning process.

The final level and enabler is “Analyze the causes of failure”. It is the following step after the identification. Once all causes are identified, the organization must plan some time to analyze, in-depth, the different causes and understand why the failure could occur in order to not reproduce it. As the model was built on a retroactive basis, once the cycle is over, it starts over and over again. Over time, all the enablers are so deeply incorporated in the culture that the levels will tend to disappear and every step will be done naturally.

As it has been underlined many times in this paper, the shift towards a failure learning orientation is a shift that must be cultural and global. The addition of other practices such as participative dynamic or positive feedback ensure the success of such a shift and coherence in the management style.

This is through the incorporation of a model such as ours that we believe that Belgian organizations will be able to learn from their failure to the point where all failures will be considered more as investments than real mistakes. On the long term, organizations should be able to only face intelligent failures, triggered on purpose, through innovation and withdraw a lot of learning from it. This is through such behaviors that organizations will develop their learning capabilities, be performant and stay competitive on the long run in the current challenging business world.

7.2 Limitations

One of the main limitations to our model is its cultural dimension. The differences between the literature based on North American interviews and the interviews conducted in Belgium showed that between two cultures, small things can differ and the model must be adapted. If our model is applied to a different country, it might also need to be slightly changed to fit the culture of the other country.

Another limitation is the lack of literature. Failure learning orientations have been discussed since the 70’s but it took some time for different authors to get interest in the subject and for

main theories to be developed. Nowadays, some main authors are covering the subject (G. A. Wilson, A. Edmondson, M. Cannon, L. Argote, …) but the topic is not yet very popular. When conducting an analysis such as this one, the lack of sources is also a challenge because it is difficult to have a wide basis of information.

Finally, we must notify that no woman could be interviewed for the purpose of this paper. We searched to interview at least one but it was impossible to find within the time frame we had. It would have been interesting to have a female opinion as one of our reference paper is focused on a female perspective[13]. Nonetheless, the characteristic that was especially identified by the authors as a feminine feature: the positive and reassuring response to failure, was also validated by most of the male interviewees.

7.3 Future research

Researches on « failure learning orientations » have firstly been descriptive as authors tried to explain how and why companies fail and how and why companies learn. After that, authors have started to describe how to learn from failure and have been building models. This is what our model is the closest to as it gives an overview on how to incorporate a failure learning orientation in the organizational culture. What should be done in the future is to propose solutions for the implementation, with practical advice on specific actions. This is the main next step that should be taken in the future.

Another type of research that could be done in the field would be to focus on particular sectors. The technology sector has been covered by several authors (Wilson, Edmondson, …) because it is a sector where innovations are dominant and where real steps can be taken to learn from failed projects. Other sectors such as the financial or the medical sector could be of interest as they face different risks but might also offer high levels of innovations and discoveries. In those sectors, having good FLO's would also save a lot of cost on the long-run and for the medical sector in particular, it might save lives.

[13] Wilson and Broderick (2020).

Appendices

Appendix I – List of interviewees

Interviewee number	Position	Date of interview	Length of interview	Company size	Year of troubles
P1	CFO	06/04/2021	40 minutes	SME	2018
P2	CEO	13/04/2021	40 minutes	SME	2014
P3	General director	15/04/2021	1 hour and 25 minutes	SME	2018
P4	General director	20/04/2021	55 minutes	SME	2005
P5	CEO	20/04/2021	1 hour	SME	2012-2018
P6	CEO	29/04/2021	50 minutes	SME	2019

Appendix II – Questionnaire for the interviews

1. In what context and when did you face failure as a company leader?

Commitment to learning

2. How important is continuous learning/improvement for you in general?
3. How important is continuous learning/improvement in your company?
4. What resources do you allocate to learning in your company?
5. What has changed in your behavior, as a leader, since you faced failure?

Remove negative aspects of the failure

6. How important are individual responsibilities when you face failure?
7. How do you analyze responsibilities?
8. What about the mangers' responsibilities in the failure?
9. How do you respond once responsibilities are identified?
10. What do you think of punishments for employees involved in a failure?

Give a positive response to failure

11. What is your first reaction/emotion when you hear the word "failure"?
12. How important is that first reaction/emotion for you?
13. How do you deal with your emotions when you face failure?
14. How do you open the dialogue regarding failure?
15. What is your position compared to the employees during those discussions?

Incentivize risk-taking initiatives

16. How would you describe your profile towards risk-taking (perception, attitude and behavior)?
17. How do you encourage risk-taking or innovation for your employees?
18. How important is innovation in your company?

Identification and analysis of the failure causes

19. When you face failure, how do you identify the causes of it?
20. What level of analysis do you apply to these causes?
21. What answer do you give to the causes?

Final question

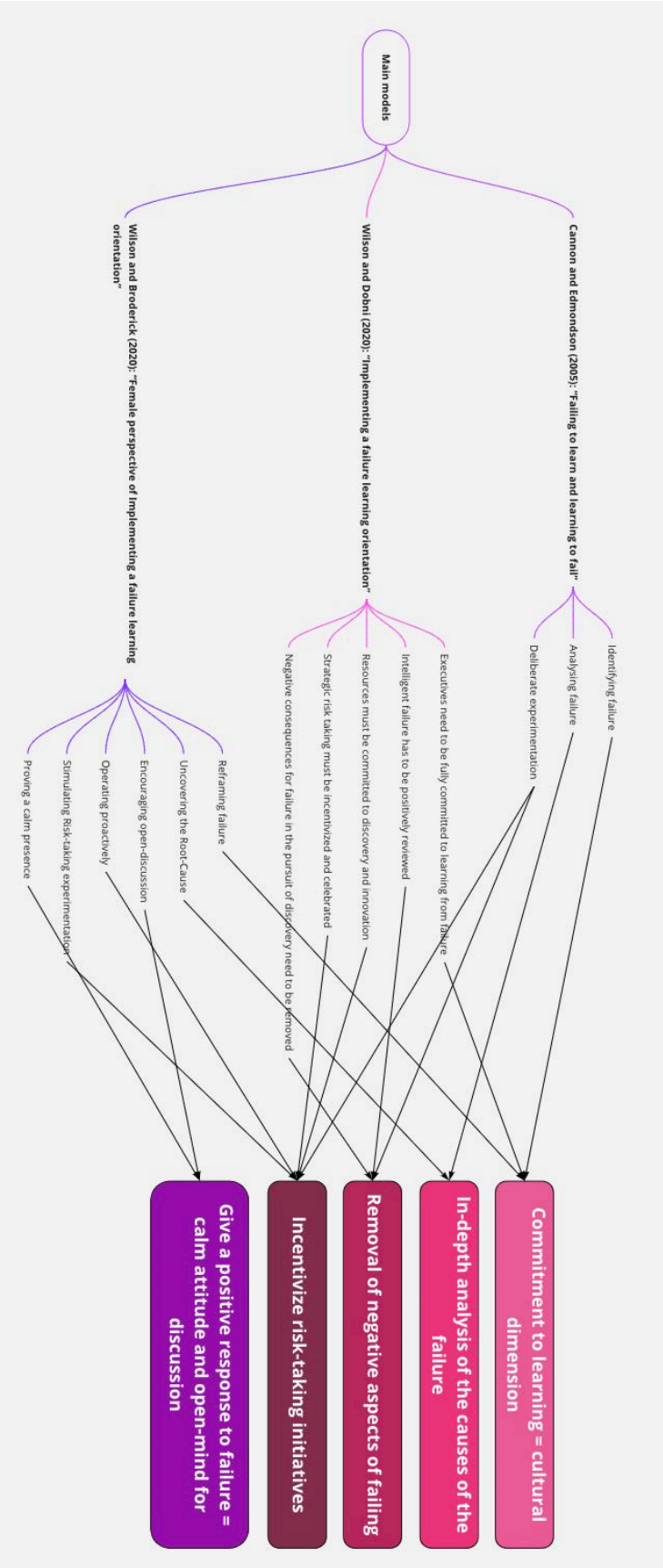
22. Is there anything we have not talked about that you think is important to take into account when dealing with failure?

Appendix III – Table 2 from Cannon and Edmondson (2005)

Table 2. Reframing the Traditional Managerial Mindset for Learning

	Traditional Frame	Learning-oriented reframe
Expectations about failure	Failure is not acceptable	Failure is a natural byproduct of a healthy process of experimentation and learning
Beliefs about effective performance	Involves avoiding failure	Involves learning from *intelligent failure* and communicating the lessons broadly in the organization
Psychological and interpersonal responses to failure	Self-protective	Curiosity, humor, and a belief that being the first to capture learning creates personal and organizational advantage
Approach to leading	Manage day-to-day operations efficiently	Recognizing the need for spare organizational capacity to learn, grow and adapt for the future
Managerial focus	Control costs	Promote investment in future success

Appendix IV – Scheme used to build the deductive model



Bibliography

Alegre, J., & Chiva, R. (2013). Linking Entrepreneurial Orientation and Firm Performance: The Role of Organizational Learning Capability and Innovation Performance . *Journal of Small Business Management, 51*(4), 491-507. https://doi.org/10.1111/jsbm.12005

Argote, L. (2011). Organizational Learning Research: Past, Present and Future. *Management Learning*, 439-446. doi: 10.1177/1350507611408217

Argote, L. (2013). *Organizational Learning - Creating, retaining and transferring knowledge* (2nd Edition). New York: Springer New York Heidelberg Dordrecht London.

Bennett, N., & Lemoine, G. (2014). What a difference a word makes: Understanding threats to performance in a VUCA world. *Business Horizons*, http://dx.doi.org/10.1016/j.bushor.2014.01.001.

Bombaerts, J-P. (2018). La Belgique, championne de la taxation du travail. L'Echo. Retrieved from : https://www.lecho.be/economie-politique/belgique/general/la-belgique-championne-de-la-taxation-du-travail/10006005.html

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*, 299-319. doi:10.1016/j.lrp.2005.04.005

Cao A. (2020). A Critique of Hofstede's 6-D Model from a UX perspective. Medium.com. Retrieved from: https://medium.com/internationalux/a-critique-of-hofstedes-6-d-model-from-a-ux-perspective-e75649ada4ba

Cardon, M. S., Stevens, C. E., & Potter, R. D. (2011). Misfortunes or mistakes? Cultural sensemaking of entrepreneurial failure. *Journal of Business Venturing, 26*, 79-92. doi:10.1016/j.jbusvent.2009.06.004

Convidencia corp. (2021). Convidencia – La dynamic participative. Convidencia.com. Retrieved from: https://www.convidencia.com/approche/outils/dynamique-participative/

Cope, J. (2011). Entrepreneurial learning from failure: An interpretative phenomenological analysis. *Journal of Business Venturing, 26*, 604-623. doi:10.1016/j.jbusvent.2010.06.002

Crutzen, N., & Van Caillie, D. (2008). The Business Failure Process : An Integrative Model of the Literature. *Review of Business Economics, 3*, 288-316. http://hdl.handle.net/2268/6551

Crutzen, N., & Van Caillier, D. (2010). Towards a Taxonomy of Explanatory Failure Patterns for Small Firms: A Quantitative Research. Review of Business Economics, 4, 438-463. http://hdl.handle.net/2268/75694

Dobni, C. B., & Sand, C. (2018). Strategy shift: Integrating strategy and the firm's capability to innovate. *Business Horizons, 61*, 797-808. doi: 10.1016/j.bushor.2018.06.002

Edmondson, A. C. (2011). Strategies for Learning from Failure. *Harvard Business Review*.

Everett, J., & Watson, J. (1998). Small Business Failure and External risk factors. *Small Business Economics, 11*, 371-390.

Fredland, E., & Morris, C. (1976, July). A Cross Section Analysis of Small Business Failure. *American Journal of Small Business, 1*, 7-18.

Horváthová, J., & Morkrisová, M. (2018). Risk of Bankruptcy, Its Determinants and Models. *Risks, 6*, 117-139. https://doi.org/10.3390/risks6040117

Hurley, R., & Hult, G. (1998). Innovation, market orientation, and organizational learning: An integration and empirical examination. *Journal of Marketing, 62*, 42-54. doi:10.2307/1251742

Indeed (2021). Indeed - Career guide: Your guide to positive feedback loops. Indeed.com. Retrieved from: https://www.indeed.com/career-advice/career-development/positive-feedback-loop

Hofstede G. (2021). Geert Hofstede – The 6-D model of national culture. Geerthofstede.com. Retrieved from: https://geerthofstede.com/culture-geert-hofstede-gert-jan-hofstede/6d-model-of-national-culture/

Hofstede Insight (2021). Hofstede Insight – Country comparison. hofstede-nsight.com Retrieved from: https://www.hofstede-insights.com/country-comparison/belgium,canada,the-usa/

Kamto Kenmogne, M. (2020). Resilience Engineering course [Slides].

Maier, A., Moultrie, J., & Clarkson, P. (2012). Assessing Organizational Capabilities: Reviewing and Guiding the Development of Maturity Grids. *Transactions of engineering management, 59*, 138-159. doi:10.1109/TEM.2010.2077289

McGrath, R. G. (1999). Failing Forward: Real Options Reasoning and Entrepreneurial Failure. *Academy of Management Review, 24*(1), 13-30. doi:10.5465/AMR.1999.1580438

Miller, D. (1977). Common syndromes of Business Failure. *Business Horizons*, 43-53. doi:10.1016/0007-6813(77)90024-6

MonkeyLearn (2021). MonkeyLearn blog. Monkey Learn. Retrieved from: https://monkeylearn.com/blog/feedback-loop/

Pretorius, M. (2008). Critical Variables of Business Failure: A review and Classification Framework. *Sajems NS, 11*(4). doi:10.4102/sajems.v11i4.268

Real, J. C., Roldan, J. L., & Leal, A. (2014). From Entrepreneurial Orientation and Learning Orientation to Business Performance: Analysing the Mediating Role of Organizational

Learning and the Moderating Effects of Organizational Size. *British Journal of Management, 25*, 186-208. https://doi.org/10.1111/j.1467-8551.2012.00848.x

Richards, L., & Morse, J. (2013). *README FIRST for a User's Guide to Qualitative Methods.* Los Angeles, CA: SAGE Publications.

Saylordotorg (2021). Inductive or Deductive? Two Different Approaches. Saylordotorg.io. Retrieved from: https://saylordotorg.github.io/text_principles-of-sociological-inquiry-qualitative-and-quantitative-methods/s05-03-inductive-or-deductive-two-dif.html

Senge, P. (1990). The leader's new work: building learning organizations. *Sloan Manage, 32*, 7-23.

Shepherd, D. (2003). Learnign From Business Failure: Propositions of Grief Recovery For the Self Employed. *Academy of Management Review, 28*(2), 318-328. https://doi.org/10.2307/30040715

Shepherd, D. (2013). How do we learn from failure. *TED Conferences (https://www.youtube.com/watch?v=IDixuVrDABY&t=394s)*. Retrieved from TED Conferences: https://www.youtube.com/watch?v=IDixuVrDABY&t=394s

Starbuck, W. H., & Baumard, P. (2005). Learning from Failures: Why It May Not Happen. *Long Range Planning, 38*, 281-298. doi:10.1016/j.lrp.2005.03.004

Wagner III, J. A., & Gooding, R. Z. (1997). Equivocal Information and Attribution: An Investigation of Patterns of Managerial Sensemaking. *Strategic Management Journal, 18*(4), 275-286. https://doi.org/10.1002/(SICI)1097-0266(199704)18:4<275::AID-SMJ880>3.0.CO;2-V

Weitzel, W., & Jonsson, E. (1989). Decline in Organizations: A literature Integration and Extension. *Administrative Science Quarterly, 34*, 91-109. https://doi.org/10.2307/2392987

Wilson, G. A., & Broderick, J. E. (2020). Female Perspective of Implementing a Failure Learning Orientation. *Journal of Innovation Management*, 109-123. https://doi.org/10.24840/2183-0606_008.003_0007

Wilson, G. A., & Dobni, B. C. (2020). Implementing a failure learning orientation. *The international Technology Management Review, 9*(1), 27-33. https://doi.org/10.2991/itmr.k.200319.001

Zhao, Y., Li, Y., Lee, S. H., & Chen, L. B. (2011). Entrepreneurial Orientation, Organizational Learning, and Performance: Evidence From China. *E T & P*. doi: 10.1111/j.1540-6520.2009.00359.x

Table of content

Executive summary – En français

Dans un monde des affaires qui est volatile, incertain, complexe et ambigu (VUCA, en anglais), les entreprises doivent plus que jamais être réactives aux risques imprévus. En développant des orientations d'apprentissage par l'échec, les entreprises se dotent de la capacité de répondre à divers risques et à leurs conséquences. Lorsqu'il est maîtrisé, l'apprentissage par l'échec peut devenir un avantage concurrentiel pour les organisations sur les marchés compétitifs, tandis que la gestion des risques devient partie intégrante de la culture organisationnelle.

Ce travail se concentre sur les orientations de l'apprentissage par l'échec et sur la manière d'intégrer ces orientations dans la culture organisationnelle. Les auteurs ont développé des recherches sur l'orientation de l'apprentissage par l'échec depuis les années 70, en essayant notamment de comprendre les causes de l'échec et leurs implications. Plus récemment, la littérature a commencé à se concentrer sur la façon de concevoir ces orientations dans toutes les cultures organisationnelles (Cannon et Edmondson (2005), Wilson et Dobni (2020), Argote (2013), Cardon, Steven et Potter (2011), ...).

L'approche suivie dans ce mémoire est une approche déductive. Elle consiste à collecter les résultats importants de la littérature existante sur le sujet et à déduire un modèle sur cette base, qui est ensuite évalué par des entretiens de terrain. Ce modèle intègre une liste de facteurs favorables que les dirigeants d'organisations devraient inclure dans leur culture organisationnelle pour offrir une meilleure réponse à l'échec et en tirer des leçons.

Dans la littérature, trois articles principaux sont identifiés comme des sources clés pour construire un modèle sur la façon de concevoir une orientation d'apprentissage par l'échec. Sur la base de ces trois articles, nous avons identifié 5 facteurs importants à suivre pour créer une orientation d'apprentissage par l'échec dans la culture organisationnelle. Grâce aux entretiens sur le terrain, les cinq catalyseurs ont été revus et améliorés pour devenir : l'engagement de l'organisation envers l'apprentissage, la création d'un environnement sûr (fournir une réponse positive et mettre fin aux reproches), encourager les initiatives innovantes, identifier les causes de l'échec et analyser les causes de l'échec. Ces catalyseurs, incorporés dans un ordre stratégique, sont considérés comme la première étape de l'incorporation d'une orientation d'apprentissage par l'échec dans la culture organisationnelle.

Executive summary – In English

In a volatile, uncertain, complex and ambiguous (VUCA) business world, organizations need more than ever to be responsive to unpredicted risk. While developing failure learning orientations, organizations are building the capacity to respond to various risk and their consequences. When mastered, failure learning can become a competitive advantage for organizations in competitive markets while risk management becomes part of the organizational culture.

This paper focuses on failure learning orientations and on how to incorporate such orientations as a part of the organizational culture. Authors developed researches about failure learning orientation since the 70's, trying notably to understand the causes of failure and their implications. More recently, the literature has started to focus on how to design these orientations in all organizational cultures (Cannon and Edmondson (2005), Wilson and Dobni (2020), Argote (2013), Cardon, Steven and Potter (2011), …).

The approach followed in this thesis is a deductive one. It involves the collection of important findings from the existing literature on the topic and deducts a model on basis of it, which is later evaluated by field interviews. This model integrates a list of enablers that leaders of organizations should include in their organizational culture to offer a better response to failure and learn from it.

In the literature, three main papers are identified as key sources for building a model on how to design a failure learning orientation. Based on those 3 papers but also on other very insightful papers in the literature, we have identified 5 important enablers to follow in order to design a failure learning orientation in the organization culture. Thanks to the field interviews, the five enablers have been reviewed and improved to become: organizational commitment to learning, creation of a safe environment (provide a positive response and end the blame game), encourage innovative initiatives, identify the causes of failure and analyze the causes of failure. This enablers, incorporated in a strategic order, are considered as the first step to the incorporation of a failure learning orientation in the organizational culture.