The Organizational Journey to Learning Based on Failure

Study Board for MSc of Social Science:

Program: Organizational Innovation & Entrepreneurship
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Assignment: Master Thesis
Hand-in Date: October 31st 2014
Number of: Pages 118 Characters 264,762

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Copenhagen Business School 2014
Abstract

While organizational learning is at the forefront of all companies’ processes in order to succeed, a topic such as failure can either be praised as a miraculous learning experience, or dismissed as a bump in the road. However, what is the true knowledge that can be harnessed from observing your failures and which processes should be utilized to maximize your learning capabilities?

The purpose of this research is to examine how organizations can improve their learning capabilities through failure. Our aim is to present a scientific understanding of the relationship between failure and organizational learning, allowing organizations to better understand this accord in order to grow their capabilities. Our exploration of the discussion of failure has revealed three key elements which provide momentous influence on learning from failure.

This thesis will demonstrate that culture, experimentation and management are three important factors, which helps facilitate how organizations can learn through failure. These elements reflect one dimension of our research. The second dimension is constituted by organizational learning theories. Together they create the basis for our scientific analysis of the case companies, and hence an understanding of how organizations can learn from failure.

Through theoretical discussions involving organizational learning theories it was concluded that organizational culture has a critical influence on a company’s capabilities to learn from failure. Furthermore by integrating processes which incorporate experimentation an organization is able to analyze and interpret what critical factors influence the company and will provide the strongest learnings to be dissected. However managerial influence is viewed to have a pervasive influence on changing the societal aversion many feel to failure, aligning the company culture to the organizations learning strategy is the culminating step in order to learn from failure.
**Contents**

Abstract .......................................................................................................................................................... 2  
Chapter I: Introduction ................................................................................................................................. 5  
  Research Question .................................................................................................................................. 6  
  Hypotheses ............................................................................................................................................. 6  
Research philosophy ................................................................................................................................. 7  
Reading Guide ......................................................................................................................................... 8  
Chapter II: Literature Review ..................................................................................................................... 8  
  Terminology ........................................................................................................................................... 9  
    Hierarchy of Failure .............................................................................................................................. 9  
    Smartfailing ......................................................................................................................................... 10  
    Fail Fast Forward .............................................................................................................................. 11  
    Intelligent Fast Failure .................................................................................................................... 12  
    Intelligent Failure ............................................................................................................................ 13  
Overarching Themes within Literature ..................................................................................................... 14  
  Societal Issue ....................................................................................................................................... 14  
  Process & Experimentation ................................................................................................................... 15  
  Timing ................................................................................................................................................... 25  
  Feedback ............................................................................................................................................... 27  
  Managerial Influence .......................................................................................................................... 29  
Findings ..................................................................................................................................................... 33  
Our View on Failure ................................................................................................................................. 34  
Chapter III: Theoretical Framework ......................................................................................................... 35  
  Cultural Perspective ............................................................................................................................. 36  
    Schein's Organizational Culture Model ............................................................................................ 37  
    Schneider's Culture Model ............................................................................................................. 39  
  Action Learning Perspective .................................................................................................................. 42  
    Kolb's Experiential Learning Cycle ................................................................................................. 43  
    Single-Loop Learning ...................................................................................................................... 45  
  Cognitive and Knowledge Perspective ................................................................................................. 47  
    Double-Loop Learning Theory ....................................................................................................... 47  
    Theories of Action and Model I & Model II .................................................................................... 49  
Organizational Knowledge Creation Theory ............................................................................................ 53
<table>
<thead>
<tr>
<th>Chapter IV: Methodology</th>
<th>55</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Strategy</td>
<td>55</td>
</tr>
<tr>
<td>Research Approach</td>
<td>56</td>
</tr>
<tr>
<td>Research Design</td>
<td>57</td>
</tr>
<tr>
<td>Choice of Cases</td>
<td>61</td>
</tr>
<tr>
<td>Data Collection</td>
<td>63</td>
</tr>
<tr>
<td>Data Analysis</td>
<td>65</td>
</tr>
<tr>
<td>Chapter V: Case Analysis</td>
<td>66</td>
</tr>
<tr>
<td>Case 1: 3M</td>
<td>66</td>
</tr>
<tr>
<td>Company Introduction</td>
<td>66</td>
</tr>
<tr>
<td>Company Culture &amp; Societal Issue</td>
<td>68</td>
</tr>
<tr>
<td>Experimentation</td>
<td>72</td>
</tr>
<tr>
<td>Managerial Influence</td>
<td>73</td>
</tr>
<tr>
<td>Strategy: The Autonomy Strategy</td>
<td>76</td>
</tr>
<tr>
<td>Case 2: Johnson &amp; Johnson</td>
<td>77</td>
</tr>
<tr>
<td>Company Introduction</td>
<td>77</td>
</tr>
<tr>
<td>Company Culture &amp; Societal Issue</td>
<td>79</td>
</tr>
<tr>
<td>Experimentation</td>
<td>84</td>
</tr>
<tr>
<td>Managerial Influence</td>
<td>86</td>
</tr>
<tr>
<td>Strategy: The Decentralization Strategy</td>
<td>88</td>
</tr>
<tr>
<td>Case 3: Coca-Cola</td>
<td>90</td>
</tr>
<tr>
<td>Company Introduction</td>
<td>90</td>
</tr>
<tr>
<td>Company Culture &amp; Societal Issue</td>
<td>92</td>
</tr>
<tr>
<td>Experimentation</td>
<td>96</td>
</tr>
<tr>
<td>Managerial Influence</td>
<td>98</td>
</tr>
<tr>
<td>Strategy: The Contextual Strategy</td>
<td>101</td>
</tr>
<tr>
<td>Chapter VI: Discussion</td>
<td>104</td>
</tr>
<tr>
<td>Hypothesis 1</td>
<td>104</td>
</tr>
<tr>
<td>Hypothesis 2</td>
<td>108</td>
</tr>
<tr>
<td>Hypothesis 3</td>
<td>110</td>
</tr>
<tr>
<td>Chapter VII: Conclusion</td>
<td>113</td>
</tr>
<tr>
<td>Limitations &amp; Further Research</td>
<td>117</td>
</tr>
<tr>
<td>Bibliography</td>
<td>119</td>
</tr>
<tr>
<td>Appendix 1</td>
<td>132</td>
</tr>
</tbody>
</table>
Chapter I: Introduction

A significant element of organizational success is based on learning from failure (Forbes, 2012). This thesis will demonstrate that culture, experimentation and management are three important factors, which helps facilitate how organizations can learn through failure.

While we live in a society that rewards successes and rejects failures, we are interested in examining the crucial learning opportunities that are being deserted when a failure is forsaken. According to Josh Bersin, Forbes, “companies now realize that they simply cannot find the skills they need in the workforce and have to reinvest heavily in corporate training.” (Bersin, 2012). This supports our belief that learning is vital for organizational success. The elusiveness around failure as well as the understanding presented in the article by Bersin caught our attention, and sparked our aim for researching this field. Furthermore, he highlights “learning from mistakes” as one of the five key elements to success in building a learning organization (2012). Hence, this statement further strengthened our curiosity for understanding the relationship between learning and failure.

We have observed an acknowledgment, that failure can provide important learnings for an organization; however there is a lack of understanding, which elements that are most important for the organization to focus on, in order to improve their learning capabilities from failure. This sentiment is further supported by Amy Edmondson of Harvard Business School; “The attitudes and activities required to effectively detect and analyze failures are in short supply in most companies, and the need for context-specific learning strategies is underappreciated” (Edmondson, 2011). Based on the notion, that learning is the root to organizational success, and that failure provides an indispensable learning opportunity for organizations to explore, we are particularly interested in acquiring a scientific understanding of how organizations can learn from failure. Therefore, the primary topics of this research are failure and organizational learning. These will guide the following research on our empirical focus of failure, and create the framework of which we will be operating in.
Research Question

As companies continue to adapt to the rapidly changing business environment, they must adjust their learning processes in order to optimize capabilities and thus operations. It is our understanding, that failures encompass great learning opportunities for companies to exploit, and hence become more versatile within their industry. Therefore, our research question is as follows:

RQ: How can organizations improve their learning capabilities through failure?

In order to answer above research question, we have created three hypotheses, which will be stated and described in the following. These hypotheses are established on the basis of our research question, and will therefore be supporting in the search for the concluding answer to this research.

Hypotheses

In order to gain an understanding of failure and how it relates to organizations, we set out with three core interests. We wanted to understand to what extent failure affected the employees and if there was a socio-cultural bias to failing. We were curious to understand if employees enter organizations with the understanding that failure is a bad thing, and if yes, how organizations change through their internal culture? Or is individuals’ perception of failure different from each other, and the organization just needs to understand those who are more risk averse? Therefore:

Hypothesis 1: The organizational culture can mitigate employees’ perception of failure.

Based on this we wanted to understand if failure did have some social context, then what processes could an organization put into place in order to harness learning’s from failure. It was our personal understanding, that failures offer an important point where organizations can generate learning’s. However, we were extremely interested in which processes could affect an organization’s ability to learn from failure. Therefore:

Hypothesis 2: If failure affects organizational learning, a process of experimentation can be applied to generate learnings.
From this departure we wanted to then divulge into what management’s influence is in this equation. It was our opinion, that management has a significant influence on how their organization responds to failure and which possibilities are greatest to learn from failure. Therefore:

Hypothesis 3: If management imposes a system to learn, the organization can evolve their capabilities.

We will use these hypotheses to guide our research into the topic of failure as well as the interaction organizational learning has on the companies. Through this research we expect to have a discussion relating to the different case companies and how they deal with failure, and will relate the information within the analysis to these hypotheses.

Research philosophy
The research philosophy is the predominant understanding concerning development of knowledge and its nature. This is embedded in the understanding of ‘why research?’, and is fundamental in the science of research. It reflects the researcher’s perspectives on concepts of ontology, epistemology and human nature. Furthermore, it supports our understanding and knowledge about the research topic based on clarification of methods on conducting studies in an effective manner. Therefore, the following will reflect our research philosophy for this research.

This research is constructed as an interpretive research, based on the philosophy that social reality is socially constructed, and that theories are considered decent if they include understanding and meaning, rather than merely deductive explanation. The core belief of this philosophy is that the business environment is too complex to be framed in theories, like it is often done within the natural sciences. Additionally, it is implicit that there are multiple truths and meanings, which are suitable for all scenarios (Johnson & Christensen, 2010). The interpretative approach is primarily explorative in its purpose, which allows us to discover and explore the research object. Another fundamental assumption in the interpretive philosophy is the existence of the hermeneutic circle (Gadamer, 2004), which is based on the idea that data and concepts cannot be
understood without theory and context. Therefore, we have chosen to explore the discussion revolving around failure in the organizational sphere, in order to detect patterns or synergies that establish the foundation for further research and analysis.

**Reading Guide**

This research is conducted in the following manner, and is to be read and understood in the subsequent order. We have divided this thesis into six chapters as follows;

1. **Introduction**
2. **Literature Review**
3. **Theoretical Framework**
4. **Methodology**
5. **Analysis**
6. **Discussion & Conclusion**

Initially, we observe the discussion revolving around failure in chapter 2, in order to determine the key themes and elements in learning from failure. This observation is followed by an assessment of relevant organizational learning theories in relation to three elementary perspectives in chapter 3, as well as a presentation and explanation of the methodological choices in this research in chapter 4. Hereafter, on the basis of a matrix structure created based on the most prominent themes of the discussion and above-mentioned theories, we will analyze the organizational strategies of the three case companies in chapter 5. Lastly, this allows us to compare their strategies in order to answer our hypotheses and research question in chapter 6.

**Chapter II: Literature Review**

In order to fully comprehend the discussion and field of research, it is central to understand the underlying assumptions and various definitions of the term failure. We will not be presenting a documented historical understanding of how failure has grown to affect organizational learning in business today. However, we will be presenting an understanding of failure, on the basis of what we have seen in the discussion within both the professional and scholarly fields. Our intention of providing insights from both the professional and scholarly discussion is to make our research more robust and to understand the differences between the two. Initially, we will be presenting an
understanding of terminology used, followed by requiring themes that were present throughout the literature, and will conclude with our own definition of failure.

**Terminology**

The following section is based on a dissection of the terminology, which is being used within the professional and scholarly discussion. We will introduce some of the prominent individuals, who have worked with the term failure. By exploring their credentials and discussing their contributions to the field, we seek to convey to the reader a stronger understanding of failure and its relevance to business. This section will ultimately help explain what the different phrases stands for, which are being used to discuss failure, and their correlations.

**Hierarchy of Failure**

Tim Kastelle, co-writer of the Innovation Leadership Network blog and a member of the Technology & Innovation Management Centre at the School of Business at the University of Queensland, constructed the hierarchy of failure, which will be examined in the following. Kastelle works with types of failure in a hierarchical structure to describe the different levels on which failures exists in business. This hierarchy begins with the broad picture on the societal level, and narrows down to the idea level focusing on individually failed ideas. System failure is the largest type of failure, whereas the collapse of the communism is an example. Hereafter is system component failure, which is referring to the crashes on the stock market, followed by what is named the major firm failure and exemplified by i.e. the Enron Corporation going bankrupt. Next, the start-up failure is rather similar to the major firm failure; however size is where they differ. Finally, the last two types of failure are both related to failure on the micro-organizational level, being product failure and idea failure. The difference between the two is primarily based on actual production of the product. An example of a product failure was seen in Coca-Cola’s attempt to launch a new Coke. Despite focus group interviews to clarify prospects, the company ignored the results of this research and launched the new coke, which they had to retract again within a few months. There is a likelihood that this example was a failure, due to lack of reporting and thereby tracking of failures. According to Kastelle, what he names the idea failure has many dimensions as for instance samples,
expectations and suppositions can fail to work as predicted. Built on Kastelle’s hierarchy of failure, Stefan Lindegaard emphasizes the ability to kill ideas or products to avoid greater failures such as a major firm failure (Kastelle, 2010). This point of view is elaborated further in the following sections revolving around Smartfailing and Intelligent Fast Failure. However, Kastelle states the following; “Theories are built on many failed ideas in the form of experiments, business models are built on many failed ideas in the same way. We build the big ideas on top of a foundation of failed ideas. In other words, failing at the lowest level and learning from it is the best way to avoid failing at the higher levels” (Kastelle, 2010). This emphasizes the need for failing early and fast, which is supported by both professionals and scholars. Adding to the hierarchy of failure, Kastelle proposes to include the business model failure as an extra level based on the following argument; “a lot of innovation revolves around finding a new way to do business and, certainly, lots of failure occurs there, too. This is different than start-up failure because often start-ups are following old business models that have succeeded elsewhere” (Kastelle, 2010).

**Smartfailing**
Stefan Lindegaard is a Copenhagen based author, speaker and strategic advisor in regards to innovation culture/management among other fields, and represents a consultant’s perspective on the subject. His work is revolving around how organizations can innovate and adapt to changing environments. He encourages an embracing attitude towards failure, supported by the aim for creating organizational learning based on failures. We did an unstructured telephone interview with Stefan Lindegaard in regards to his work on failure, and his perception of how organizations can increase their learnings from failures. He was able to confirm companies’ inability to accept failures in their processes, and warned us to be cautious when contacting companies, as they are generally hesitant due to the nature of the word failure. This telephone interview can be viewed in Appendix 1 for a further understanding of Lindegaard’s contributions within the failure discussion.

Stefan Lindegaard has developed a concept entitled “Smartfailing”, which represents that when things go wrong (as they frequently will, according to Lindegaard), a
Smartfailing organization does not focus its energy on assigning blame and doling out consequences. Instead, the Smartfailing organization de-stigmatizes failure and uses failure as an opportunity to learn and to find a better course (Lindegaard, 2013). With this understanding, Stefan works with organizations and is trying to harvest a more nurturing relationship with failure through the term “Smartfailing”.

From a professional perspective, the “Smartfailing” concept is viewed as extremely functional. The key aspects of this term is identifying that failures happen, and the faster an organization can understand the inevitability of failure, within the pursuit of innovation, the better they will be at adapting to change. As mentioned in the distinction between definitions of failure, it is not failure that is driving innovation, but the learnings that can be encompassed with failure. Furthermore, Smartfailing is trying to draw away the social stigma of failure as being a negative term. Smartfailing helps represent that the process within an organization can be progressive. This change in terminology is additionally explored within the subsequent section, where a distinguished business professional changed the term failure within her organization.

**Fail Fast Forward**

Carol Bartz presented a term that her previous company Autodesk, a multinational software corporation making software for the architecture, engineering, construction, manufacturing, media, and entertainment industries, uses in their processes named “Fail Fast Forward”. The term was used to counter a fear of failure within an organization as explained by Bartz; “I’m trying to break free those of you who are afraid to make a change. And so Fail Fast Forward became a real rallying cry inside the company saying that, in fact let’s move” (Bartz, 2012). Her sentiment is that the company’s view on failure is accepting, and when mistakes happen make sure they can be identified quickly, ideally being recognized in a forward motion, and then continue with the project trying again and again. This is an attempt to break free from those who are worried about risk-taking. Carol finds it important to take enough risk, so that you will allow yourself to actually have a chance of failing. In a conversation with Wharton graduate students, Carol mentioned that, “It’s like the old saying, ‘You can’t really learn to ski if you don’t fall down, Just try and recognize your failures as fast as possible and then move forward”
(Bartz, 2012). Her concept became a motto within the organization; getting people to think a little differently and approach situations in a new light. She acknowledges that miscommunication within projects happen in a large multinational organization, but by having the understanding that failure is acceptable she is bestowing her employees to be more creative, and take risks that counter normal corporate red tape.

This example of Fail Fast Forward set forth by Carol within the professional field is showing that CEO’s and management are looking to learn from failure and accept it, however they are not pinpointing a set mandate on how an organization could take learnings into account for their day-to-day operations. The professional discussion heavily revolves around identifying the importance of failure, but lack an implementation of, for instance, Fast Forward Failure. However, the mandate being set down from top management is a key aspect to incorporating learning from failures, which will be discussed further at a later point in this research.

**Intelligent Fast Failure**

Dr. Jack Matson has been a pioneer on the failure and innovation discussion, and came about his understanding of creativity and innovation through interactions with his students. He presents a scholarly view on the subject based on his work with innovation, creativity and knowledge. Through observation of students’ behavior in brainstorming sessions, Matson realized that the process became more complex, when they were asked to be more creative. However, the students who failed several times, early in the process of creating structures of popsicle sticks, in fact created the tallest structures. This led to Matson’s conclusion that the process of failing fast, and thereby learning through failed efforts, would support the final result. Based on these findings, he developed the concept Intelligent Fast Failure;

“**Intelligent**” meaning that risks are taken with the aim of getting as much feedback as possible to understand what and why things happened.

“**Fast**” refers to the demand for enhanced risk in order to learn faster and early on.

“**Failure**” is based on the idea that you shall not expect most plans to work as planned.
In order to accomplish this task of Intelligent Fast Failure, there are two agreements that must be met. First the organization needs to overcome and understand the fear of failure, and secondly the organization must decide to actually learn from failure. According to Matson, the benefits of Intelligent Fast Failure is that it; “demystifies the aversion from failure, encourages calculated and well-informed risk-taking and initiative, and whenever applied, either yields results that could benefit individuals, organizations and society at large or teaches lessons for future endeavors” (Tahirysylaj, 2012, p. 265).

Matson is focusing on incorporating a mandate to improve creativity, which can be utilized individually or within groups. The main motivating factor to using a process like Intelligent Fast Failure is to allow people or groups to create something new, which can add value or improve something that is already in use. Building on this concept of Intelligent Fast Failure, Sim B. Sitkin developed the term Intelligent Failure, which will be described in the following.

**Intelligent Failure**

Sim B. Sitkin in his article “Learning Through Failure: The strategy of small loses” (1996), provides a term “Intelligent failure”, which was attributed to Jack Matson's Intelligent Fast Failure. Sitkin is mentioning focusing on those failures, which are most effective at fostering learning, which he refers to as “Intelligent failure”. “(1) They result from thoughtfully planned actions that (2) have uncertain outcomes and (3) are of modest scale, (4) are executed and responded with alacrity, and (5) take place in domains that are familiar enough to permit effective learning” (Sitkin, 1996, p. 557).

Sitkin is describing that for a failure to be intelligent there must be recognition, learning from the feedback and it is crucial that actions are designed and executed. The overall goal for organizations is to obtain information that is not currently available without the experience. The scale being conceptualized needs to produce a large enough outcome to attract attention, but small enough to minimize negative response. Speed is a force, as learning is facilitated when information is quickly generated, evaluated and then adjusted. Finally, the domain that the organization is operating within must be familiar enough for new ideas and outcomes to be recognized and interpreted.
Overarching Themes within Literature
The discussion revolving around failure in general reflects diversity and complexity. Our initial idea was to create a chronologically organized mapping. However, it quickly became clear that the outcome would not support an overall understanding of the topic. Rather a thematically structured review, based on prominent themes we discovered in the literature on failure, forms the basis for further analysis and comparison of contributions to the discussion. Therefore, the following review is built on the themes: social issues, process and experimentation, timing, feedback and management influence. In order to study failure, an understanding of the underlying assumptions of failure is needed both from the scholarly and professional perspective. The diversity in understanding and approaching failure creates a basis for these perspectives. Therefore, the following section will introduce failure and its effects on individuals from a societal standpoint.

Societal Issue
One of the most precedent features in working with failure is the understanding that failure as a societal issue and has a negative connotation applied to it. From a young age, a person has grown to learn that failing (while part of life) is negative. Pauline Estrem, reporter/journalist on Success Magazine, presents a socio-historical perspective on failure in the following quote; "Society does not reward defeat, and you will not find many failures documented in history books" (Estrem, 2010). Social barriers to learning from failure start with the strong psychological reaction to failure. Many believe that revealing failure will jeopardize their social esteem. "Most people have a natural aversion to disclosing or even publicly acknowledging failure" (Cannon & Edmondson, 2005, p. 302). We, as a society, have a tendency to harbor negative feelings, when a project has failed. There is a propensity for one to not take risks in order to avoid the possibility of failing. Pauline Estrem continues in saying, “Unlike Edison, many of us avoid the prospect of failure. In fact, we’re so focused on not failing that we don’t aim for success, settling instead for a life of mediocrity” (Estrem, 2010). This risk-averse mentality is deeply rooted in each member of the organization. The challenge associated with failure for most organizations is, that barriers to learn from failure are generally hardwired into
these social stigmas; greatly reducing the ability most organizations have in order to learn from failures. Paul J. H. Schoemaker, serves as research director of the Mack Institute for Innovation Management at the Wharton School of the University of Pennsylvania. He states; “A key obstacle is our deeply ingrained aversion to failure. Your psyche registers pain more strongly than loss. So we need to work on reframing failure as perhaps “time-released” success. Just view it as the bitter medicine that we need for innovation, and then take a few gulps” (Schoemaker, 2012). Being a societal issue, all organizations are faced with these challenges collectively, and how they are able to bypass these cultural norms will be a determining factor of how an organization can learn from their failures.

This argument is further elaborated by Daniel Isenberg in his article, “Entrepreneurs and The Cult of Failure”, published in Harvard Business Review. His take on the problem is that; “Fear should not be confused with anxiety in regards to failure and celebrating failure is not focused on reducing anxiety” (Isenberg, 2011, p. 36). This perspective is developed further in depth in the discussion of the managerial influence on failure. The discussion revolving around failure as a societal issue can help explain why some companies intentionally avoid experimentation, due to the negative connotations surrounding the word failure. One of Stefan Lindegaard's main arguments is that; “Companies are very reluctant to share their failures and how they approach them and learn from them” (Lindegaard, 2013). Here Stefan is referencing the cultural complication that organizations have in dealing with failure and their lack of understanding how to learn from failure. While societal issue has been seen as a focal argument within the failure discussion, understanding which processes can be used in order to learn from failure will be elaborated on next.

**Process & Experimentation**

Incorporating a process to learn from failure and understanding failure is a topic, which has been approached by multiple perspectives. The supporting arguments come from both the professional field, where the discussion revolves around using failure to
address problems within your business, and the scholarly interpretation of how to incorporate learning from failure. There is an overarching theme that has mended the work in this field together by incorporating the understanding that there needs to be three essential steps. First detect the problem, situation, or environment your organization is operating in. Then analyze this environment, in order to understand what the important issues are that your organization is facing, then finally experiment on this data set. These steps have been discussed between the professional and scholarly field, that bestow similarities as well as differences in procedures as to how to incorporate failure and learning from failure into an organization.

Another author who is working with failure, is Tim Harford with his novel “Adapt: Why Success Always Starts With Failure” (Harford, 2011). Tim’s position within this book is, that our current understanding of problem solving and our processes in place are wrong. The model of having the planning set forth from top management, and leaders incorporating these proposals into their processes through expert experience, is becoming obsolete. In a complex world, we must use an adaptive, experimental approach to succeed. Harford argues, “the more complex and elusive our problems are, the more effective trial and error becomes” (Rapp).

Both Stefan Lindegaard and Harford have proposed new processes in which to incorporate failure into an organization. For Harford, being able to recognize failure will allow you to re-cast this idea into something that is more likely to succeed in the future. Harford outlines three principles for failing productively, “You have to cast a wide net, “practice failing” in a safe space, and be primed to let go of your idea if you’ve missed the mark” (Rapp). Through this process your organization will become more flexible, giving the employees the permission to test a few off the wall ideas, mixed in with by-the-book ideas (Rapp). Stefan Lindegaard (2013) proposes five suggested actions, as how an organization can deal with failure. Starting with “take responsibility”, the organization must take ownership that failure is a progressive approach for change, and becoming more adapt to acknowledging failures. Second step is “understand what goes wrong”. Lindegaard stresses the importance of understanding why a failure happened, which will serve as a learning opportunity to organizational improvement. The third step “be transparent and communicate better” is essential to finding a proper tone and balance
on how to communicate innovation issues and failures both internally and externally. The fourth step “reward behaviors, not just outcomes” focuses on rewarding behavioral changes that lead to desired outcomes. And finally the fifth proposal is “educate up and down”, Lindegaard proposes that educating the entire organization is an important step in order to better understand failure (Lindegaard, 2013). However the executive training on these procedures is crucial as incorporating learning from failures needs to be addressed top down, as they are in charge of the business processes within the organization. These proposals made from individuals, who are working within the professional field, are highly correlated to acknowledging, that failure is a topic organizations are timid to address. They share similar views, that the complexity of the business environment needs to be an integral step in learning from failure, where an organization’s ability to adapt to these changing environments is going to separate them from competitors. There is also a strong understanding, that being accepting to employees’ ideas, giving them the authorization to make their own decisions and not penalizing them for mistakes, will only improve the innovative capabilities of the organization. These perspectives involve a professional approach to incorporating failure into your organization. However, the scholarly discussion has some similarities as well as differences that we will be discussing in the following.

Within the scholarly discussion the theme of detect, analyze, and experiment is much more prevalent. There is a strong understanding, that detecting failure is an important first step. Amy Edmondson of Harvard University working alongside Mark D. Cannon of Vanderbilt University, produced together “Failing to Learn and Learning to Fail (Intelligently)” (Cannon & Edmondson, 2005). What they suggest is that a company should instill a practice of learning to fail intelligently, as a strategy to promote innovation and improvement. By identifying the barriers embedded in both technical and social systems, which make such intelligent use of failure rare in organizations, and offer recommendations for managers seeking to improve their organization’s ability to learn from failure (Cannon & Edmondson, 2005, p. 300). Their three proposals are:

- Identify failure
• Analyze failure

• Experiment

The first step is involved with having the capability to identify and discuss failure. The proactive identification of failure is an essential first step. As many organizations have a tendency to suppress the awareness of failures, in order to prevent a small insignificant failure, and turn it into a catastrophic failure further down the road. “Effective identification of failure entails exposing failures as early as possible, to allow learning in an efficient and cost effective way” (Cannon & Edmondson, 2005, p. 305). The second step is analyzing failure. The importance of this step hinges on the knowledge, which can be gained by a thoughtful analysis and discussion when a failure occurs. Analyses of failures require people to put aside their personal tendencies, and explore unpleasant truths and take personal responsibility. This process however is not applied to many failures within an organization, due to the rigor it would entail. This idea is what these authors are suggesting needs to be changed. This second step of analyzing information is incredibly important, whether by using transformative work groups or hiring experts in the field, this information needs to be reviewed and processed in order to learn from failure. The final step of experiment is the most proactive process an organization can use to learn from failure. The experiments are carried out “for the express purpose of learning and innovating” (Cannon & Edmondson, 2005, p. 309). This step involves experimenting and designing a culture to learn through the different processes. By incorporating deliberate experimentation stages throughout the process, this requires people to not just assume their views are correct, but actually to test and design different experiments, in which their views can be disconfirmed. The authors stress, that it is important to be doing continuous experiments on your organization’s processes and systems, in order to gain as much information on how the process is working successfully. Amy Edmondson revisits this work with her article entitled “Strategies for Learning from Failure” (2011). Here she is still proposing the three pillars for organizational learning revolving around “Detecting failure, Analyzing failure, and Promoting experimentation” (Edmondson A. C., 2011, p. 49). Her argument centers around organizational failures, and the fact that their lessons are lost, when there is no conversation happening. The organizations that can use these steps to pinpoint, correct and learn from their failures will become more
successful. One of Edmondson’s colleagues at Harvard has worked with failure and has generated a set of principles that can help organizations leverage learning from failure, which will be elaborated in the following.

Dr. Rita McGrath of Harvard University created an article titled “Failing by Design” for Harvard Business Review (McGrath R. G., Failing By Design, 2011), in which she reviews the challenges of working with failure and principles that can be put into work, which will embrace the concept of intelligent failure, allowing learning of substantial value to be created for organizations. Rita McGrath states that, if “your organization can adopt the concept of intelligent failure, it will become more agile, better at risk taking, and more adept at organizational learning” (2011, p. 78). With most organizations being systematically biased towards failure, they fail to put a framework into study and learn from failure. Through McGrath’s 7 proposed principles, a company will be able to design their organization to manage, mitigate and learn from failure (McGrath R. G., 2011). These steps are described as follows;

1. Decide what success and failure would look like before you launch an initiative: Have an understanding of where you will be going with the product or service collectively before embracing the initiative.

2. Convert assumptions into knowledge: Make an explicit assumption before you start experimenting. You want to be able to disconfirm information early, and must have an understanding of where you are going. If you don’t have a stance, then the company can’t convert assumptions into facts before proving their validity. Having spelled out the assumptions you should design the organization to experiment and test the ideas.

3. Be quick about it, fail fast: Quick failures can save money, and are easier to establish a cause and effect when actions and outcomes are closer in time.

4. Contain the downside risk, fail cheaply: Initiatives should be designed to make the consequences of failure modest.
5. Limit the uncertainty: Stay within an arena your business currently operates in. It is inevitable that failure will come from uncertainty, so limiting uncertainty can allow minimizing failures. Additionally, it is wise to minimize the number of uncertainties that need to be resolved at any particular decision point.

6. Build a culture that celebrates intelligent failure: Management needs to encourage intelligent risk taking and not punish failures that result.

7. Codify and share what you learn: Important to share learning from small postmortems as a project proceeds. For each case one must identify what assumptions have been made, what happened, what was applied for the assumption and what should be done next.

Using these principles as a guide, in order to obtain the proper process for intelligent failure, can be a crucial step from which organizational learning can take place. McGrath along with Edmondson are very partial to the idea of Intelligent Failure, and the learnings that can be fostered from such a process. McGrath also mentions that within an uncertain and volatile world, avoiding failure is not really an option. This gives the organization the choice of continuing their current practices and limiting the information gained, or adopting the previous principles in order to harbor organizational learning. Learn from what you do not do, as many successful ventures stem from failed projects (McGrath R. G., 2011). The next propose an experimental process on examining successes in order to learn from failure.

Francesca Gino and Gary Pisano take the failure discussion in a slightly different direction with their article entitled “Why Leaders don’t Learn From Success” (2011), their focal argument is that success can breed failure, because of its influence on hindering learning both at the individual and organizational level. Often organizations give themselves too much credit for a success, believing it was their know-how and capabilities, which were the only determining factor of their success. “Too much confidence can be a problem and nothing inflates confidence like success” (Gino & Pisano, 2011, p. 71). This creates overconfidence in dealing with their problems, and often
hinders organizations from asking the proper questions, as to why a success happened. There is a strong understanding, that learning from a failed venture or failed product is a necessary step. Yet many organizations fail to learn from past successes as well. While Amy Edmondson is trying to propose how to fail intelligently by testing and learning from the process, Gino and Pisano are proposing that not enough executives ask the tough questions as to why they are experiencing good performance, in order to expand their knowledge or alter their assumptions of their current process.

Gino and Pisano’s proposed process is to learn from successes, as learning from failures is not the only way an organization will be able to grow and adapt. The first approach to learning is: Celebrate success but examine it, “when a win is achieved, the organization needs to investigate what led to it with the same rigor and scrutiny it might apply to understanding the causes of failure” (Gino & Pisano, 2011, p. 73). There may be a successful product launch, but after examination the factors of why your product succeeded could be entirely external, with little attribute being paid to the current business model or strategy. Gaining this knowledge can allow the company to be more agile in future releases, because they have determined the success factors initially. This is strongly related to Edmondson’s approach of identifying failure. The second recommendation is; Institute systematic project reviews. After a project has completed, having a protocol of a review or debriefing of the project is crucial. The military holds an “after-action reviews”, which is held after each combat encounter or combat-training exercise irrespective of the outcome. This allows for information to be compiled and reviewed regardless of the success or failure. If businesses incorporate this into their system, they will be able to answer four key questions: “What did we set out to do? What actually happened? Why did it happen? What are we going to do next time?” (Gino & Pisano, 2011, p. 73). This will provoke rigorously collecting data and stimulating discussion to challenge assumptions, and ensuring knowledge is gained regardless of the outcome. The third recommendation is; using the right time horizons. Problems can occur in the feedback cycle, when it is inherently long. When the time between the action and its consequences is short, it is easier to identify the causes of performance. Without the proper timeframe for evaluating performance, you are likely to misconstrue factors that led to success or failures. The fourth recommendation is; recognizing that
replication is not learning. After a success the desire is to repeat the process, and continue to spread the good practice throughout the organization. However if your organization is looking to replicate the process next time without considering any additional factors, this can be seen as a failure. Factors that aided in the success should remain part of the winning formulate, but there needs to be an understanding of how external factors interact with the process. The final recommendation is; If it ain’t broke, experiment. Experimentation is one of the best ways to test your assumptions and theories, and determine what is needed to continue experiencing success. Experimenting within scientific research or engineering is an integral part of the process, this need to be replicated in business operations. The right question is not “What are we doing well?” but rather “What experiments are we running?” (Gino & Pisano, 2011, p. 74). The path to effective learning involves simple but counterintuitive steps: “Managers must actively test their theories, even when they seem to be working, and rigorously investigate the causes of both good and bad performance” (Gino & Pisano, 2011, p. 74). Casting a critical eye on your successes can better prepare yourself to avoid failure. These approaches to organizational learning differ from Cannon, Edmondson and McGrath’s strong interpretation of “Intelligent Failure”, as their critique to organizational learning stems from successes. But Gino and Pisano are first to propose a time frame in regards to a feedback loop, which has not previously been mentioned. A great deal of learning takes place when the project is tangible and the scope is relatively narrow. With Gino and Pisano’s approach there needs to be an understanding of how the time frame will affect the success or failure.

An additional process for organizational learning is proposed by Sim Sitkin in his article “Learning Through Failure: The strategy of small losses” (1996), where he details how an organization can facilitate intelligent failure, which has been discussed previously. Here the author is describing the mechanisms, that need to be identified by which organizations can systematically promote intelligent failure (Sitkin, 1996, p. 557). In order for intelligent failure to exist, there are four elements that, when put together, comprise a systematic approach to organizational failure, which Sitkin refers to as “Strategic failure” (1996). The first prerequisite goal for successful integration of
intelligent failure is; organizational focus on process over outcome. The goal is not failure, but the target is to foster the generation of outcome with sufficient amount of failure. The strategic failure approach is to emphasize the processes that foster intelligent failure, by trying to remove procedural constraints on natural experimentation. Within this process he points out the importance of having decentralized decision making, allowing for independent decision making and reducing risk of large failure, as this would not be mandated from higher level management. With sufficient risk and sufficiently large number of small “experiments”, failure patterns can begin to emerge and be recognized (March J. G., 1976). Here Sitkin also visits a similar approach on feedback and speed of learning, which Gino and Pisano were discussing; an understanding that through fast feedback, learnings can take place and will allow for organizations to become more robust. However, there are faults to this feature, as quick learning can potentially become misleading as there won't be enough time given to the process, in order to allow for proper analysis. The second process goal involves; organizational legitimation of intelligent failure. The importance of this phase is to reassure individuals, that failure is accepted and supported. Here Sitkin visits the importance of leadership, being a proponent of failure, and supporting staff that failure is an important learning lesson, and essential to the incorporating of learning from failure. There must be an understanding of those who have failed in the past and their acceptance from the organization. Publicizing intelligent failures sends a clear message that it is ok to fail, and intelligent failure is legitimate and will be rewarding as an organizational learning tool. The third goal involves; organizational culture and design. In order to promote intelligent failure, the natural aversion to failure needs to be taken into account. Training employees by exposing them to small dose of failure may be a way to increase resilience and prepare employees for future uncertain situations. There needs to be a strong understanding of what signals the organization is sending to its employees, as it is important to monitor and reward failure, just as it is other aspects of employees’ or departments’ performance. Sitkin describes “the key to sustaining organizational experimentation as a management policy approach is to develop a pervasive organizational understanding of the potential strategic value of failure, which can then institutionalize the legitimacy of intelligent failure” (Sitkin, 1996, p. 564). The final goal is: failure management systems. The symbolic and social effects of success and
failure can be significant deterrents to effective failure on the part of individuals. There is a need for a positive perspective on strategic failure. As it can be seen that individuals are primed to avoid failure, organizational failure management involves programs that can establish a baseline, which can be reflected within different organizational policies.

Within the scholarly discussion we have noticed some recurring themes. There is a strong understanding, that detecting is an important first step. Whether it is admiring success, but examining it through from Gino and Pisano, identifying failure from Edmondson, increasing focus on the process and understanding their important variables suggested by Sitkin or McGrath’s succession of identifying what success would look like before the initiative is launched. Identification remains the first important pillar to harboring organizational learning. The importance of reviewing the information as Gino and Pisano suggest, or analyzing failure as the second step proposed by Cannon and Edmondson, is taking the time to determine what had gone wrong and what steps need to be taken in order to progress, in order to increase organizational learning. The final aspect that has been touched upon from the previous authors revolves around experimentation. Sitkin proposes having an understanding that a management system needs to be in place from which to learn from. Sitkin’s analysis determines that organizations need to develop and actively manage failure at the system level, rather than rely on individuals to generate a sufficient supply of intelligent failures from which to learn (Sitkin, 1996, p. 566). This resonates with Edmondson’s as well as Gino and Pisano’s understanding of experimentation. McGrath’s 7 principle proposals are directly related to experimentation, as an organization must place an experimentation aspect into their learning management systems in order to better understand why a project did or did not fail (McGrath R. G., 2011).

What is being displayed as the main differences between the professional and scholarly discussion is dealing with the idea of experimentation. The scholarly discussion is heavily revolving around experimenting with what has happened, regardless of success or failure. Within the professional realm, there is a strong understanding that educating your employees will allow for the organization to better learn from failure and be able to
use these learnings proactively. However, there is little mention of repeat experimentation on a process regardless of outcome. The scholarly discussion is much more involved in understanding what has happened and why, by suggesting organizations take the time to examine just that. While professionally speaking this step has been removed from the advice. This lack of supporting experimentation from the professional discussion shows that organizations can acknowledge, that learning from failures is important, and some organizations are willing to analyze what went wrong within the process. However, few organizations are willing to install the experimental stage. The next recurring theme we found within the literature was the discussion of timing, and its importance with failure in order for an organization to increase learning capacity.

**Timing**
The discussion of failure revealed a prominent focus on timing. Both the professional and academic contributions include the significance of timing and its impact on failing. Therefore, the following section will provide an overview of the standpoints as well as address and analyze the issues raised in the discussion. Time is an important feature in failure; both exploring how to fail “fast” has its own intricacies and the speed of the feedback loop are implicitly connected to harness organizational learning.

Entrepreneur, Daniel Isenberg recants the importance for entrepreneurs to fail small, fast and cheaply by turning failure into fodder. “*True, risky business is an intrinsic aspect of pushing the innovation envelope. But it’s important to train entrepreneurs to fail small, fast, and cheaply. Inexpensive failures don’t make headlines—and don’t cause embarrassment or shame.*” (Isenberg, 2011, p. 36). By ensuring that the implementation of the project is fast and the iteration is quick, there can be less expensive failures, and greater learning generated from this process. There is resonance to this concept being presented by Henry Doss, Chief Strategy Officer for a Silicon Valley-based venture capital firm, denoting that “*Highly innovative ecosystems tend to try more, operate faster, generating more successes but also a lot of failures. Therefore failure is essential in highly innovative organizations, also understood as: if you want to be innovative, you have to fail often*” (Rapp). Through increased speed of failure, an organization can become more
innovative and generate more ideas to work with in future problems. Carol Bartz understood the importance of failing fast with the recommendation to her organization, that they need to incorporate Fail Fast Forward in their internal processes, so that employees are able to take risks, fail, identify the failures, and move forward with the lessons learned. Randy Bean, CEO and co-founder of NewVantagePartners, discusses how important speed of a project is in his industry, "with worldwide data volumes projected to grow at a rate of 40% per year, marketing and sales leaders will need to process data faster and more simply, and undertake more rapid trial and error. As Mr. Saffo comments, “failure is essential because even the cleverest of innovations fail a few times before they ultimately succeed” (Bean, 2014). This emphasis on failing fast is additionally supported by IDEO, a design and innovation-consulting firm with the philosophy being; “Fail often in order to succeed sooner” (Fredman, 2002, p. 56).

The terminology being introduced from the professional field is revolving around speed and a basic understanding that failure is important. This shows that the robust nature of dealing with failure from a professional standpoint is inherently wrapped around speed and re-iteration. A company that is fastest to learn from failures will ultimately be most successful. This understanding is still vitally important within the scholarly discussion as well, which will be elaborated in the following.

In relation to Carol Bartz’ Fail Fast Forward, we have seen the mention of fast failing as a prevalent theme throughout our research of the scholarly discussion too. Jack Matson’s definition of Fast within Intelligent Fast Failure is centered on generating fast learnings from your current process. The focus of having accelerated risk, when working within your project, creates a more stringent reflection on what is happening currently. Through this reasoning, Matson was able to determine that going through a process of fast failure allowed better ideas from the critical process of learning through failed attempts. Rita McGrath shares this view with her third principle of “Be quick about it - fail fast”, her view regarding quick and decisive failures is; “First, they can save you from throwing additional resources at a losing proposition. Second, it’s much easier to establish cause and effect when actions and outcomes are close together in time. Third, the sooner you can rule out a given course of action, the faster you will move toward your goal. And finally, an early failure lessens the pressure to continue with the project regardless,
because your investment in it is not large” (2011, p. 80). Implementation and speed of the failure is important to understand what happened, and capture the learnings that are generated from failure. However, in order for a company to learn from their failure, feedback needs to be taking into consideration.

**Feedback**

Feedback can be seen as one of the most important aspects of learning from failure. As Tim Harford mentions; “Above all, feedback is essential for determining which experiments have succeeded and which have failed. Get advice, not just from one person, but from several.” (Rapp). By getting feedback on the project, the organization can better understand which steps to take in the future to ensure success. His point is further supported by Sarah Rapp, Head of Community Management at Behance/Adobe; “Some professions have built-in feedback: reviews if you’re in the arts, sales and analytics if you release a web product, comments if you’re a blogger. If the feedback is harsh, be objective, “take the venom out,” and dig out the real advice” (Rapp). While not all professions have this inherited feedback loop, the information that is gained from this process is essential for the organizations progress. Feedback is additionally considered extremely important in the lean start-up model, which is exposed in the following quote; “Lean start-up uses validated learning, scientific experimentation and iterative product releases to shorten product development cycles. Also measuring progress and gaining valuable customer feedback about where your new product, service or business model is falling short and what needs it’s not fulfilling. It has been summarized as fail fast, fail often and fail cheap.” (Lindegaard, 2013). Feedback within the professional discussion is viewed as important, but it is lacking understanding on how to achieve such information. Furthermore, feedback is an important part of the lean processes, which is becoming a more pronounced method throughout the years. The acknowledgement of improving learnings through feedback processes is prominent. However, based on the discussion it is also evident that some practitioners tend to focus intensively on their successes, and thereby miss the opportunity to learn from the process of gathering and analyzing feedback. Consequently, this creates a hindrance for the concrete execution of feedback processes. Additionally, the feedback discussion is significantly strong within the
scholarly discussion, as gaining feedback is a significant marker to learning from failure. This angle will be unfolded in the following.

An academic incorporating feedback in his work is for instance Dr. Jack V. Matson, with his concept "Intelligent Fast Failure" including an emphasis on feedback. For Matson “Intelligent”, from his Intelligent Fast Failure, means that when you take a risk you want to learn as much as possible about what happened and why by gathering feedback. In order to be operating intelligently, your organization is gaining as much feedback as quickly as possible. Additionally, Sitkin addresses the issue revolving around feedback loops and the importance for organizational learning. He proposes “Speedy Action Cycle” (Sitkin, 1996, p. 545) as an important part of Intelligent Failure. His argument is crucial to ensuring that action and feedback are happening at a fast pace, in order to ensure information can be generated, then evaluated and adjusted within a quick time frame. This will increase the organization’s capabilities of learning, and allow for more robust growth within their respected fields, which is increasingly important as organizational competitive environments are rapidly changing. McGrath also agrees with the idea, that it is easier to establish a cause and effect on a problem, when the actions are closer to the final outcome. Creating a short and profound feedback loops will allow organizations to generate the most information from their current processes.

Gino and Pisano in their proposal for how organizations can learn from failure, point to using the right time horizons in the planning stages. Often the feedback cycle is inherently too long. Without the correct time frame you may not be able to determine the factors that caused a success or failure. This is a significant challenge, which can be seen within the medical industry through the process of generating a new drug. As Gino and Pisano point out; “It takes 12 years, on average, to get a drug from discovery to market, a company’s performance today has relatively little to do with its most recent actions and decisions” (Gino & Pisano, 2011, p. 71). As feedback loops and project cycles are extended, it leaves room for complication in pin pointing what may have gone wrong, and ways to learn from those failures. Therefore the implementation of the project should be inheritably quick, in order to generate the most learnings from a potential failure. As organizations are becoming increasingly able to understand the importance of failure, feedback will continue to be a critical aspect in generating
learnings from this process. The next aspect of learning from failure, which will be explored, is managerial influence and their paramount significance in this process.

**Managerial Influence**

The management discussion involved with failure has many similar parts between the scholarly and professional discussion. There is a strong alignment that management of failure is the key to induce learning from failure. There needs to be a strong stance from the organization side as how to learn from failures and changing the mindset that failure is something acceptable. It is shown, that there needs to be a clear understanding from the top that convey the importance of learning from failure to break the cultural trend. This could be one of the main issues in dealing with failure; expressing the idea, that a failed project is not only acceptable, but is encouraged from the management. This need to be done through examples, as there cannot be a simple mandate that employees should feel comfortable in failing. Examples expressed from the top, of past failures and the learnings that came from it, are needed; giving the team a sense of confidence to take risks and explore more opportunities. This leads to new innovative ideas, breaking the mold of how the organization traditionally thinks.

Daniel Isenberg works with the concept, that management needs to develop the right perspective on the value failure can bring. His first two management perspectives that require change are; “*accepting that failure is natural part of doing business, and removing structural obstacles to reduce the objective risks of a failed venture*” (Isenberg, 2011). Early failures are important, because they generate systemic learning about where opportunities exist, how to address them, and free up people and capital to quickly go after more promising perspective. His proposal of removing structural obstacles deals with some of the current laws that stifle the cost of failure when engaging with new players. If management can remove some of these barriers, the company will be more agile in being able to take risks and adapt to failures. Pauline Estrem states that; “*the prevailing school of thought in progressive companies—such as Intuit, General Electric, Corning and Virgin Atlantic—is that great success depends on great risk, and failure is*
simply a common byproduct. Executives of such organizations don't mourn their mistakes but instead parlay them into future gains” (Estrem, 2010). These sediments on how organizations need to view failure are directly related to now they can also help manage their companies’ failure.

Serial entrepreneur Steve Blank offers insights into 6 stages that an innovator will go through when faced with failure. This starts in a shock and surprise, leading to denial eventually into the anger and blame stage, followed by depression, which eventually leads to a more progressive stage of acceptance, followed by the final stage of gaining insights and experiencing change (Blank, 2013). The culture of an organization determines how long people get stuck in these negative stages. An organization that manages the inevitably of failure during the pursuit of innovation, will quickly be able to move into new and diverse fields. By better understanding these stages the organization can be more robust and agile in their development.

Matthew Reilly agrees that companies need to have clear management guidelines for the acceptable scope of failure and risk. According to a recent U.S. survey by Accenture; “12 percent say their company is very good at accepting failure as part of the process” (Reilly, 2013). This leaves organization with little guidance on how to understand their personal failures. It is extremely important for the management to continue to express these ideas. “Businesses leaders can promote and nurture entrepreneurship by providing clear guidelines about how much risk and failure is acceptable so employees can develop their ideas to the point of “keep-or-kill” (Reilly, 2013).

In a conversation with Proctor and Gamble’s CEO A.G. Lagley, his views on failure management are complementary of the previously mentioned. There is a significant importance from a managerial perspective to create a culture that turns failures into learnings. He feels this will lead to continual improvements. Lagley states, “I think of my failures as a gift. Unless you view them that way, you won’t learn from failure, you won’t get better, and the company won’t get better” (Lafley, 2011, p. 89). Without management displaying the acceptance of failure, there will never be an improved company culture to learning from failure. These individuals align themselves with the understanding, that
management is a key aspect for an organization to deal with failure. Without this communication, an organization will not be able to identify where there have been mistakes made, and the learnings that can be generated from it.

Management is equally important from the scholarly discussion. This has been a repeated theme that the importance management plays in inducing learnings and working with failures. Rosabeth Moss Kanter of Harvard Business School generated a term she coined “Kanters Law, Anything can look like a failure in the middle” (Kanter, 2011, p. 34). Successful company leaders put facts in front of them and analyze what went right or wrong. It is crucial to build your business cornerstones around confidence, accountability, collaboration, and initiative. This mindset will help offset inevitable downturns that your business will face.

The scholarly discussion believes that it is the management that needs to change the culture of the company, in order to allow for a successful integration of accepting failure and inducing learning’s. For instance Gino and Pisano point out the challenges organizations face in admitting that they have failed a current process, and what is the reason behind the failure, needs to be a step facilitated by management. This should not fall squarely on the shoulders of the individual teams working within the process. Management needs to incorporate into their process, an understanding of how to investigate what may or may not have gone wrong. “Managers must actively test their theories, even when they seem to be working, and rigorously investigate the causes of both good and bad performance” (Gino & Pisano, 2011, p. 73). Rita McGrath touches upon many of these managerial points, when she is proposing 7 principles on how to learn from failure. These are in direct relations to how a manager should structure his or her organization, in order to ensure the process is working successfully. Companies do not design their organizations to manage, mitigate and learn from failures. Most organizations are systematically biased towards failure and do not put in a framework to study it. McGrath’s first principle rest strongly on the shoulders of management; “The management must decide what success and failure would look like before you launch an
Tinsley Madsen discusses the ideas of latent small failures that permeate within day-to-day business, but cause no immediate harm, is a type of issue that needs to be addressed and analyzed in order to avoid a catastrophe. This is the role of management to put into place a system that can detect these latent small failures, before circumstances allow them to create a crisis. Amy Edmondson points to the importance of management in complex operations, which cannot be avoided, but can be managed so that they do not mushroom into catastrophes. Sitkin notes that; “Failure challenges current practices and procedures by drawing attention to previously overlooked problems and inconsistencies” (1996, p. 560). Often organizational failures and their lessons of improvement are lost when there is no conversation. Those that can pinpoint, correct and learn from their failures will be more successful.

Sitkin speaks about management’s role in changing the organizational culture to help promote his intelligent failures, as natural aversion to failure needs to be taken into account. Training employees by exposing them to small dose of failure may be a way to increase resilience and prepare employees for future uncertain situations (Sitkin, 1996, p. 561). Amy Edmondson reiterates this point that managers are thinking about failure the wrong way. Failure and fault are seen as inseparable. Few organizations have shifted this cultural view in which the rewards of learning from failure can be fully realized.

Creating an environment where employees feel safe to admitting and reporting failures takes strong leadership. This also resonates with Rita McGraths 6th principle of “build a culture that celebrates intelligent failure” (2011, p. 82). Management needs to encourage intelligent risk taking and not punish failures that result. William Townsend of Jacksonville University describes that management tolerance, or even celebration of failed innovation trials, leads to an increased flow of innovation possibilities and greater probability of success as seen in his article “Innovation and the value of failure” (2010). Another significant implication for managerial praxis is that the value of an innovation to an organization, even an unsuccessful one, is underestimated. Innovation valuation metrics must be selected, that take into account the secondary impacts of an innovative idea. The implications of not pursuing an idea or the longer-term value of an idea must
be measured. These impacts on value to the firm may be much greater in scale than a static evaluation (McGrath R. G., 2011, p. 82).

Managerial influence is unanimously important between the scholarly and professional discussions. As management is one most important aspect to how an organization is ran, it is understandable that their impact greatly affects how the organization learns through failure. The professional discussion showed many examples of how management recants their past failures and their views on it being important. However, there is still often a lack of understanding how they could implement this step into their organization. The scholarly discussion is stronger suited at management acknowledging the importance of failure, and also taking active steps into changing the ethos of the company, in order to learn from their failures. Regardless, this step is seen as paramount in allowing organizations to learn from their failures. Without management’s influence on accepting failure, the employees will never have the freedom to take risks and feel confident in their experimentations. Therefore a strong understanding of how management affects their employees’ view on failure needs to be addressed, in order to generate greater learnings from past mistakes or failures.

**Findings**

Our purpose with this review is to provide the reader with an understanding of the current literature, which is available in regards to failure and learning from failure. It became apparent early within our research, that there needed to be a separation between how the professional industry was relating to failure and the importance within their organizations, and how the academic field was researching and dissecting failure. We found, that often the professional field spoke of the importance of failure, with many CEO’s and top management positions citing that they found it important to learn from failure. However, there was little guidance within their mentions of failure, as to how the organization could better utilize the concept of failure. Simply acknowledging that failure is important, but not taking steps to incorporate an acceptance of failure within their organization, seemed to us as a major complication as to why they may not fully understand how to manage failure.
Conversely, the academic discussion revolves heavily around implementing different stages to how the organization can learn from failure through detecting, analyzing and experimenting. These are critical in order for an organization to harvest learnings from failures; however some of these processes could be viewed as impractical to some of the professionals. To us, there seemed to be a lack of implementation of a plan being proposed from the scholarly discussion. While noted it is important to analyze what had happened and why, there was little guidance into how an organization could install a regimented plan for learning from failure.

We also would like to note, that from our literature review we found three aspects to be most pertinent in order to learn from failure. Those are the societal issue that organizations face when dealing with failure, the need to implement experimentation into their processes to properly identify what happened regardless of failure or success, and finally the undeniable influence that management has in relation to organizational learning from failure. Having an understanding of these important aspects, we feel that we can provide the organization with opportunities to learn from failure. These three elements also provide the base for our case analysis, which will be discussed in further sections. Through this literature review we were able to gain a stronger understanding of failure, with the interplay between the scholarly and professional giving us a more robust understanding to how failure is viewed in today's business context.

Our View on Failure
Through this research gained within our literature review and extensive readings on the topic of failure, we will like to propose how we view failure within the organizational learning topic. While we are not addressing any set issues of failure in regards to a marketing campaign, management style or investment decisions. We however are intrinsically interested in the information, which an organization does not capture after an event has taken place. Meaning, when an organization makes a decision (and/or their employees), regardless of the outcome of that decision, if no learning has taken place, we view this as a failure. Therefore, if a marketing campaign proves to not hit the intended target market, we do not view this is a failure. However, if this particular marketing campaign does not hit the intended target market, and no analysis was done as to why it
was not successful, then we view this as lack of organizational knowledge generation at a crucial point as a failure. We find the information, which can be gained at these points of junctures within a plan, vital to the organizations capabilities to grow and learn. If a company is too static in their views of why they are successful (or unsuccessful), and are not taking the proper measures to investigate and better understand how their consumers interact with their product. Or for that matter, how their employees made decisions at critical junctures, then the organization has failed and missed a critical point to generate learnings. We will use this understanding of failure, when we examine the case companies and work to understanding how their organizations view failure. That, matched with the three critical aspects we have pulled from the literature review, will guide our analysis. Now we will discuss our theoretical framework, which is used to understand failure in our case companies from an organizational learning perspective. These theories provide us with the lenses needed to analyze the information we have found, and the interplay with the three key takeaways from our literature review.

Chapter III: Theoretical Framework
This section will present the theoretical framework, which creates the basis for our analysis of the three cases. There are various conceptual frameworks for organizational learning identified by for instance Shrivastava (1983), Wiegand (1996), Edmondson & Moigneon (1997), and Pawlowsky (2001). We found Pawlowsky's work most relevant and up-to-date, in order to study failure as a mediator for organizational learning. Fiol and Lyles (1985) argued that a “...systematic assessment of the strategic management literature suggests an interesting dilemma: Although there exists widespread acceptance of the notion of organizational learning and its importance to strategic performance, no theory or model of organizational learning is widely accepted.” (Pawlowsky, 2001, p. 5). On this basis, Pawlowsky collected theories and models to create a systematic and comprehensible understanding of organizational learning theories, which resulted in the division into five different perspectives formed based on distinctive traditions and assumptions. His division consists of the cultural perspective, action learning perspective, cognitive knowledge perspective, systems theory and organizational
decision making. However, we will only be exploring three perspectives, which are most relevant for the purpose of our research, as they relate to the three key topics that emerged from our literature review and thus will guide our analysis. Therefore, the analysis is based on selected theories, models and theoretical concepts that can be reflected within these perspectives;

- The Cultural Perspective

- The Action Learning Perspective

- The Cognitive Knowledge Perspective

"Obviously the different perspectives do not completely exclude each other, because most approaches incorporate a number of different views and theoretical approaches" (Pawlowsky, 2001, p. 9). Hence, we will analyze each case based on all three perspectives, in order to get a coherent understanding of their organizational learning capabilities and approach to failure. Furthermore, based on above distinction between organizational learning theories, we have defined the theories and models most relevant to our research within each perspective, and will be elaborating these in the following sections, as well as describing the different perspectives prior to the explanations of enclosed theories.

Cultural Perspective
The first perspective we will be exploring is the cultural perspective. A number of approaches have focused on the cultural concept and view organizational learning, as a change of defensive routines in organizations and or the development of an organizational learning culture (f.ex. Mitroff and Kilmann 1976; Schein 1984, Sackmann 1991; Hawkins 1991; Frost et al. 1991; Klimecki et al. 1991; Argyris 1990; Cook and Yanow 1993; in (Pawlowsky, 2001, p. 19). They argue that the cognitive perspective focuses only on the individual level, while the cultural perspective can capture the learning on a collective learning level. Therefore, organizational learning is seen as a process "...when a group acquires the know-how which enables it to carry out its collective activities." (Cook & Yanow, 1993, p. 375). Cook is presenting the definition for culture as
The "...set of values, beliefs, and feelings, together with the artifacts of their expression and transmission (such as myths, symbols, metaphors, rituals) that are created, inherited, shared, and transmitted within one group of people and that, in part distinguish that group from others" (Cook & Yanow, 1993, p. 380). Organizational learning as cultural change thus also implies affective and emotional aspects of common culture. Therefore, knowledge systems in organizations cannot be seen as joint constructions of reality only, but also as general constructions of meaning with affective connotations (Pawlowsky, 2001, p. 21).

The subsequent section will introduce the theories rooted in the cultural perspective, which are deemed appropriate for this research. Schein's Organizational Culture Model is presented and will be followed by Schneider's Culture Model.

**Schein's Organizational Culture Model**

Schein's model divides an organizational culture into three elements, which functions as a framework for understanding the underlying cultural differences as well as similarities between the three case companies. It supports our understanding of the level of explicitness in the organizations, which is central to recognize when examining for instance their perspective on failure. Furthermore, for the purpose of this research, it serves as a basis for understanding and explaining behavior within the case organizations.

Edgar Schein originated his model of organization culture in the 1980's. He developed this model in order to make culture more visible within an organization. Schein believes, that organizations do not adopt a culture within a single day, but this culture is formed throughout time, as employees engage in various activities such as problem solving, and adapt to changes both within the company and within the external environment. Once knowledge is gained through these past experiences, it will be used in practice through daily activities, thus forming the culture of the workplace (Edgar Schein: Organizational Culture and Leadership, 2013). In his classic book; Organizational Culture and Leadership (1992), Schein defines the culture of a group as "a pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and
internal integration, that has worked well enough to be considered valid and, therefore to be taught to new members as the correct way to perceive, think, and feel in relation to those problems” (Three Levels of Culture: Schein). Through Schein’s presentation of culture, as a series of assumptions about the group in which they participate, these assumptions are grouped into three levels with each level becoming more difficult to articulate and change. According to Schein, the levels in organizational culture are as follows:

**Artifacts & symbols**: Include any tangible, overt or verbally identifiable elements in an organization. These are what can be experienced through your senses, such as language, styles, stories and published statements. Artifacts that can be seen on the surface of the organization, and while easily discerned can be challenging to understand. A visible element such as logos, architecture, processes and even corporate clothing is also considered part of this level of organizational culture. These are also visible to external parties, not only employees.

**Espoused values**: These represent conscious strategies, standards, values or rules of conduct for the organization. This is how the members represent the organization to themselves as well as to others. These are often expressed by how the organization shows strategies, goals and philosophies to the public. This can be shown through a company mantra. Additionally, it can generate significant issues, if the basic assumptions of the organization’s culture do not correspond with the espoused values of their managers and leaders, as these have to be aligned in order to secure consistent management and organizational culture.

**Basic assumptions**: These beliefs are deeply embedded within the organization, and are usually of abstract nature, but represent the company culture. They are considered the core or essence of the culture, thus are extremely difficult to discern because of their unconscious demeanor. These beliefs however provide a key understanding to why employees or organizations act the way they do.
These culturally rooted elements of an organization functions as guidelines for understanding the organizational culture, and provides insight to their level of transparency and explicitness. According to Schein, “Leadership is the source of the beliefs and values, and the most central issue for leaders is to understand the deeper levels of a culture (...) and to deal with the anxiety that is unleashed when those assumptions are challenged.” (2013). Hence, the basic assumptions are considered the most important element of organizational culture, as defensiveness and apprehension is released, when the human’s cognitive stability is challenged due to changes in basic assumptions (2013).

**Schneider's Culture Model**

This model provides us with a framework for defining and understanding the core culture of each case company. It is essential for our research to comprehend the organizational culture, as this is interrelated with the organizational learning capabilities. Additionally, it provides us with a strong understanding of how the company prioritizes, and what the company’s objective and orientations are.

According to Schneider (2000), all organizations are living, social organisms. He describes it as important to understand, that every organization has its own culture,
which is rooted in their nature and identity, and developed over time. The different successes help to reinforce this mantra, and strengthen the organization’s functioning operations over time (ibid.). It is also important to note, that the older the organization, the stronger the nature of their culture is and the easier it is to be identified. Features of the organization, such as the team behavior, corporate governance, lean manufacturing or marketing strategy, are less important than the fundamental nature of the organization as an organism (Schneider W. E., 2000, p. 25). If an intervention is focused on this fundamental nature, there can be a successful chance. However, if this does not address the nature of the organism, then the failure rate of the plan is extremely high (ibid.). “In the research of Collins and Porras, it is strikingly evident that organizational culture lies at the center of what differentiates visionary companies from comparison companies and, parenthetically, significantly greater economic performance over the long term” (Schneider W. E., 2000, p. 26).

Every organization has a core culture, which is essential to the functioning of the organization, and it is critical for this core culture to be aligned with the organization’s strategy and core leadership practices. According to Schneider, there are four core cultures:

1. Control: This is based on a military system with power being the primary motivator. This culture is rooted in certainty and is derived to provide dependability, predictability, safety and certainty. According to this framework, information and knowledge is built around the goals of the organization to the degree, that they are met. The main purpose of this culture is obtaining the organizational goal.

2. Collaboration: Based on an athletic team system, the underlying motive is affiliation. The culture is rooted in synergies, which can exist in close connections with customers, and their intense dedication to them. The main issue organizations are concerned with here is the connection between experience and reality. People in a collaboration culture gain knowledge when diverse, collective experience has been fully utilized (Schneider W. E., 2000, p. 27). This culture is entirely focused on obtaining customers’ desires through a strong understanding.
3. Competence: Derived from the university system, the fundamental motive is achievement. This culture is defined by its distinction. The pure existence is by creating unmatched products or services. By providing unique products or services, the culture is rooted in developing system goals of individuality, with the main goal being to attain this distinctive superior product or service.

4. Cultivation: stems from religious systems, motivated by growth and self-actualization. This culture is rooted in achieving enrichment. The objective is to obtain fullest growth of their customer and fulfilling the customer's potential. The basic issue here is the connection between the values and ideals of the organization, and the extent to which those values and ideals are being operationalized. The key emphasis is the connection between, what is espoused and what is put into operation (Schneider W. E., 2000, p. 27). This culture focuses on obtaining a value-centered goal.

Schneider's model and the four core cultures are visualized in the following table.

![Culture Diagram](image)

Source: (Sahota, 2011)
In order for an organization to properly learn from their past failures and experiences, there must be a strong link between the organization’s nature and the strategy depicted by management. With a strong alignment between strategy, culture and leadership the organization will be able to generate long term goals, and thereby be more effective within their customer interaction. This is an important feature for management to impose, when attempting to generate new strategies or changes within the organization. Failing to align these principles will hinder an organization’s capability to learn, and divide their customer base from their core principles, making it more challenging for the management to generate effective plans in the future.

Action Learning Perspective

The premise of this perspective is based on the behavioral learning approach. This approach conceptualize behavioral-oriented intervention as the starting point for learning processes in a theoretical framework of experiential learning (Dewey 1910, Kolb 1976, 1984; Argyris, Schön; 1978; Revans 1982; Forslin, Thulestedt 1993; Inglis 1994; Pedler 1997; in (Pawlowsky, 2001). According to the behavioral approach, learning is considered the result of conditioning. In other words; learning has occurred, when you experience alterations in the behavior. The behavioral learning approach has minimal focus on the perception of decision-making. Instead it focuses on the automatic reactions to performance and feedback in order to learn. The focus is increasingly removed from the individuals’ conscious thought process. These theories believe that decision processes and conscious thoughts are removed, thus feedback within a loop system is what induces learning. There are minimal barriers to improved performance, because learning is seen as involuntary and non-cognitive (Starbuck & Hedberg, 2001, p. 330). Behavioral psychologists suggest that actions are determined by a hypothetical stimulus-response model. In which learning can be comprehended by the learner from pleasant or unpleasant outcomes that respond to the event. Unpleasant outcomes weaken the stimulus-response, making the corresponding actions less likely to occur, where positive outcomes strengthen the corresponding action, making it more likely to occur again. This helps explain how routine processes can form within organizations.
Rooted in the behavioral approach, the base of the action learning perspective is that learning will occur through acting. Through a reflection process that follows action, a deeper understanding of contents can be developed. Action learning is based on a collective learning that can be gained through experimentation. Based on these learnings, experiences are shared, which can be analyzed and greater organizational learnings comes from this interaction. This understanding can render, that organizational meaning and actions are closely related, and learnings can be gained from this interplay.

On the basis of this perspective and the purpose of our research, we have selected two theories, which functions as tool for understanding the case companies’ experiential learning behavior. The following section will present Kolb’s Experiential Learning Cycle. Furthermore, Argyris & Schôn’s theory on Single-Loop Learning is relevant within this perspective.

**Kolb’s Experiential Learning Cycle**

This theory provides a framework of four stages, depicting how experience is translated through reflection into concepts, which in turn are used as guides for active experimentation and the choice of new experiences. It is important for our analysis of the case companies, that we understand the elements of experimentation in order to examine the organizations’ capability to learn from failure.

Kolb’s four-stage learning cycle depicts, how experience is translated through reflection into concepts, which in turn are used as guides for active experimentation and the choice of new experiences (Kolb learning styles: David Kolbs learning styles model and experiential learning theory (ELT)). The four different stages of learning from experience can be entered at any point, but in order for learning to take place, all stages must be followed in sequence. “Learning is the process whereby knowledge is created through the transformation of experience, knowledge is based on grasping an experience and transforming it” (Kolb D., 1984, p. 38).
According to Kolb’s theory, the learner “touches all the bases” in the four-stage learning cycle (Kolb D., 1984), which consists of the following elements;

- Concrete Experience: Learning from specific experiences, either new or a reinterpretation of existing experience (Feeling).
- Reflective Observation: Observing before making any judgment, by viewing the environment from different perspectives (Watching).
- Abstract Conceptualization: Logical analysis of ideas acting upon intellectual understanding of a situation (Thinking).
- Active Experimentation: The learner applies this knowledge to the world around them (Doing).

Source: (Kolb D. A.)

This cycle is seen as an effective learning process, when the learner has a concrete experience. Followed by observation and reflection, the experience allows the bases for an analysis by formulating the abstract concepts, which are then used in testing the learner’s hypothesis in future situations, resulting in new experiences. Kolb views learning as an integrated process with each stage being mutually supportive of and
feeding into the next (Kolb D., 1976). However, effective learning will only be achieved, when the learner is able to complete all stages of this model. Therefore, no one stage can be an effective learning procedure by itself.

An organization, that is able to understand these four stages, is more in apt at developing strategies for their organization to learn more efficiently, especially if they are seeking to increase their capabilities to learn from failure. A strong understanding of the different stages allows the organization to improve their core values or visions to become a more capable learning organization.

**Single-Loop Learning**

This theory is based on a mismatch between intention and outcome, and revolves around searching for another strategy leading into organizational learning. In this research, it functions as a basis for understanding the learning capabilities within the three case companies. Additionally, it is providing an understanding as to why the organization may or may not be successful at implementing new learnings from failure.

Chris Argyris and Donald Schön (1974) perceive learning as the formation or modification of a theory-in-use. This will be described within the cognitive knowledge perspective, due to its increased relevance in that particular section. More specifically, learning involves the resolution of a dilemma that resulted from a conflict between some elements of a theory-of-action, whether it is the individuals’ governing variables, action strategies or consequences. When the consequences of a strategy employed by a person are aligned with intentions and outcome, then there is a confirmation of their theory-in-use. However, if the consequence is unintended and could be counterproductive to satisfying the governing variables, there is a mismatch between intention and outcome.

Argyris and Schön suggest there are two possible responses to such a mismatch; these are characterized in the concept of single and double-loop learning. They are highly affiliated; however single-loop learning is yet related to action learning, whereas double-loop learning is reflected in the cognitive knowledge perspective.
Single-loop learning is a response to a mismatch between intention and outcome and revolves around searching for another strategy, which will satisfy their governing variable. For instance, when the process set forth by the organization allows for the person to carry on its present policies or achieve objectives, the process may be called single-loop learning (Argyris C., 1977, p. 115). Single-loop learning requires the learner to reflect on his or her action strategies and adopt new strategies that will be more effective in achieving their governing variables. For example, a new strategy in order to suppress conflict might be to reprimand the other people involved for wasting time, and suggest they get on with the task at hand. This may suppress the conflict and allow feelings of competence, as the fault has been laid at the feet of the other party for wasting time. In such a case, the new action strategy is used in order to satisfy the existing governing variable. This change in the action only, not in the governing variable itself, is an example of the process single-loop learning (Anderson, 1997). This theory is additionally reflected in the figure below in order to visualize the process as well as interaction between the different elements.

Source; on the basis of Argyris & Schön’s theory (Kuan, 2013)
Cognitive and Knowledge Perspective

The cognitive and knowledge perspective is centered around the assumption “...that all deliberate action had a cognitive basis, that it reflected norms, strategies and assumptions or models of the world which had claims to general validity...Human action and human learning could be placed in the larger context of knowing.” (Argyris & Schön, 1978, p. 10). Organizational learning interacts with this perspective by considering a modification to the organizations knowledge. This will enable an organization to improve their evaluation of internal and external environments. Fiol and Lyles argue: “Learning enables organizations to build an organizational understanding and interpretation of their environment...it results in associations, cognitive systems, and memories that are developed and shared by members of the organization” (Fiol & Lyles, 1985, p. 804).

Based on Pawlowsky’s scrutiny of organizational learning theories and within the cognitive and knowledge perspective, we find; Argyris and Schön’s Double-Loop Learning Theory, Theories of Action and Model I and Model II as well as the Organizational Knowledge Creation Theory by Nonaka most relevant to this particular research. Therefore, the subsequent section will present these theories and, as well as the previously described theories, they will function as point of reference for our analysis of the following case studies.

Double-Loop Learning Theory

This theory functions as a tool for analyzing and understanding the managerial employment of double-loop learning in the organizational learning processes of the case companies. It proposes how an organization can instill their employees with the power to make decisions, based on matching their intentions with their governing variables. By incorporating a management style, that allows employees to make decisions and constantly edit their governing variables, the organization can generate additional learnings.

Argyris uses the analogy of a thermostat, which is programmed to learn when the room is too hot or too cold, which results in turning the heat on or off. The thermostat can
perform this job, because it has been programmed to receive information like the heat of the room and then take action. This is a linear function that does not account other variables that could affect the room. However, double-loop learning occurs when the error is detected and corrected in ways that involve the modification of an organization’s underlying norms, policies and objectives (Argyris & Schön, Theory in Practice: Increasing Professional Effectiveness, 1974, pp. 2-3).

Double-loop learning requires the learner to change his or her governing variables, through reflection on the assumptions that underpin them. For instance in double-loop learning, the people in the room might question if this is the proper temperature for the room, or even if they have chosen the right type of heat to be distributed throughout the room. If one is capable of not only detecting error, but of questioning the underlying policies and foals as well as its own program, this is looked at as double-loop learning (Argyris C., 1977, p. 116).

The organizational learning technique, titled double-loop learning, proposes that an organization can instill their employees with the power to make decisions based on matching their intentions with their governing variables. For instance, if the learner questions the value of suppressing conflict or the need to always appear competent.

Double-loop learning does not supersede single-loop learning. Single-loop learning enables us to avoid continuing investment in the highly predictable activities that make up the bulk of our lives; but the theory-builder becomes a prisoner of his programs, if he allows them to continue unexamined indefinitely. Double-loop learning changes the governing variables (the “settings”) of one’s programs and causes ripples of change to fan out over one’s whole system of theories-in-use (Argyris & Schön, Theory in Practice: Increasing Professional Effectiveness, 1974, p. 19).

This learning process is visualized by the following figure.
Theories of Action and Model I & Model II
The Theories of Action consist of three elements related to how individuals link thoughts and action. This understanding founds the basis for Model I & Model II, as they reflect the organizational approach to double-loop learning. These function as a framework for analyzing the organizational position in relation to double-loop learning practice within each case.

Chris Argyris and Donald Schön published “Theory in Practice: Increasing Professional Effectiveness” in 1974. This was one of the first, from a series of books that provided deep insights into how individuals and organizations learned. In this first book they argue, that people’s behavior is guided and explained through their “theories of action”. They propose that people can learn better by identifying, understanding and evaluating the different components of their theories of action in relation to a problem of practice. However, this role of understanding and evaluating can be significantly challenging, as there is a mismatch between how an individual acts in a situation, and their perception of how they are acting. This is one of the bases for Chris Argyris and Donald Schön's work together in regards to theory on congruence and learning.
**Theories of Action**
What Argyris and Schön are proposing is, that there needs to be a greater congruence between individuals’ espoused theory “The worldview and values people believe their behavior is based on” and their theory-in-use “The worldview and values implied by their behavior, or the maps they used to take action” (Anderson, 1997). They are proposing, that there is not just a disconnect between what people say and do, but that there is a theory consistent with what people say and also a theory consistent with what they do. These theories are called the individuals’ “theories of action” (Argyris, Putnam, & McLain Smith, 1985, p. 82).

Theories of action that are derived from people’s descriptions of how they act, or have acted in the past, and from the explanations they give for such actions are called espoused theories. Theories of action that are derived from firsthand observations are called theories-in-use. Because people are not always aware of what causes their actions, the theories that people claim to be using and the theories that are actually determining their behavior may not be the same (Robinson & Lai, 2006, p. 26). Therefore, people are unaware, that their theory-in-use is actually different from their espoused theories, as people often aren’t aware of their own theory-in-use. This can create a significant divide into how an organization can progress, because the employees and the employer can have different theories-in-use.

There are three elements to a theory of action. The main component revolves around the individuals’ governing variables, which are values the person is trying to keep within some acceptable range. They include the values, assumptions, theories, beliefs, concepts, rules, attitudes, routines, policies, practices, norms, or skills that constitute people’s actions (Argyris & Schön, Organizational Learning: A Theory of Action Perpsective, 1978). The second are action strategies, which are strategies used by the person to keep their governing values within the acceptable range. The final element is the consequences. This incorporates the intended, those the actor believes will result, and the unintended.
To provide an example to better understand this premise, suppose a person has a governing variable of suppressing a conflict at work, while still being competent. In order to fulfill this, one will design action strategies that keep both of one's governing variables in line. For instance, if a conflict situation arises in the product development stage, one would steer towards avoiding the conversation of the conflict by saying a little as possible. In doing so, the problem may be suppressed and the conflict can be forgotten. Now that the conflict has passed, one remains seeming competent, because one has said nothing. However there are various consequences for both one’s actions and others involved. An intended consequence might be that the parties eventually drop the discussion, which would suppress the conflict. Due to one’s actions of saying little, one remains competent and may continue actions like this in the future. An unintended consequence could be, that one thinks about this situation repeatedly, which leaves one a feeling of unresolved problem and dissatisfaction (Anderson, 1997).

In summary there are a number of elements to what Argyris and Schön’s “theories of action” help explain how we link our thoughts and actions. These elements are;

1. Governing variables

2. Action strategies

3. Intended and unintended consequences for self

4. Intended and unintended consequences for others

5. Action strategy effectiveness

**Model I & Model II**
The inability for an organization to understand their organizational learning methods hinders a company from progressing and allows for problems to continue deteriorating. The governing values that are associated with theories-in-use can be grouped into groups, which inhibit double-loop learning (Model I) and those which enhance it (Model II). The following table clearly presents some of the differences between the two models;
<table>
<thead>
<tr>
<th>Model I – what we do</th>
<th>Model II – what we want to do</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guiding principles [governing variables]</td>
<td>Guiding principles [governing variables]</td>
</tr>
<tr>
<td>Achieve the purpose as the actor defines it</td>
<td>Valid information</td>
</tr>
<tr>
<td>Win, do not lose</td>
<td>Free and informed choice</td>
</tr>
<tr>
<td>Suppress negative feelings</td>
<td>Internal commitment to the choice and constant monitoring of its implementation</td>
</tr>
<tr>
<td>Emphasise rationality</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Action strategies</td>
<td>Action strategies</td>
</tr>
<tr>
<td>Control environment and task unilaterally</td>
<td>Control environment and task bilaterally</td>
</tr>
<tr>
<td>Protect self and others unilaterally</td>
<td>Protect self and others bilaterally</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Consequences</td>
<td>Consequences</td>
</tr>
<tr>
<td>Defensive relationships</td>
<td>Minimally defensive relationships</td>
</tr>
<tr>
<td>Low freedom of choice</td>
<td>High freedom of choice</td>
</tr>
<tr>
<td>Little public testing of ideas</td>
<td>Public testing of ideas</td>
</tr>
<tr>
<td>Reduced production of valid information</td>
<td>Increased production of valid information</td>
</tr>
<tr>
<td>Single-loop learning</td>
<td>Increased likelihood of double-loop learning</td>
</tr>
</tbody>
</table>

Source; on the basis of Argyris & Schöns theory (Absolum, 2006)

Model I has been identified as inhibiting double-loop learning, because the actors do not invite confrontation within their theories. This can help explain why an employee would not raise attention to a particular problem, which could facilitate into a failure further down the organizational processes. Model I binds people to their weaknesses. While the aim of Model II is to help people produce valid information, making informed choices and develop a commitment to these choices. The key result of using Model II is ability to combine the skills of advocacy with those of encouraging inquiry and confrontation of whatever is being advocated (Argyris C., 1977, p. 123). This allows for an individual to be able to make informed decisions and learn from previous actions. The learning from
Model II tends to facilitate others’ learnings, which can in turn facilitate your own learning capability.

Organizational Knowledge Creation Theory
This model presents a dynamic way of explaining knowledge creation, on the basis of continuous interaction between tacit and explicit knowledge through four stages. In relation to this research, it supports our identification of circumstances supporting knowledge creation. This also allows us to better understand the perils of distributing knowledge and which intricacies are involved with the different types of knowledge created in the organization.

Nonaka’s theory on organizational knowledge creation presents a dynamic way of explaining knowledge creation, on the basis of continuous interaction between tacit and explicit knowledge, through these four stages: socialization, combination, internalization and externalization (Nonaka, 1994). Based on the following quote, we found this theory particularly relevant for our research; “A central purpose of organizational knowledge creation theory is to identify conditions enabling knowledge creation in order to improve innovation and learning.” (Nonaka, 1994; Nonaka and Takeuchi, 1995; von Krogh et al., 2006) This theory explains the process of distributing and sharing individually gained knowledge with organizational knowledge systems. Thereby, personal experience can benefit colleagues, and eventually the larger organization (Nonaka, von Krogh, & Voelpel, 2006, p. 1179). The socialization stage involves interactions through for example observations, imitation or sharing of experiences. Combination is based on the use of information systems and meetings for instance. Finally, internalization refers to the process of converting explicit knowledge into tacit, and vice versa for externalization, which converts tacit into explicit knowledge. According to Nonaka et al.; “By interacting and sharing tacit and explicit knowledge with others, the individual enhances the capacity to define a situation or problem, and apply his or her knowledge so as to act and specifically solve the problem.” (Nonaka, von Krogh, & Voelpel, 2006, p. 1182). In order to apply this theory, it is important to understand the underlying
assumptions and differences between tacit and explicit knowledge. Therefore, an explanation of each is presented in the subsequent section.

Tacit knowledge in contrast is based solely on the individual’s experiences, and is not transferred or articulated through dialogue. Because of this, tacit knowledge is often context dependent and personal in nature. It is hard to communicate and deeply rooted in action, commitment, and involvement (Nonaka, 1994). This form of knowledge is more wrapped around “know-how”; the philosopher Polanyi (1967) described tacit knowledge as knowing more than we can tell, or knowing how to do something without thinking about it, like ride a bicycle. Tacit knowledge is also regarded as being the most valuable source of knowledge, and the most likely to lead to breakthroughs in the organization (Wellman, 2009). As this knowledge is highly personal and cannot be found within manuals or databases. The crucial question for organizations in regards to knowledge creation lies in their ability to mobilize the tacit knowledge, and transferring it to the group and organizational level in order for collective learning to take place. This means, that individual knowledge and experiences have to be articulated and experienced by other members of the organization.

Explicit knowledge is understood as observations that can be articulated and transferred through the use of language. Explicit knowledge is often formal and can be grouped systematically, allowing for easy communication and sharing of learnings, while having been documented. Most of this knowledge is technical, academic data or information considered “know-what”, and is described through manuals or other formal languages. From a managerial perspective, the greatest challenge is ensuring that people have access to this knowledge and understand what is important, and that the knowledge is being stored as well as reviewed, updated and discarded accordingly. Many theoreticians regard explicit knowledge as being less important (Brown & Duguid, 1991), because this type of knowledge can be seen as more simplistic, which means that it does not contain strong experience based learnings, that facilitate competitive advantage.

Hence, organizational knowledge is created through continuous interaction between tacit and explicit knowledge within the four previously described stages. Nonaka
explains the importance of this theory as follows; “Companies and leaders who treat knowledge management as just another branch of IT don’t understand how human beings learn and create.” (Helgesen, 2008).

Chapter IV: Methodology

This chapter of the thesis will identify and discuss the scientific methodology and approach supporting our research of failure and its implications on organizational learning. According to De Marchi & Gilbert; “...methodology is enquiry into why the accepted is judged acceptable” (De Marchi & Gilbert, 1989). Therefore, the purpose is to support the validity of our academic work by illuminating the reasons behind our decisions. Furthermore, this chapter will present the structure of this research within the research design.

Research Strategy

The research strategy examines the construction of the research, and is therefore necessary to determine, in order to create an adequate foundation for answering the research question and thus fulfill the research objectives. The purpose of this research is to study, how organizations can learn from their failures and which factors are essential in this learning process. In order to research this, and based on our interpretive research philosophy, we have chosen to apply a case study strategy for this research. The case study method is defined by Hagan as “in-depth, qualitative studies of one or a few illustrative cases” (Gadamer, 2004, p. 240). This strategy gives us the ability to conduct an empirical in-depth investigation and analysis of a contemporary topic of research, and according to Eisenhardt it “focuses on understanding the dynamics present within single settings.” (1989, p. 534). The scope of this case study research is limited by the research question as well as the underlying hypotheses.

Furthermore, based on our interpretative research philosophy, a qualitative research strategy is deemed appropriate for this research. Rather than descriptive or quantitative strategy, the qualitative research approach allows for gaining an in-depth understanding
followed by an interpretation of the topic of research (Creswell, 2013). This strategy can be applied to various types of research such as ethnographic, historical, narrative or case studies (ibid.). Hence, it is suitable for our research based on case studies. Additionally, in contrast to the quantitative research strategy, the qualitative approach allows for exploration, detailed analysis and is not conclusive, which makes it an obvious choice for our research purpose (ibid.).

**Research Approach**

We have chosen to apply a hermeneutic approach to this empirical analysis of qualitative research on three case studies. The hermeneutic approach revolves around the interpretation and understanding of social actions through exploration and analysis of individuals’ meanings, and is particularly appropriate for qualitative research of interpretive nature (Regan, 2012) (Kinsella, 2006). According to the German philosopher, Hans-Georg Gadamer “authentic engagement with reading requires awareness of the inter-subjective nature of understanding in order to promote a reflective engagement with the text.” (Regan, 2012, p. 286). Thus the hermeneutic approach is embedded in our research, and founds the basis for our interpretations of qualitative research in gaining a comprehensive understanding on the research topic.

The literature on methodology additionally suggests two widely used approaches to research, being the inductive and the deductive approach or types of reasoning. They are fundamentally different by nature, which is exemplified in their different approaches which are taken, for example the conclusion. Inductive reasoning is fundamentally indefinite, as the conclusion is based solely upon the premises and evidence given (Vickers, 2014). Thereby, the conclusion of an inductive research is simply proposing the truth without ensuring it. In comparison, the conclusion of a deductive argument is theoretically certain based on the fact, that it links true premises with conclusions, and thus reaches a conclusion of the entire truth (ibid.). Moreover, the two approaches are different in their way of conducting research. The deductive approach is based on examination of a theoretical premise through the usage of a strategy, which is designed for the particular premise (Saunders, Lewis, & Thornhill, 2009). In contrast, the inductive approach is focusing on the establishment of theory based on research (ibid.).
Additionally, this approach allows for an exploratory introduction to the field of research including detection of patterns, and an ending with general conclusions or theories. Therefore, this particular research is based on an inductive approach due to the explorative nature of our research, practical orientation as well as the analytical structure of the argument with themes at the core rather than theories.

**Research Design**

The research design “deals with a logical problem and not a logistical problem” (Yin R. K., 1989, p. 29). Therefore, the following is an explanation of the logical structure of the examination, which forms the basis for our research. In general, there are only few guiding principles for conducting case research, which creates an increased demand for explaining the design of the specific research. Thus, the case research allows for analysis of a current phenomenon in real-life contexts and gives us the opportunity to tailor the design and data collection to our research question. Therefore, we deem this case research strategy appropriate for this research. Supporting our decision and purpose of our research, Bruce L. Berg states the following; “the case method is an extremely useful technique for research relationships, behaviors, attitudes, motivations, and stressors in organizational settings.” (Berg, B.L., 2007, p. 296). More specifically we have decided to study multiple cases in order to get a broader understanding of the field of research. This type of research is also referred to as collective case studies (Stake, 1994, 2000). According to Yin, one of the benefits from conducting multiple or collective case studies is that they are “considered more compelling, and the overall study is therefore regarded as more robust” (Yin, 2003, p. 46).

The design of this research is based on our knowledge gained from the literature review in combination with the theoretical framing. We started by exploring the aspects of failure from a professional as well as scholarly point of view, in order to understand the central elements of the discussion. Through carrying out the literature review, it became clear to us that the discussion revolved around three prominent themes, which we find vital for the understanding of handling failure successfully. These are; the societal issue revolving around failure, the importance of experimentation in the process of learning
from failure and the managerial commitment in order to learn from failure. Hence, these elements reflect one dimension of our research. Hereafter, we will compare and contrast these elements with relevant theories on organizational learning, which reflect the second dimension of this research. Together they create the basis for a scientific examination of the case companies, and hence an understanding of how organizations can learn from failure. This explanation is visualized in the following table for clarification purposes.

<table>
<thead>
<tr>
<th></th>
<th>Cultural</th>
<th>Action</th>
<th>Cognitive</th>
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<tbody>
<tr>
<td>Societal issue</td>
<td>Schein &amp; Schneider’s organizational culture</td>
<td>x</td>
<td>x</td>
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<td></td>
<td>models</td>
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<td>Experimentation</td>
<td>x</td>
<td>Kolb's learning cycle</td>
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<td>Single-loop learning</td>
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<td>Managerial influence</td>
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<td>Double-loop learning &amp;</td>
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<td></td>
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<td>Model I/II</td>
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<td>Organizational knowledge</td>
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<td>creation</td>
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This table signifies our contribution to the study of failure, as the correlation between the two underlying principles of our study, being failure and organizational learning, is not previously examined. Furthermore, it reflects the points of focus for this particular work, as for instance we will not be exploring how the societal understanding of failure is understood on the basis of an action learning perspective. Hence, all the cells marked with x’s in the table will not be explored in this research, however they all represent scientific research questions, and can therefore function as bases for further research. In the following, we will describe how our analysis is carried out based on our choice of theories, in order to ultimately answer the research question.

The combination of Schein and Schneider’s models on organizational culture provides a framework for understanding the underlying assumptions, espoused values and artifacts, which together form the organizational culture of each case company, and allows for further positioning of the companies within a matrix distinction between their organizational cultures. Furthermore, relevant concepts from our literature review will be explored in relation to the three cases, in order to evaluate the different approaches
to failure and possible solutions. Our research will focus primarily on the underlying basic assumptions and espoused values, as these are most relevant in the study of failure, due to the nature of failure as an unspoken and disapproved phenomenon. However, we take point of departure in an artifact of their organizational cultures by introducing their visions, as they are the most clear and explicitly stated references of their company cultures. This creates the foundation for answering our first hypothesis; The organizational culture can mitigate employees' perception of failure.

The two theories on organizational learning by Kolb and Argyris & Schön both function as frameworks for analyzing and understanding the organizational practices related to the companies’ learning capabilities. Through application of Argyris & Schön’s theory we will analyze their employment of single-loop learning, whereas Kolb’s learning cycle is used in order to analyze to what extent the case companies apply the stages of the theory, and hence learn from their failures. These analyses of the three organizations all found the basis for answering our second hypothesis; If failure affects organizational learning, a process of experimentation can be applied to generate learnings.

By combining Argyris & Schön’s theories on double-loop learning, theories of action and Model I/II with Nonaka’s theory on organizational knowledge creation, we acquire a solid foundation for analyzing the three case companies’ managerial approach to organizational learning. The first theories function as the basis for our examination of the managerial approach and commitment to double-loop learning practices. Hereafter, the organizational knowledge creation theory is introduced in order to understand the companies’ capabilities to share and retain the creation of organizational knowledge. These analyses generate the basis for answering our third hypothesis; If management imposes a system to learn, the organization can evolve their capabilities.

Thereby, we are able to analyze the organizational culture, internal organizational learning structures, and managerial strategy and thus understand their behaviors, in order to discuss applicability and relevance of the findings. Furthermore, based on analysis of the case companies on all above mentioned parameters and relevant theories, we will present their company strategy, which is subsequently founding the basis for a discussion. The discussion will revolve around the organizations’ approaches
to the three hypotheses, and ultimately found the basis for answering our research question; How can organizations improve their learning capabilities through failure?, which will be answered unequivocally in our conclusion of this research. A visual exemplification of this contribution of our work to academia is presented in the table below, which is reflecting the structure of our analysis followed by the structure of our discussion.

<table>
<thead>
<tr>
<th>Case Analysis</th>
<th>Companies</th>
<th>Hypothesis 1</th>
<th>Hypothesis 2</th>
<th>Hypothesis 3</th>
<th>Strategy</th>
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<tr>
<td>3M</td>
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<td>x</td>
<td>Autonomy Strategy</td>
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<td>Johnson &amp; Johnson</td>
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<td>Decentralized Strategy</td>
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<td>Coca-Cola Co</td>
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<td>x</td>
<td>Contextual Strategy</td>
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All cells within this table will be explored through our analysis, with the purpose of determining if our three hypotheses are true or false. Hereafter, the hypotheses are discussed on the basis of the three different strategies represented by the case companies, as reflected in the following table.

<table>
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<tr>
<th>Discussion</th>
<th>Strategy</th>
<th>Hypothesis 1</th>
<th>Hypothesis 2</th>
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<tbody>
<tr>
<td></td>
<td>The Autonomy Strategy</td>
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<tr>
<td></td>
<td>The Decentralized Strategy</td>
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<td></td>
<td>The Contextual Strategy</td>
<td>x</td>
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<td>x</td>
</tr>
</tbody>
</table>

Again, all cells are taken into account for a confirmation or disconfirmation of our three hypotheses, which will finally support the answer of our research question in the conclusion.

In order to understand the underlying principles for our choice of the three case companies, the following will reflect our thoughts and premises for these selections.
Choice of Cases

The reason behind choosing a multi-case approach for this research is based on the aim for increasing generalizability. A single-case approach would have limited generalizability and generated numerous information-processing biases (Eisenhardt, 1989). Despite a quantitative approach involving numerous cases could have supported generalizability, we have chosen to combine the qualitative strategy with a multi-case approach, in order to achieve an in-depth understanding of the research topic for each case, as well as giving the reader the ability to determine applicability of the outcome. It is a fine balance between having an appropriate dataset for a pluralistic perspective, and yet be able to make a deeper investigation of the cases. However, we find three cases suitable for this research purpose, as we believe they will create a solid basis for answering our research question.

Before selecting our cases, we have explored the literature and global discussion revolving around failure, which have led us to the three different cases examined in this research. Our considerations regarding the choice of cases are based on our belief, that failures are present in all organizations despite industry and that every organization can learn from their failures. Furthermore, the sampling of cases is based on the goal to present firmly select examples from relatively different industries. The only denominator is their delivery being consumer products, which we deliberately chose in order to narrow our scope and be able to generate more specific arguments. Granted one of the organizations’ main markets is within medical supplies. The emphasis was to find three cases, which were all matching the three dimensions prevalent in the literature review on failure, as well as providing disparity in the contextual factors. 3M, Johnson & Johnson and Coca-Cola were mentioned multiple times in our research, as organizations that had experienced and dealt with failure. This strengthened our aim for exploring these specific companies and their learning experiences with failure. However, within our analysis we are touching upon various effects failure can have within an organization. These cases are not united due to all organizations having dealt with a failed product and analyzing their learning. Instead we chose these cases due to the robust information that would be available on the organizations, and an understanding that failure is interconnected to different aspects within the company. Therefore, providing us with different insights to what failure can incite for organizational learning.
The company 3M is referenced in the literature for the product Post-It’s, which became an innovation on the basis of their company culture being firmly rooted in taking risks and accepting failure. We researched the organization, and were fascinated by their openness to failure and the guiding principles that lead this company to success. Their story is shared and used as an example of failure leading to brilliant innovation, and therefore supports the emphasis on organizational learning in regards to failure.

Next, the Johnson & Johnson Company was chosen for their family values and the ever present company Credo. We were intrigued to understand how a company, of such expansive size throughout the world, could operate in relation to their core values and looked to better understand how they incorporate failure into their organization. There was also a clear example of failure based on the Tylenol case, which was prominent in the 1980’s. This however generated incredible learnings for the organization, and was a time that allowed them to showcase their company culture and grow from this interaction, as a result of a failure. Therefore, we used this company as an example to understand how they have use organizational learning within their processes, and to what extent failure is present.

Finally, we chose Coca-Cola for their comparative nature in markets operating throughout the world, and yet had a contrasting management style. We wanted to explore how a multinational, and one of the most recognizable brands in the world, dealt with a topic like failure. There has also been a classic marketing blunder with their product extension failure of “New Coke” in the 1980’s. We found this to be an interesting case, that deals more directly with a product failure and the learnings the company was able to generate from this. These general interests provided us with a better understanding of how they dealt with failure, and allowed us to investigate their learning capabilities.

While all three companies and their respective cases incorporate different measures in dealing with failure, as well as providing different aspects of how failure can affect the organization. The common factor as mentioned previously is their presence in consumer goods, however these companies all convey separate management structures and styles,
we felt by researching these three distinct companies, this would allow us to gain a more holistic view on the topic of failure within organizations.

**Data Collection**

The data collection component is essential in all fields of study, as it forms the basis for testing of hypotheses, answering the research question and examining results. As stated in the research strategy, this particular research is based on a qualitative strategy in order to gain an in-depth understanding of the research topic and thorough case analysis. There are various methods used to collect qualitative data such as experiments, observations and communication through surveys and interviews. Using a semi-structured interview technique, could have been a suitable approach for an exploratory research (Saunders, Lewis, & Thornhill, 2009). This would entail a number of interviews to be carried out within all three organizations, in order to gain extensive insight into the different case companies. However what we came to realize was that the topic of failure is something these organizations do not want to discuss. As we have seen in our literature companies are willing to acknowledge that failure is important, yet they do not want to discuss specifically where they have failed. Based on a telephone interview held with Stefan Lindegaard, we found that using the word failure could make companies feel uncomfortable and unwilling to work with us (Appendix 1). Therefore, being cognizant of this fact, we decided to not use that term when contacting companies. The case companies were still reluctant to discuss their failures openly with us, despite us not using the word failure. We interpreted the lack of response from our excessive proposals for interviews, as a result of their reluctance to discuss failure. Therefore, our study is based on secondary data. According to Michael S. Lewis-Beck, "A great deal of social science work is done on secondary data. For example, a social researcher may go to the library and gather together data first assembled by the U.S. Census Bureau. Or, a psychologist may collect data on a number of published experiments testing a particular hypothesis, in order to carry out a meta-analysis of those studies." (Lewis-Beck, Bryman, & Futing Liao, 2004). This statement from the SAGE Encyclopedia of Social Science Research Methods supported the reliability of our choice of basing the research on secondary data. Furthermore, another advantage of secondary data, especially in
relation to global companies, is the extensiveness and coverage of the data accessible. Thus, as researchers we are also aware of the critical aspects of using secondary data. A disadvantage to using secondary data is the lack of knowledge about how the research was done and additionally, the research object and purpose behind the secondary data, which is most likely different from the objective of our research, and can be a severe disadvantage. This is due to that fact, that it may therefore not support the purpose of the research in question, which results in a failure to answer the proposed research question. Hence, this is accounted for in the examination and analysis of the data through careful selection and evaluation of data to ensure adequate fit for the purpose of this research. As interpreter and analyst of this data, it is likewise important to read between the lines, and recognize the underlying complications faced in their data collection process. In order to develop a cohesive understanding and analysis of the cases, the data collection includes data from not only primary and secondary sources, but also from internal and external perspectives.

The line is thin between what is considered primary and what is considered secondary sources, however for this research it is understood based on the following definitions. With reference to Queen’s University; “primary sources are original sources, in which its witnesses or first recorders describe a time, person or event. They are the subject interpretation of a witness to an event and serve as the materials historians use to analyze the past. Primary sources can either be the original document or published at a later date in electronic, microfilm and printed collections.” (Primary Sources in the Humanities and Social Sciences , 2011). As with the definition of primary sources, the understanding of secondary sources is also based on Queen’s University’s definition; “A secondary source interprets and analyzes primary sources. Secondary sources are one step removed from the event” (Primary Sources in the Humanities and Social Sciences , 2011). Our data is gathered from public information, such as their homepage, annual reports or any report that was created by the organization, in order to describe a message relating to management treatment or employee interaction with the company. Also any report or statements that were generated by employees, leaders or managers of the organizations were used. Additionally, any external source that provides further understanding of the organization is used. For example past case studies have done on any of the
organization, or journal articles, magazine articles etc. We explored any opportunity we could, in order to find in depth analysis in regards to failure and what organizational learning methods they might employ.

More specifically, the research carried out for these case studies is conducted through the use of the Internet, online databases as well as literature. For instance, through the online databases we found company reports that supported our measurement and analysis of the case companies, as well as helped to maintain the center of the project. Primarily databases such as Business Source Complete, SocINDEX, Emerald Insight, Business Insights: Essentials, Sage Journals Online, Sage Knowledge and Libsearch were used in the data gathering process. These sources provided us with extensive material to obtain profound knowledge about the three case companies, as well as the general discussion of failure as presented in the literature review.

Our choices for the data collection proved to be useful for the purpose of the research, since our views on all three companies were not biased by either employees or managers of the companies. Additionally, it provided us with the ability to take a mutually neutral stance in relation to all three cases, and thereby avoid interference with the research objects. Furthermore, due to the global nature of all three case companies and incited by their international presence, we were able to gather adequate secondary data to analyze their operations and learning capabilities. We were able to find numerous extensive and in-depth data sources on all companies, which offered an enhanced understanding. This furthermore allowed us to carry out an analysis on the research topic as well as evaluation of the different strategies applied by the case companies.

Data Analysis
The data is coded and analyzed on the basis of the three prevalent themes of the failure discussion, which are the societal issue revolving around failure, importance of experimentation in order to learn from failure and the managerial influence on organizational learning from failure. By this means, the data we gathered on all three companies was initially divided into the following five themes; company introduction,
company culture vs societal issue, experimentation, managerial influence and the company strategy. This division provides a more transparent view of the organizations. Furthermore, the data is analyzed through the use of theories we deemed relevant for this particular work, which supported the following analysis. The underlying premise for our analysis is additionally visualized in the previous section on our research design, representing how we structured our analysis on the basis of the principles of failure and organizational learning.

**Chapter V: Case Analysis**
The sub sequential case analysis is organized based on a structure consisting of five elements. All five elements will be integrated in each of the three company analyses. Initially the company is introduced based on a short self-description of their history and company profile. This is followed by an analysis of their organizational culture, which functions as the basis for answering our first hypothesis. Hereafter, we will analyze the company's processes and approach to learning and experimentation, in order to answer our second hypothesis. Then, an analysis of their managerial approach to learning and organizational knowledge creation is performed, and this functions as the foundation for answering our third hypothesis. Finally, the analysis is summarized in a strategy for each of the companies, which will form the basis for our following discussion of their strategies in relation to our hypotheses.

**Case 1: 3M**

**Company Introduction**
3M Company (3M) is a diversified technology company, which operates in various industries including: industrial; safety and graphics; electronics and energy; healthcare; and consumer goods. The company operates in the US, Europe, Middle East, and Africa (EMEA), and Asia Pacific. It is headquartered in Saint Paul, Minnesota, and employed 88,667 people as on December 31, 2013 (Marketline, 3M Company, 2014).
3M describes themselves as a global innovation company that strives to improve the daily lives of hundreds of millions of individuals throughout the world. Depicting their constant desire for new innovative approaches and product development has sustained their growth through organic measures as well as strategic accusations. 3M serves customers through five business groups, which increase speed and efficiency by sharing technological, manufacturing, marketing and other resources (3M Company, About us: 3M Business Groups, 2014). 3M mentions that their holistic innovation strategy has a focus on disruptive, early stage innovations outside of the company’s existing portfolio. (3M Company, Who We Are, 2014). Our background knowledge on 3M is that the company was founded in 1902 by five businessmen in Two Harbors Minnesota, USA, as the Minnesota Mining and Manufacturing Co. One of the great ironies of this corporation is it began as a failure, the original business model was to mine corundum, which was used for industrial grinding wheels, yet where the company had set up proved to not be conducive to mining this material as the product quality was too low. Therefore, we found that innovation began from an early age, as the company needed to innovate their image through the failed previous venture. The company closed down the mine and began manufacturing sandpaper and industrial abrasives from purchased materials. William L. McKnight, who was an early employee of the company and became the first president in 1929, also serving as the chairman of the board from 1949 to 1966 remarks, “Our eggs were all in one basket at the beginning (the failed mine). By diversifying products.. it was unlikely a trade war would hit them all at once and at least part of our business would always be profitable” (Collins & Porras, 2004, p. 320). The company’s experience in manufacturing sandpaper eventually led to the development of adhesives, the first major product being tape for the painters within the auto industry. To sustain and maintain the business model, the company has formed an innovation strategy in which they construct a core technology and then developing products, which are based on this technology to compliment multiple industries. 3M has been following the McKnight Principles that were set out by William L. McKnight, Therefore, we find it highly relevant for our analysis and understanding of 3M, and have incorporated it in the subsequent. McKnight’s basic rule of management was laid out in 1948, as is still as follows:
"As our business grows, it becomes increasingly necessary to delegate responsibility and to encourage men and women to exercise their initiative. This requires considerable tolerance. Those men and women, to whom we delegate organization and responsibility, if they are good people, are going to want to do their jobs in their own way.

Mistakes will be made. But if a person is essentially right, the mistakes he or she makes are not as serious in the long run as the mistakes management will make if it undertakes to tell those in organization exactly how they must do their jobs.

Management that is destructively critical when mistakes are made kills initiative. And it's essential that we have many people with initiative if we are to continue to grow." (3M Company, History- 3M US Company Information:McKnight Principles, 2014)

The following section we will describe what influence these McKnight principles have not only on the culture of the company, but also on the societal issue revolving around failure that 3M is dealing with.

**Company Culture & Societal Issue**

**Schein’s Culture Model**

We begin our analysis of the company by using Edgar Schein’s organizational culture model. We understand the McKnight principles to be an artifact of their culture in relation to Schein’s tripartition of organizational culture, as they are explicitly stated and identifiable elements of the organization’s culture. By understanding the company culture and what has driven their decisions to get to where they are now, we are able to understand how the company makes decisions and which basic assumptions and espoused values the company possesses. These McKnight principles also represent basic assumptions of the company culture in the form of an artifact. These principles coupled with McKnight’s firm belief in developing a creative environment building a culture of trust, that encouraged employees to harness their own initiatives with ideas and encourage innovation have become the company’s espoused values. These espoused
values rooted in the employees’ interpretations of the artifact, represented by the McKnight Principles, have been guiding 3M for more than 100 years.

When we looked into 3M’s employee development, the organization demands some important aspects from their leaders in order to grow the organization. 3M has a program, that we feel deals with some of the societal issues an employee has from failure by encouraging their leaders to: Think from the outside in; Drive innovation and growth; Develop, teach and engage others; Make courageous decisions while holding themselves and others responsible; Lead with energy, passion and urgency so that teams can respond quickly to innovation; Live 3M values of integrity, honesty and professional ethics (SHRM Foundation, 2008). By instilling their leaders with these capabilities, we find that 3M is working to reduce the cultural risk of failure, in order to generate a more innovative workforce. With reference to Schein's tripartition of organizational culture, 3M’s leadership development is aiming at linking the espoused values of their leaders with the basic assumptions of the organization. Our understanding is by explicitly stating their aspiration, there is increasing possibility that employees of 3M will apprehend what their position entails, and thereby adapt to the basic assumptions of the organization. Additionally, one can argue that they are working to affect the basic assumptions of their potential leaders, in order to ensure that their strategies in the future will reflect an acceptance to failure.

**Schneider’s Organizational Culture model**

3M’s organizational culture is reflected in the cultivation quadrant of Schneider’s Organizational Culture model. 3M’s continuous dedication to understanding their customer through their core principles set by McKnight, enables their organizational culture to operate within the cultivation quadrant reflecting their core culture. Based on their allowance for employees to explore and fail, in order to create innovations, and for leaders to nurture personal growth and creativity, the organization manages to fulfil its vision. Hence, this also means that the organizational culture of 3M is grounded in a combination of being people and possibility-oriented. Additionally, this organization is firmly rooted in enrichment of their customer base’s life. Their primary goal of achieving
innovation by taking risks and diversifying their product base is deeply rooted in this core culture. In fact our classification of 3M within the cultivation culture is further supported in the literature on Schneider’s model, as 3M is used as a case for exemplification. However, our interpretation and evaluation of their organizational culture was conducted prior to finding 3M as an example in the literature, and is therefore solely confirming our understanding of the theory. This type of commitment and understanding of employees and consumers would be akin to Schneider’s. However, there are many steps that the organization has tried taking in order to continue to be an innovative giant and learn through their failures. By staying true to their company culture of cultivation, they continue to enrich the lives of their employees, and remain true to the artifacts and espoused values set forth from McKnight.

**Intelligent Fast Failure (Matson & Sitkin) / Smartfailure (Lindegaard)**

We find that 3M’s organizational culture stems from McKnight and his beliefs, his actions have allowed these values to become basic assumptions, which we find are affecting their societal risk aversion to failure. 3M stipulates that McKnight believed in the imperatives of hiring the right people, tolerating mistakes and giving employees’ freedom to explore in order to foster a culture of innovation (3M Company, 2012). This given artifact, expressed in his principles, gives 3M a strong base to work on bypassing the cultural understanding that failure isn’t acceptable, which many employees have, as explained by Amy Edmondson and referenced in the literature review prior to this analysis. George W. Buckley, former Chairman, President and Chief Executive of 3M, remarks that “Our company has, indeed, stumbled onto some of its new products. But never forget that you can only stumble if you’re moving” (Collins & Porras, 2004, p. 208). This is an example of the organization incorporating intelligent fast failure with reference to the description of Matson’s concept in the literature review, in order to curb the societal pressures of not taking a chance. As intelligent fast failure demystifies the aversion from failure and encourages calculated well-informed risk taking, Mr. Buckley’s remarks are in support of this notion to continue to operate and grow, while having the understanding that plans do not always work out. This emphasizes the need for continuous organizational momentum in order for employees to create innovations. By
guiding the employees and encouraging them to voice their ideas, while their ideas are given equal value regardless of position or title, the company hopes to guide their actual behaviors. By top management voicing the company’s perspective on acceptance of failure at an early stage of the organization’s life, the employees of 3M are explicitly informed about managerial standing, in turn affecting their basic assumptions and changing their overall acceptance. This is also an important step, when the company is trying to implement intelligent failure, as “Leaders making a public commitment to support staff and willingness to fail is essential” (Sitkin, 1996, p. 561). Also, publicizing intelligent failures sends a clear message, that it is ok to fail and intelligent failures will be rewarded. Setting goals as 3M does, such as having 25 percent of a division’s revenues come from products introduced within the last five years, means that divisions must continuously experiment to develop new products. This is additionally an example of implementation of one of the 5 characteristics of Sitkin’s intelligent failure, where in order to recognize and learn from a failure, there needs to be a set of uncertain outcomes. “As failures that are highly predictable, are not intelligent” (Sitkin, 1996, p. 554). What Sitkin is showing, is that information is not available without experimentation. Hence, 3M is displaying that they accept some of the principles of intelligent failure. Therefore, we moreover believe that 3M is correctly utilizing the experimentation stage of Sitkin’s model, which we find is the most relevant process for an organization to learn from failure, and thus will analyze in order to answer hypothesis 2.

The company has used the term “mistakes” repeatedly within the McKnight principles; therefore it would not be as pertinent for the organization to focus heavily on their terminology, in order to alleviate the social stigma of failure. Implementing a term such as Smartfailing will most likely not have a huge impact on the organization and its employees, as their positive and encouraging view on mistakes. Therefore, we believe that within 3M having to change the societal understanding of failure by using a term such as Stefan Lindegaard’s “Smartfailing”, might not be as relevant as to other companies, whereas solely the fear of the word failure can hinder organizational development.
Experimentation

**Single-loop Learning**
We believe that experimentation is the most progressive factor to a company’s ability to innovate and work with failure based on the findings from our literature review. According to Cannon & Edmondson, “*The company has earned a reputation for successful product innovation by encouraging deliberate experimentation and by cultivation of a culture that is tolerant and even rewarding of failures; failures at 3M are seen as a necessary step in a larger process of developing successful, innovative products*” (McGrath R. G., Failing By Design, 2011, p. 81). By having allotted time to work on their own projects, 3M has been able to incorporate new learnings and improve functions. This is an important example of single-loop learning, in which employees are using their behavioral learning capabilities, experimenting with projects and are able to learn from their outcome. It is our understanding, that without strong governance from management on all working hours, the employees are able to learn what has worked in their projects and why, and then incorporate these learnings back into the company. We find that management needs to allocate time for experimentation and single-loop learning as done within 3M, and focus on facilitation of organizational learning processes, which can benefit the organizational learning capabilities and knowledge capacity, as seen in the following.

**Kolb’s Learning Cycle**
3M has put the McKnight principles into practice by encouraging employees to dedicate a significant portion of their time to projects and research that go beyond their core responsibilities. An example of an outcome of this is seen in the creation of Post-It notes, which will be elaborated within the company’s strategy. The product was created through interaction between two employees in this time slot allowing them to focus on this particular project of personal interest. With reference to Kolb’s Experiential Learning theory, at least one of the innovators experienced all four stages of the learning cycle, which in turn leads to an example of an effective learning process. Arthur Fry had a concrete experience, which led to reflective observation of his co-worker’s project, followed by abstract conceptualization in collaboration with this co-worker, and finally active experimentation through new organizational knowledge creation. 3M believes in
encouragement of individual initiative and innovation; it decentralized, gave all employees 15 percent of their time to pursue any project of their liking, created an internal venture capital fund, and instituted a rule that 25 percent of each division’s annual sales should come from products introduced in the previous five years (Collins & Porras, 2004, p. 208). Therefore, it is our firm belief that 3M is acknowledging the importance of experimentation, and the benefits from allocating time for the individual to experiment and learn from their actions. Based on our case analysis, it is evident that 3M encourages experimentation through their rule of devoting 15% of employees’ time to experimentation with own projects. Furthermore, the case reference is a complete example of combining all stages of Kolb’s learning cycle, which is a means of experimentation utilized in action. However, we cannot generalize and stipulate that this is true in all their operations, but supported by quotes and research it is our firm understanding that 3M incorporates the stages of Kolb’s Learning Cycle.

Managerial Influence

Double-Loop Learning and Theories of Action and Model I & Model II
William McKnight is not one of the most famous business leaders in history, and his contribution to 3M has been particularly significant and long lasting. McKnight knew that encouraging individual initiative could produce raw materials in which 3M could benefit from as the business progressed. McKnight wanted to create an organization that would continually self-mutate from within, impelled forward by employees exercising their individual initiative (Collins & Porras, 2004, p. 342). This encouragement of individual initiative through free and informed decision-making is also referred to in Argyris & Schön’s Model II, which is reflecting management styles. Hence, this example indicates, that 3M’s managerial approach is first off enhancing double-loop learning.

In the following quote, George W. Buckley, former CEO, speaks about 3M’s openness to risk taking; “People have to get familiar and comfortable with taking risks with the idea of imagining something and driving it to conclusion. And having once got there being successful. There is that old attage that: “Success breads confidence and confidence breads competence” (SHRM Foundation, 2008). Here management is giving more cognitive
freedom to the employees, and allowing them to act and think for themselves, as in the previous paragraph referencing McKnight and Model II (Argyris & Schön, Organizational Learning: A Theory of Action Perpsective, 1978). This quote from Buckley reveals 3M’s managerial emphasis and encouragement of employees to actively seek alternative solutions in the processes before they run into problems, which is a direct reference to double-loop learning practice. Furthermore, George W. Buckley remarks that; “You need to create that environment of people being themselves, I’m a big believer in people being themselves, when you are trying to create really creative organizations you have to have them a little more role, let them be themselves and express their feelings” (SHRM Foundation, 2008). This furthermore supports that 3M understands their employees’ theories-in-use, and gives them the freedom to develop their action strategies within the organizational space. Argyris and Schön believe that allowing the employees to change their governing variables and develop new action strategies, the individual employees are able to learn and grow. Based on our analysis of the company’s organizational culture established on the McKnight Principles, 3M’s efforts to affect their employees’ governing variables in order to accept failure has been in effect since their initial failure as a mining corporation. George W. Buckley also reveals the importance of aligning these core principles with their employees; “I have always believed passionately that any of the roles, whether its technical, sales, marketing that it really is about the people and using the skills and talents of the people and aligning them to the business direction and when we make those connections and people understand the direction then wonderful things happen” (SHRM Foundation, 2008). Here 3M’s management is showing their determination in making the correct connections between job tasks and business direction in order to gain the most out of their workforce. Furthermore, their learning environment, which is described by the following quote, supports this objective; “3M supports learning through on the job training, traditional classroom setting, online learning & functional communication of practice. Each employee is responsible for his or her individual growth plan. The goal of our commitment to learning is engaged employee who understand how their action contribute to 3Ms success and make decision as if they owned the business.” (3M Company, Learning & Career Growth). This statement by 3M is demonstrating that they are incorporating double-loop learning by allowing the employees to make decisions, that affect their governing variables and have them better
understand their theories-in-use, so the organization can better learn from mistakes and successes. This process reinforces and benefits not only the individual, by allowing time and resources for such practices to take place, 3M can increase their organizational knowledge capability and internal resources significantly. Hence, based on these statements we can infer that 3M concentrate their efforts on creating an environment supporting Model II and thereby also emphasizes double-loop learning.

Organizational Knowledge Creation

For management, distributing knowledge is a significant aspect in order to learn from failure. Therefore we have used Nonaka's Organizational Knowledge Creation theory to understanding how tacit knowledge, embedded in the individual, is shared and thereby converted into explicit knowledge, expanding organizational knowledge. When developing leaders are distributing information within 3M there are a lot of cross-functional projects, which gives people a chance to talk to many different leaders, other than their supervisors and managers. As the company has more than 85,000 employees and is operating in more than 60 countries worldwide, new developments are happening daily. In order for 3M to overcome this issue they generated the 3M Technical Forum was founded in 1951. “This culture of cooperation, communication and cross-pollination of ideas among marketers, scientists and other employees generates enthusiasm to share technologies and best practices across 40 business units and 30 research labs around the world” (3M Company, A Culture of Innovation, 2012). We interpret this as an example of socialization and externalization with reference to Nonaka’s theory. Additionally, it is our understanding that this distribution of knowledge and culture helps improve the organization and improve their learning capabilities. As the culture of this organization is of cultivation and their acceptance to failure is so explicit, the company can learn and grow through the employees’ interactions.
Strategy: The Autonomy Strategy
Co-inventor Spence Silver and Arthur Fry were attempting to work on a super-adhesive, which eventually turned into the Post-it industry that spread far and wide. Arthur Fry was singing in a church choir one day in 1974, when he had a creative moment on how to find the songs they were signing more easily. The paper he used keep slipping from the book, so he was curious on an adhesive that could be used to keep the bookmark in place. After that moment he searched out Spencer Silver, who was working on an adhesive. He was able to create this Post-it thanks to the freedom granted by management, to take 15% of your free time to work on your own projects. “The key to the Post-it adhesive was doing the experiment. If I had factored it out beforehand, and thought about it, I wouldn’t have done the experiment. If I had really seriously cracked the books and gone through the literature, I would have stopped. The literature was full of examples that said you can’t do this.” (Collins & Porras, 2004, p. 354).

Management practices like these have spawned the freedom to work though failures, and work on projects that may be more risk averse. We found this freedom has generated a large impact on the organization, and fosters creativity and innovation. As many of the functions that led to the Post-it creation happened accidentally, there is a potential there would not have been any innovation, had the environment not been conducive to failure. When Arthur Frey’s Post-it notes were developed, test batches were then sent to heads of different departments, and the feedback was used to perfect the product and generate a marketing strategy. Had 3M forbidden them from continuing to work on their crazy idea, when initial market surveys indicated that the product would be a failure, there is a strong possibility Post-it notes would not exist as a commercial product today (Collins & Porras, 2004).

Also the innovative push to generate 25% of revenue from the past 5 years’ inventions continuously pushes their employees to remain innovative and shed the risk-averse appeal, which many other companies face. This implementation of intelligent failure measures, in order to maintain a cultivation company culture, has been a strategy 3M’s management continuously reinforces through their societal understanding of accepting failures in order to learn and grow. 3Ms strategy supports learning and innovations through the four stages of Kolb’s theory, as well as the ability to allow a knowledge flow
through all phases of Nonaka’s model. By embracing their failures and extrapolating the learnings from them through experimentation, and distribution of knowledge through cross-functional forums, 3M remains true to their company culture, which is reflected in their strategy. With the management’s capabilities to induce double-loop learning while staying true to their culture, we believe these are important steps for the company to be taking in order to learn from failure.

Therefore, based on above analysis we have titled their strategy “The Autonomy Strategy”. This reflects their managerial encouragement of employees to embrace failure and experiment in order to stay innovative. The management of 3M even incorporates time for the employees to work on their individual projects, and thereby gives them the freedom to maintain their innovativeness.

**Case 2: Johnson & Johnson**

**Company Introduction**

Johnson & Johnson (J&J) has been a family owned and operated company since three brothers, Robert Wood Johnson, James Wood Johnson and Edward Mead Johnson, founded it in 1866 in New Brunswick, New Jersey. J&J refers to themselves as the world’s leading provider of a diverse range of health products. With their company focusing on research, development, manufacture and sale of consumer health care products, pharmaceuticals, medical devices and diagnostics. The Company conducts business in virtually all countries of the world with the primary focus on products related to human health and well-being (AR 2013). Their family of companies comprises of more than 275 operating companies in more than 60 countries employing approximately 128,700 people with their worldwide headquarters remaining in New Brunswick, New Jersey, USA (Johnson & Johnson, Our Company).

The Company’s structure is based upon the principle of decentralized management. The decentralized management is comprised of the Executive Committee of Johnson & Johnson is the principal management group responsible for the strategic operations and allocation of the resources of the Company. This Committee oversees and coordinates
the activities of the Consumer, Pharmaceutical and Medical Devices and Diagnostics business segments. (AR 2013). The guiding light that has conjoined the company across multiple cultures and languages has been the Credo. In 2013 the company had celebrated the 70th anniversary of their Credo. J&J describes their Credo or their “Guiding Philosophy” as “an overarching philosophy that guides our business activities, a deeply held set of values that have served as the strategic and moral compass of generations of J&J leaders and employees” (Johnson & Johnson, Our Credo Values). We find this document to be present in all of the decisions that the organization makes, and will therefore introduce the Credo in its entirety henceforth, as it will constitute a basis for further analysis of the organizational culture of J&J.

“We believe our first responsibility is to the doctors, nurses and patients, to mothers and fathers and all others who use our products and services. In meeting their needs everything we do must be of high quality. We must constantly strive to reduce our costs in order to maintain reasonable prices. Customers’ orders must be serviced promptly and accurately.

Our suppliers and distributors must have an opportunity to make a fair profit.

We are responsible to our employees, the men and women who work with us throughout the world. Everyone must be considered as an individual. We must respect their dignity and recognize their merit. They must have a sense of security in their jobs. Compensation must be fair and adequate, and working conditions clean, orderly and safe. We must be mindful of ways to help our employees fulfill their family responsibilities. Employees must feel free to make suggestions and complaints. There must be equal opportunity for employment, development and advancement for those qualified.

We must provide competent management, and their actions must be just and ethical. We are responsible to the communities in which we live and work and to the world community as well. We must be good citizens – support good works and charities and bear our fair share of taxes. We must encourage civic improvements and better health and education.

We must maintain in good order the property we are privileged to use, protecting the environment and natural resources.

Our final responsibility is to our stockholders. Business must make a sound profit. We must experiment with new ideas. Research must be carried on, innovative programs developed
and mistakes paid for. New equipment must be purchased, new facilities provided and new products launched. Reserves must be created to provide for adverse times. When we operate according to these principles, the stockholders should realize a fair return.”

(Johnson & Johnson, Our Credo, 2014).

The credo was created by one of the brothers Robert Wood Johnson. It can be viewed within stone outside of the headquarters and has been revisited multiple times. This document depicts a hierarchy of responsibilities descending from customers down to shareholders with an explicit emphasis on treating employees and customers first, rather than maximizing returns for shareholders. We will be analyzing further how the Credo affects the company culture and guides their employees to learn even through failures.

Company Culture & Societal Issue

Schein’s Culture Model

The following analysis of Johnson & Johnson is initiated by using Edgar Schein’s organizational culture model, which supports our understanding of the company culture, and what has driven their decisions to get to where they are now. Furthermore, it provides us with the ability to understand how the company makes decisions and which basic assumptions and espoused values the company possesses. We believe the Credo represents their espoused values that employees and management use. With reference to Schein's model on organizational culture, the credo is considered an artifact of their company culture due to its nature of being consciously established and explicitly stated guiding principles for the employees to understand and adapt to. J&J states that “Our Credo is a blueprint for long-term growth and sustainability that’s as relevant today as when it was written” (Johnson & Johnson, Our Credo Values). By clearly presenting the artifacts, which founds the basis for the overarching espoused values of the company, they become an integrated part of the organizational culture. By understanding Schein’s work, that an organization may run into trouble if their basic assumptions are not defined and explicitly declared in the form of either artifacts, symbols or espoused
values, in order to accommodate new employees, we believe J&J’s Credo aligns these principles. Alex Gorsky remarked about the Credo during the 70th anniversary celebration that;

“The words written by General Robert Wood Johnson are just as relevant today as they were in 1943 and remind us of the deep responsibility we have to the doctors, nurses, patients, mothers and fathers — and all those we are privileged to serve. It's Our Credo that ignites our passion to strike out in new directions with boldness, with purpose, and with a sense of unlimited potential about what the future of health care might bring. Our Credo also unites the employees of Johnson & Johnson in a common mission to make positive, measurable differences and help people everywhere live longer, healthier and happier lives.” (Marketline, Johnson & Johnson Company Profile, 2014)

The credo helps explain how the organization is geared towards a learning culture, by placing its importance for the employees and customers ahead of their shareholders and profit making interests. According to Ralph S. Larsen, who served as CEO from 1989 to 2002, “The credo survey is no longer just a report card. It serves as an instrument to increase involvement, productivity, and the communication of values and objectives; to get input into forming strategic plans, and to identify and resolve gaps between our guiding principles and daily actions” (Foster, 2000). The Credo has become a basic assumption, which the organization uses to measure all future decisions off of it. The organization is geared towards accepting failure within its principles, as even within the Credo there is a passage stating; “Research must be carried on, innovative programs developed and mistakes paid for” (Johnson & Johnson, Our Credo, 2014). As Amy Edmondson remarks, there is a need for management culture to remove the barriers for allowing failure and innovation to flourish (2011). Although this Credo was created over 70 years ago, there is still a relevance to how the organization manages its employees, and structures its understanding of how the different companies can operate simultaneously. Based on our research, it is important that J&J management works to affect the espoused values and basic assumptions of its employees, in regards to improving idea generation and acceptance of failure.
Schneider's Organizational Culture Model
According to Schneider’s Organizational Culture matrix, J&J’s style of organizational culture is described as “collaboration”. The organization is extremely people-oriented, which is stated explicitly in their Credo, as they value employees and customers above the shareholders or profit stream (Johnson & Johnson Strategic Framework, 2014). This is moreover seen in the collaborative function they hold within innovation. Additionally within the Credo, it is mentioned that employees must feel free to make suggestions and complaints (strategic framework). This underlines that the organization works towards removing cultural barriers towards risk and failure, and presumably understands the importance of same. Based on our research it is clear, that J&J does not shy away from pushing their employees, asking tough questions and stating their willingness to accept failure. One of the main factors acknowledged by J&J is getting people comfortable with risk-taking we view this as a recruitment strategy based on the Credo. Most managers have spent their careers avoiding risk, which can be due to the societal perception of failure and risk taking as being factors to avoid. However, J&J stipulates that their innovation leaders are trained in how to embrace risk as well as manage it through experimentation and test-learn models. (InnovationTools.com, 2010). In our research on failure, we find that these barriers must be passed through the creation of a basis for acceptance of risk and failure in order to establish an environment of innovation and growth. As Amy Edmondson points out, failures that can stem from experimentation have the capability to generate extremely fruitful information for the organization. J&J is using this understanding within their processes to train their leaders to remain in line with their culture, but inspire a future workforce to embrace failures and harness their learnings. This furthers our argument about their culture and environment, which is established to support and facilitate organizational learning from failure.

J&J operates their 250 companies throughout 60 different countries under a decentralized management system. J&J feels this provides the different companies with their own thought process, and the company benefits from the breadth and depth of experience opportunities (Johnson & Johnson Talent Management, 2004, p. 140). Not only does the company operate among many different countries, but it also spans across many different cultures. In order for J&J to remain intact with these companies, they
install the Credo throughout the organization. “J&J allows its global operating companies to be extremely entrepreneurial in character and to function as individual small businesses closely aligned to customer needs” (Gopalakrishnan, Kessler, & Scillitoe, 2010, p. 271). Which is a strong example as how management is able to generate strategies for development, because they are so cognizant of their culture of collaboration. There are some challenges in regards to language when translating the Credo, but this is generally the driving force between their companies. Former CEO, Ralph S. Larsen, comments that decentralization is at the heart of J&J, and “with decentralization you get tremendous speed at a local level, but you’re slower when you need to sweep across continents” (O'Reilly & Lieber, 1994, p. 180). This importance of speed is not only seen referenced within the case study on J&J, but also in the literature on failure, as speed has an impact on failure. In relation to failure, speed is considered a factor, which needs to be managed accordingly in order to achieve the benefits from failing. Based on this, we can conclude that J&J further creates an environment providing the circumstances for failure and failing fast, as their organization is constructed based on a decentralized structure. However, this does not stipulate that the company manages to extract this potential, but from a theoretical perspective it is highly emphasized to exploit this opportunity in order to utilize failure as a basis for organizational learning.

**Intelligent Fast Failure (Matson & Sitkin) / Smartfailure (Lindegaard)**

Former CEO Johnson remarks in 1954, that “Failure is our most important product” (Collins & Porras, 2004). Through this public statement that failure is accepted, the staff is showing their willingness to fail, which is essential in order for the organization to learn. This is a staple example of how they are incorporating intelligent failure into their company, with reference to Sitkin in the literature review.

We can see that the organization has taken steps in dealing with societal issue of failure in order to better understand their employees’ cultural perspective through their innovation policy. One of J&J’s subsidiary companies, Ethicon Endo-Surgery Inc, which design and manufacture medical devices and surgical equipment, describe a process in which they utilize use regarded as the systematic inventive thinking (Goldberg, Horowitz, Levav, & Mazursky, 2003) in a report within Organizational Development.
Journal). Drew Boyd, Director, Marketing Mastery for Johnson & Johnson (Ethicon Endo-Surgery division) describes this term as “a set of tools used in facilitating a team environment to generate predictable and progressive ideas” (Boyd, 2007, p. 119). He further states “This innovation process uses templates to help regulate individual thinking and channel the ideation process in a structured way that overcomes the randomness of brainstorming” (Boyd, 2007, p. 119). Boyd suggests that their use of templates in facilitating workshop teams to create organic growth opportunities and improve efficiencies. However, Drew Boyd states that there are four significant challenges they need to overcome. First is how to innovate, then the fear of failure, followed by individuals’ tendency to withhold ideas and finally the rejecting of ideas from other colleagues. These are all examples of societal issues that J&J is dealing with, but by operating within a team environment J&J looks to curb these societal issues, in order to bypass this fear of failure. This can be interpreted as an further attempt to change the basic assumptions of the employees with reference to previous analysis based on Schein’s model. Within these workshops, J&J we have not seen any terms such as “Smartfailure”, being used in order to affect their employees’ basic assumptions and fear of failure. It is highly important for the management to influence the societal issue of fear of failure, and we find using terminology like Smartfailure can effectively change how employees view failure. An additional challenge that J&J faces in regards to failure is mentioned by Drew Boyd, and it is that status often makes “employees keep their good ideas to themselves, and them being afraid to test their ideas in the workplace, due to fear of embarrassment and loss of status if their ideas fail” (Boyd, 2007, p. 119). Therefore, J&J has set up these workshop groups to encourage employees to take risks and avoid cultural challenges like these, which are currently affecting their actions. By changing their focus, the organization can affect the societal issue regarding fear of failure. J&J mentions that when employees are working in these team innovation workshops, they are being facilitated by external consultants specialized in training and the use of above-mentioned templates. There is no definite answer to whether external sources are positive or negative to use in this case, and it is not particularly within the boundaries of this research.
While, we feel that external input can foster new organizational lessons and learnings, however we are hesitant to suggest this as a learning strategy for failure. External consultants are missing the deeply rooted understanding of the organizational culture, which is reflected in the basic assumptions of an organizational culture according to the trichotomy by Schein. Furthermore, our analysis reveals that based on the Credo J&J has established an organizational culture with focus on collaboration and acceptance of failure. However, research shows that employees are afraid of sharing and testing ideas due to the fear of failure, which can possibly be changed through incorporation of positive terminology.

**Experimentation**

**Single-loop Learning**

Where we see J&J implementing experimentation most directly into a learning process is through employee development. In a report published in *Talent Management: From Competencies to Organizational Performance*, J&J describes their use of action learning processes within this field. J&J states that the purpose of using such a specific training mechanism is to give the employees more realistic feedback on the work they are doing. They feel when an employee is trying to better understand a process or project, implementing action learning allows the individual to gain a greater understanding of the process, and how information would unfold in "real life" scenarios. We find this will in turn work towards affecting their behavior and strategies in the future, allowing them to learn and make decisions, that are better geared towards the organization’s core culture. Based on the research, it is evident that the organization understands the importance of learning through failure, and by implementing action learning it allows for the individual to gain a strong understanding of how to progress while gaining organizational support. J&J states that “action learning programs, where learning is rooted in experience, guidance, and reflection. It is often in such moments, when individuals and groups fail to achieve stated goals, that the greatest lessons are not only learned but also remembered and internalized for future use.” (Crosby & Zlevor, 2010, p. 24). This program can be referred to as an enabler for single-loop learning, as it is based on learning through reflections of previous experience.
Jim Collins in his book titled “Success built to last” remarks about J&J’s willingness to experiment. “R.W. Johnson jr, understood that companies must accept failed experiments as part of evolutionary progress.” (Collins & Porras, 2004, p. 332). This willingness to accept failures in regards to experiments increases the learning chances and processes like single-loop learning. Steve LaMonte, Vice President of Innovation at J&J, remarks about their innovation policy within an interview for innovationtools.com. The premise was on how the company gets accustomed to generating new ideas. Steve describes their approach to innovation “as pervasive with the company viewing it as a systemic capability, that needs to be aggressively driven in all parts of its business worldwide” (InnovationTools.com, 2010). It is our understanding that this systemic approach to innovation involves single-loop learning, however the process is not clearly defined and most likely protected for the sake of competition.

**Kolb’s Learning Cycle**

J&J depict their view on experimentation within the Credo “*We must experiment with new ideas. Research must be carried on, innovative programs developed and mistakes paid for.*” (Johnson & Johnson Talent Management, 2004, p. 141). We find, that describing this acceptance to experiment coupled with the action learning processes, as mentioned in the previous section, provides the employees with the possibility to explore the four levels of Kolb’s theory on organizational learning, which are also based on learning through concrete experience. Through this organized initiative by the company, employees are given the freedom to experiment in a safer environment, expectantly being increasingly open towards failure and risk, and thereby reach the final stage of active experimentation according to Kolb’s learning cycle. This will benefit not only the individual, but also the company. By attempting to understand the individuals’ espoused values, they are able to generate a better knowledge set on the employee. However, our research does not specify examples of processes within J&J including all stages of the cycle. Therefore, we cannot conclude that they are incorporating the entire learning cycle and thereby learn from experimentation, but we can stipulate that
experimentation is integrated in their organizational processes through action learning, as described as reference to single-loop learning.

Managerial Influence

**Double-Loop Learning and Theories of Action and Model I & Model II**

We find that J&J’s management is trying to influence their employees to accept failure in the innovation process which is done through both their corporate culture, but also through implementation of organized training of the innovation managers. With reference to their organizational culture, J&J management focuses on their employees governing variables by using the Credo to ensure they are acting within their desired corporate culture. J&J states in their strategic framework that “Our people and values are the common thread behind Our Credo, our strategic principles and our growth drivers.” (Johnson & Johnson Strategic Framework, 2014). We view the Credo to be at the heart of decision making process within the organization, and they use it to ensure employees action strategies meet the plans management has created.

J&J released a document called their “Strategic Framework”, where they mention how they utilize a council of innovation leaders, “which helps develop strategy and align all divisions to common innovation objectives, this strategy continuously nurtures an innovative culture that spawns a community of practice, in which the best innovation practices are shared throughout the firm.” (Johnson & Johnson Strategic Framework, 2014). We view this as an enabler of a double-loop learning system in which employees can embrace their cognitive behavioral learning capabilities, and understand that the company's strategy represents a willingness to take risks and further drive their innovative culture. Additionally, these characteristics point in the direction of a managerial focus towards Model II of Argyris & Schön, with an increased emphasis on freedom to make informed choices and commitment to these. Therefore, their practices are also considered enhancing for double-loop learning. Based on the findings in our research, the management of J&J actively seeks to promote organizational learning while accepting failure, which is considered key elements in creating supportive circumstances for learning through failure.
Organizational knowledge creation
Robert J Darretta, CFO of J&J describes a way in which they mitigate tacit knowledge exchange within their organization. J&J's view is that instead of having employees with highly specialized specific jobs, the individual would have a certain job type for 2-3 years and then would change into a different branch or department within the company. “We work in concert with others on projects, so knowledge is shared rather than hoarded by an individual” (Heffes, 2005). With reference to the previous analysis based on Argyris & Schön’s theories of action, this allows for the governing variables developed by employees within the different job roles to be shared throughout the organization. As the company has an openness to failure, this view will be shared throughout multiple departments, becoming more explicit knowledge. Furthermore, based on Nonaka’s theory, this is also viewed as a process of socialization and externalization, where tacit knowledge is shared through articulation for instance, and thereby transformed into explicit knowledge. Building on this and as proposed by Nonaka, it allows for others to explore the combination and internalization phases based on the explicit organizational knowledge, and thus create new tacit knowledge for externalization and advanced organizational knowledge creation.

The system J&J uses to spread information, training techniques and skills throughout its expansive network is labeled eUniversity. One of the main reasons J&J has installed this system is because knowledge sharing and information transfer is at the forefront of the management’s task. Robert J Darretta, CFO for J&J states “You don’t want knowledge to simply reside with the individual, you want knowledge to reside with the organization” (Heffes, 2005). Therefore, using a system such as eUniversity allows the organization to train many employees across multiple different continents, and retain important information within the organization. With reference to Nonaka’s definition in his theory on organizational knowledge creation, this system supports the facilitation process of transferring tacit knowledge, acquired by individuals, into explicit knowledge, which can be easily understood without participation of the knowing person. Hence, the collection and transformation of tacit knowledge, which is embedded in the individual and personal context, allows the company to learn from previous experience. Not merely
experience gained on the organizational level, but also on the individual level. This transition process is facilitated by codification, articulation or specification.

Therefore, based on above analysis we can conclude that J&J’s approach to organizational knowledge creation and transfer allows the organization to share experiences among employees, not merely systematically but also through personal interactions. Their encouragement of frequently shifting positions facilitates the latter, and gives the employees the ability to obtain a coherent understanding of the organization and cross-sectional learnings. Furthermore, with reference to J&J's innovation community of practice, their innovation leaders employ double-loop learning and thus focus on model II managerial practices, as they have have created this community allowing the employees to learn from previous experience and seeking alternative solutions before problems occurs.

**Strategy: The Decentralization Strategy**
The Credo is at the forefront of almost every decision being made within J&J. As the company is a family run business and has been since its inception, the company culture of collaboration can be seen throughout all major decisions. Their decentralized approach to management allows for the umbrella companies to embrace the parent company's Credo, and yet innovate and develop within their own markets. The organization continues to learn from their processes by mitigating tacit knowledge through changing employees’ positions continuously and not believing in highly specialized job descriptions. This allows them to remain innovative and create an organizational environment for efficient externalization of knowledge, which is a positive approach to retaining their company culture. An example of how they continue to retain this culture can be seen in the following example of how they dealt with an incident involving one of their most renowned products. We are not including this example to show how the company deals with failure. However this example represents the company’s capability to learn from a public disaster and demonstrates how they incorporate their strategy and rely on the Credo in times of trouble.
For J&J one of their flagship products has been Tylenol, an over-the-counter pharmaceutical that is used in pain relief. In 1982 there was a case in which cyanide had been placed into a couple of capsules and ended up killing seven individuals. They could not detect who had done it, nor could management figure out which plant had been infected. This was a corporate nightmare for the organization, as this incident could tarnish their entire brand image, and changing the perspectives of the consumers, who relied on J&J’s healthy, customer friendly products when purchasing these items. Immediately J&J recalled around 31 million bottles with an estimated retail value of over 100 million USD (Petroski, 2006). This fast action response by the management proved to be an important element in how the organization can respond to such a tragedy, without tarnishing their superior brand image.

What J&J has been able to learn from this case shows their ability to respond to an extremely volatile situation, and remain as a corporate management success story. Their transparency throughout the process allowed for the failure of providing safe and consumer-friendly products not to hinder the image customers have about the brand in general. The credo remained at the forefront of the organization when dealing with this crisis. By conveying a societal issue that J&J had to maintain, they were able to grow stronger with input from the management to curb their customers’ disapproval.

The Tylenol case was able to showcase, how the organization responded promptly and properly to what could have been a very negative outcome for them. Through immediately taking responsibility for the default and pulling the product from the shelves, the company proved to their consumer base, that they are significantly more interested in the care of their consumers, than they are in turning a profit. This alignment with their Credo proved to be one of the most successful implementations of their company culture, and further emphasizes the employees’ determination to the strongly embedded organizational culture. The organization implements intelligent failure tactics, as the management is encouraging of intelligent risk-taking, and ensuring this knowledge is distributed throughout the organization. This demonstrates their managerial capabilities, but most importantly their strategy; to accept and emphasize failure, risk-taking and employee engagement in order to secure individual as well as organizational knowledge creation, innovations and organizational development. Their
performance of experimentation is not clearly defined, however their organizational culture provides a great basis for implementation of experimentation practices in order to learn from failure. As previously described, their profound emphasis on failure and risk-taking as well as their action learning program allows for an experiential approach to organizational knowledge creation based on their failures. Additionally, their managerial approach towards organizational learnings and knowledge creation is reflected in double-loop learning practices as well as organized initiatives for knowledge sharing. However, we have only discovered this within their innovation department, and can thereby not generalize for the entire operations of J&J.

Based on above analysis of the company, we have labelled their strategy “The Decentralization Strategy”, which reflects their managerial approach. Due to their organizational structure including several subsidiaries, the management of J&J has incorporated their Credo as the overarching guiding principles for the organization. However, yet allowing their divisions to develop and stay innovative within their respective markets.

Case 3: Coca-Cola

Company Introduction
Coca-Cola was established more than 125 years ago after the conception of the original drink, which Dr. John Smith Pemberton discovered in May 1986 (The Coca-Cola Company, The Chronicle Of Coca-Cola: Birth of a Refreshing Idea, 2012) The name Coca-Cola and the trademark logo are both attributed to Frank Robinson, who was partner to Dr. John Smith Pemberton, when they used to charge 5 cents for tasting a glass of Coke at a local Jacob's Pharmacy (ibid.). The Coca-Cola Company (Coca-Cola or Coke) describes themselves as a manufacturer, distributor and marketer of nonalcoholic beverage concentrates, syrups and finished sparkling and still beverages. The company owns or licenses more than 500 brands, including diet and light beverages, waters, juices and juice drinks, teas, coffees, and energy and sports drinks. With featured brands such as Diet Coke, Fanta, Sprite, Coca-Cola, Vitamin Water, Powered and many more. According to their website, they are also the number one provider of sparkling
beverages, ready-to-drink coffees, juices and juice drinks. It operates in more than 200 countries, with the company headquartered in Atlanta, Georgia (Marketline, Coca-Cola Company, 2014). Coca-Cola describes that their mission is used to define their practices and develop a standard, in which the company can develop a global organization, which inspires employees and consumers across many different cultures. The vision of Coca-Cola which is presented on their homepage includes 6 P’s. These outlining factors have shaped how the organization involves itself internationally, and their interaction with the employees. The 6 P’s creating Coca-Cola’s vision are as follows;

**Profit** - Maximize long-term return to shareowners while being mindful of our overall responsibilities.

**People** - Be a great place to work where people are inspired to be the best they can be.

**Portfolio** - Bring to the world a portfolio of quality beverage brands that anticipate and satisfy people’s desires and needs.

**Partners** - Nurture a winning network of customers and suppliers, together we create mutual, enduring value.

**Planet** - Be a responsible citizen that makes a difference by helping build and support sustainable communities.

**Productivity** - Be a highly effective, lean and fast-moving organization.

(The Coca-Cola Company, Our Company: Mission, Vision & Values, 2014)

Coca-Cola states they have and enduring commitment to building sustainable communities, which is reflected in the company focus on initiatives that reduce their environmental footprint, support active, healthy living, create a safe, inclusive work environment for their associates, and enhance the economic development of the communities in which they operate in (The Coca-Cola Company, Our Company: Workplace Overview).
Company Culture & Societal Issue

Schein’s Culture Model

Our analysis of Coca-Cola will begin with an assessment of their company culture through the use of Edgar Schein’s organizational culture model. The vision of Coca-Cola mentioned previously reflects an artifact of the company’s organizational culture, and describes the espoused values that the company looks to incorporate into their employees and also in others’ view of Coca-Cola. The Coca-Cola Company remarks on their homepage that the purpose of the 2020 vision is to “strive to create open work environments as diverse as the markets we serve, where people are inspired to create superior results. We also aim to create environments where people are fully engaged and where the Company is viewed both internally and externally as an employer of choice.” (Our Company: Employee Engagement, 2014). However, Coca-Cola has struggled with getting their vision understood across different departments, which we consider an example of a clash between the espoused values and basic assumptions of the employees and management within the organization. When then CEO, John Brocks stepped in he felt there was a significant challenge of aligning the organization from leaders and management down to the employee field. "It was critical that each employee understood the company’s new vision and goals and could associate the impact of their own contribution to the company’s overall strategy” (Cisco, 2007). The company vision is understood as an artifact of Coca-Cola’s organizational culture, based on Schein’s tripartite theory. The artifact constitutes an explicit statement of the company’s vision, and thereby allows the employees to follow this, as it is clearly stated. Additionally, the culture of the company consists of espoused values and basic assumptions, which are embedded in the organization as deeply rooted beliefs guiding employees’ behavior, that are difficult to articulate and hence makes it likewise challenging to change the entrenched organizational culture. Based on the quote by Brocks, the employees did not seem to comprehend the shared basic assumptions of the organization, which inevitably creates tensions in the company, and thus needs clear managerial guidance. Therefore, above statement constitutes an example of internal miscommunication and mismatch between the employees and the basic assumptions and espoused values of the company. With reference to Schein’s theory, this can create significant complications, yet fortunately the management of Coca-Cola took action. Brock furthermore remarks, that
as a leader you have to have the ability to connect and convey emotion to win employees hearts and minds. By understanding that, Coca-Cola's mission statement involves 3 focuses of; Refresh the world, Inspire moments of optimism and happiness, Create value and make a difference. Coca-Cola believes this mission is providing focus and value for the organization, and providing people with a product that is improving their lifestyle. Because each of these defining values creates an end result, which is a simple plan to establish clear guidelines for everyone within the organization to refer back to. Therefore, Coca-Cola hopes that if you work at Coke, you should probably have a pretty good idea of what the plan is and what is expected of you (Koury, 2011). This mission statement furthermore comprises artifacts of Coca-Cola's organizational culture, which creates a basis for organizational alignment of the company. However, despite lack of alignment between employees’ and the organization's basic assumptions and espoused values, Coca-Cola has one of the world’s most recognized symbols within their logo, supporting their core business and organizational culture.

**Schneider's Organizational Culture Model**

In relation to Schneider's theory on organizational culture, our interpretation of the culture within Coca-Cola is primarily associated with the aspects of “control”, due to their view on and reluctance towards failure and risk, which will be elaborated further in the following section. This perception is based on the previously mentioned 6 P's within the company’s vision, which represents the organizational focus on shareholders, stability and order. As management is trying to align the employees with reference to the quote by Brock and the company's mission, we thus feel that recent leaders are moving the company culture into the quadrant of “competence”. This means, that they are still company-oriented, thus rather possibility-oriented and now striving to be the best based on expertise, professionalism and efficiency. One could argue, that the decision on freedom given to the local distributors contradicts the control paradigm, but this does not prove to be the overall picture of the organizational culture of Coca-Cola according to our analysis. The rationale behind not placing Coca-Cola in “cultivation” or “collaboration” modes is, that they are significantly focused on the business
achievements and their shareholders as referenced in the above, and seem to be less focused on the subjective creativity of the employees.

**Intelligent Fast Failure (Matson & Sitkin) / Smart failure (Lindegaard)**

It is our firm belief that Coca-Cola has struggled in the past by having a more risk averse mindset. This is a cultural perspective on failure, that past CEO, Neville Isdell has worked to circumvent. Isdell spoke to a global staff and analysts in 2004 in which he argued that lack of accountability; aversion to risk, internal politics and poor management succession strategies have compromised innovation, marketing, execution and relationships with bottlers. Furthermore he admitted “the company had a long way to go before it is the world's most consumer-centric, innovative consumer goods company. **We need to continue improving [our marketing] so that we always build upon a really deep understanding of our consumers and strengthen our relationships with them.**” (Simms, 2004, p. 2). Isdell is speaking about the employees’ espoused values and basic assumptions with reference to Schein’s tripartite theory, which are affecting their actions in regards to failure. This is further complicated, because the company diversifies their products into different segments. But the core employees are those, whose espoused values Isdell is looking to change. At one of Coca-Cola’s annual meetings Isdell remarked to their investors, that they will continue to see some failures; "**As we take more risks, this is something we must accept as part of the regeneration process.**” (McGregor, 2006). We view these measures the former CEO was taking to reduce the cultural barrier of failure and ensure that the employees are not only becoming less risk averse, but also effecting the organization and their shareholders that accepting of the idea of failure is a part of the processes and should be accepted. An important first step in learning from failure is by taking responsibility for the failures, as seen within the literature review. Through externalization of these possibilities to take more risks and potentially fail, Isdell is attempting to push the organization into becoming one that embraces “intelligent failures”, by broadcasting the possibility of failure in a public manor. According to Amy Edmondson and referenced in the literature review, this reduces the societal barriers of failure, and allows the organization to become more willing to learn from these processes. However, Isdell wasn’t the first CEO
to remark on the importance of taking risk. In an interview with then CEO, Roberto Goizueta he was asked what his organization looks for in a successor. Mr. Goizueta responded, “that while energy is the number-one quality, two other qualities were also important; integrity and the intellectual courage to take a risk, a leap of faith, whether the leap was big or small” (Riaz, 2008, p. 11). One tactic that the organization could install in order to reduce the risk-averse culture, would be to implement Stefan Lindegaard’s term “smartfailure”. Based on our interview with Stefan Lindegaard, we became aware of the impact of the terminology in relation to changing employees’ understanding of failure (Appendix 1). Therefore, we believe this could help changing the employees’ basic assumptions and espoused values of being afraid to take risks, and would better align their 2020 vision and improving their organizational culture. Mr. Goizueta held the reigns of the organization for nearly 60 years, and while they may have gotten increasingly complacent with their risk taking, it was still imbedded in the company's culture of “control”, which drove many important decisions from brand extensions to operating successfully in multiple different countries. However, as stated before, we feel the organization is pushing to more of a “competence” culture, as they are using the 2020 vision to guide their current decisions.

Coca-Cola faces many challenges as they are selling their products within over 200 different markets, and trying to align these practices is a significant challenge. Coca-cola allows the executive committee and company officers to make key strategic decisions; however the organization is giving the freedom to the local level, for their distributors to understand the cultures and intricacies of their markets, which has provided them with the capabilities to stay innovative and take chances. Hence, we believe they are working towards implementing a culture of intelligent fast failure by allowing their subsidiaries to operate at more of a local level and be innovative to their respective markets. It is our understanding, that if Coca-Cola was dictating how the affiliated and licensed distributors of Coca-Cola should operate in every market, then the chances for failure across different markets would be increased.

Another important aspect of operations for a company, as expansive as Coca-Cola, is the organization of their employees and motivation for the teams to be successful. We
believe Coca-Cola is working on changing societal issues of failure by organizing people into teams, which encourages people to feel valued. Coca-Cola stipulates that within a team they are encouraged to contribute ideas and to be innovative, if they feel something could be done better, they are encouraged to voice that opinion (Creating an effective organizational structure- A Coca-Cola Great Britian case study). Joseph Tripoli, who is the Vice President and Chief Marketing Officer remarks, that because of the scale and size of Coca-Cola, we have to have a culture that encourages us to share the learnings and failures - the good, the bad and the ugly, said Mr. Tripodi. "We've got a team of people around the world that is less concerned with getting credit and more concerned with getting behind a great idea" (Zmuda N., 2011). From our understanding, having an individual like Mr. Tripoli, depicting the importance of working with teams and taking risks, this is initiating the scope, which the organization takes on encouraging risk-taking in order to learn from failure.

**Experimentation**

*Single-loop Learning*

A Times 100 case study (Who dares wins- success through intelligent risk: A Coca-Cola Great Britian case study, 1995) found that within Coca-Cola there has been an installment of intelligent risk-taking, with an understanding that experimentation is key in their development. There are three main features of intelligent risk-taking at Coca-Cola:

1. There is confidence in the core business. The organization knows that people like Coca-Cola, and want to have it available to them.
2. Action is taken boldly and swiftly.
3. The company is capable of learning “on the run”. It has the flexibility to change course if things do not quite work out as originally planned, an example is the launch of New Coke.

(Who dares wins- success through intelligent risk: A Coca-Cola Great Britian case study, 1995)
It is our interpretation, that these features have given the company an insight into how they can learn from their past failures, and the value that experimentation brings to the organization. Coca-Cola moreover utilizes experimentation when they take successful local business practices in one country and test them elsewhere, before they are offered as a menu of marketing strategies for bottlers worldwide, as described in the organizational culture of the company. This approach constitutes an example of single-loop learning, as the organization responds to failures, but does not predict and try to solve future problems. The company remarks under their 2020 vision, that they want to deploy the world's most innovative and effective marketing capabilities, with bringing innovations to the market faster as being a key function. This is speaking to their desire to use experimentation methods to remain innovative.

Through our research we have discovered that Coca-Cola has had mixed experiences with their capabilities in regards to experimentation. During Mr. Goizueta’s tenure as CEO, he remarked on emphasizing the need for leaders to establish a sense of direction, so people both knew where they were going and had a lot of freedom to get there. He added, “if people did not know where they were going, you don’t want them to get there too fast” (Riaz, 2008, p. 12). Through his message, we believe that Coca-Cola demonstrates willingness for experimentation by empowering their employees with base directions and allowing them to create from there. Goizueta remarked that he encouraged people to create what can be, as opposed to what is (Riaz, 2008, p. 12). This was proven that Goizueta encouraged calculated risk-taking, when he made the decision to put the Coca-Cola trademark onto a new product in 1982 labeled “Diet Coke”. This experimentation of brand extension proved to be one of their most successful products within their portfolio. Mr. Goizueta remarks, that “Coca-Cola is able to produce the products that consumers want, and if they do not prove to be successful they are bold enough to listen and make changes. The secret of success is to be flexible in your response to ongoing change in the market.” (Who dares wins- success through intelligent risk: A Coca-Cola Great Britian case study, 1995) We can induce that by stating this, Mr. Goizueta is depicting an understanding that experimentation is important in the learning process. His statement is furthermore a reference to single-loop learning, which is established on experimentation resulting in learning.
**Kolb’s Learning Cycle**
With reference to the previous, this is furthermore an example of how Coca-Cola utilizes a learning concept, which was pioneered by David A. Kolb’s learning cycle. The company initially experiments through producing a product the consumer wants, and then they are encouraged to reflect on the process and see what they learned. This is followed by Coca-Cola’s depicted desire to generate a logical understanding of what happened at the local level with the consumer, and finally applying the knowledge that is gained and responding to the market. A more specific example of this is provided within the following strategy section of this case analysis, where the launch of New Coke is explained. We analyze these learning capabilities as a representation of Coca-Cola incorporating experimentation in their processes, in order to better learn and adapt through risk or failure. Mr. Goizueta emphasized, that “every single one of the best people at the company has taken some significant risks in moving the business forward. And everyone of them has endured risks that failed. With the benefit of hindsight, you start to learn that the perception of risk is often based on fault assumptions” (Who dares wins—success through intelligent risk: A Coca-Cola Great Britain case study, 1995). Thereby, it is our firm understanding, that the management of Coca-Cola is again emphasizing learning based on risk-taking, which Diet Coke is an example of. Our research demonstrates that experimentation through single-loop learning is imposed by their management. Moreover, an example of integration of all stages from Kolb’s learning cycle is seen in the company’s launch of New Coke. Additionally, we interpret the final quote by Mr. Goizueta as a reflection of their recent managerial emphasis on the possible learnings that comes from failure. In connection with the previous, we believe that the management of Coca-Cola understands the advantage of incorporating experimentation on failure, despite employees’ culturally rooted hesitancy based on their espoused values and basic assumptions, as previously mentioned.

**Managerial Influence**

**Double-Loop Learning and Theories of Action and Model I & Model II**
Robin Gee, Head of Employee Engagement for Coca-Cola Refreshments was asked how her company best can understand the current trends, that influence how employees
work and what they find motivating. She responded with “Given the size and diversity of our workforce, we have found that leveraging a coordinated leader-led and employee involved engagement strategy has been most effective. These themes gave our leaders clues about the factors that influence employee motivations. From there we began to explore these insights in greater detail” (McGovern, 2011, p. 34). Here Coca-Cola is describing how they strive to better understand the governing variables of their employees. By having employees and leaders working directly together helps align their action strategies. We believe this is an essential step to incorporating double-loop learning. With this knowledge that is gained from these interactions, the company can instill their employees with the power to make their own decisions and better adapt to the management principles that would be displayed in these interactions.

Coca-Cola states that they view themselves not as a global organization, but as a multi-local enterprise. That is because; its global strategy is to allow their businesses in more than 200 countries to act according to local needs, local laws and local cultures (Anfuso, 1994). Coca-Cola mentions they had to develop a platform, in which they are thinking globally but acting locally. There are many challenges involved with innovating at a local basis, which are often dealing with regional culture. In an interview with Guido Rosales, Integrated Marketing Communication Director of Coca-Cola for Latin America, he remarks that, “with coke we focus on delivering optimism to the world, and being in 206 countries we have to think carefully about how we reach this goal in each one. How we make our message relevant is key, so this is why we need people on the ground who understand the market.” (Rosales, 2013) These challenges may be present for the management of the organization, but by giving the power to these local entities, Coke is able to remain relevant in all markets. As Mr. Tripodi, Vice President of Coke, remarks; “we don’t try to apply the same mass-marketing, big-brand model against [smaller brands]. Our whole thinking there is around doing things in an innovative and different way that takes a smaller budget and amplifies it” (Zmuda N., 2011)This provides us with an understanding that Coke empowers its local teams and its agency partners to come up with their own innovative ideas. We believe, this is an example of Coke striving to instill double-loop learning to their throughout their organization, as double-loop learning requires learning to change the governing variables of these entities, in order
for them to reflect on the assumptions that underpin their decision-making. Coke sets an overarching strategy, but allows these individual entities to make the decisions necessary at a local level and implement the brand accordingly. We find it important for management to depict their stance on these subjects, in order for their influence to affect the employees’ governing variables, and in turn allow their strategies to influence the action strategies of the employees. Furthermore, this enhancement of double-loop learning points in the direction, that the management of Coca-Cola is applying a Model II approach to enhance their organizational learning capabilities, as proposed by Argyris & Schön. However, we feel that based on their deeply rooted organizational culture with focus on control and achievements according to the company strategy, the company is still embedded in Model I. Coca-Cola states that they are diversifying the use of many individuals and accepting, that by thinking outside of the box, the company can continuously reinvent its image, while remaining constant to their core ideas (Ritson, 2013). Based on this statement, it seems as if these measures are empowering their employees and emphasizing that risk-taking is acceptable and desired, which are furthermore encouraging other Coca-Cola departments throughout the world to innovate within the product. This is effectively influencing the governing variables of these employees. However, it is not our general impression that this influence has yet paid off, based on our assessment of Coca-Cola with reference to the previous analyses of their organizational culture and learning processes.

Organizational Knowledge Creation
When Neville Isdell stepped into the CEO position in 2004, our research showed that there was a strong recognition, that Coca-Cola had lost their vision and needed to better align the employees and management. Isdell understood that in the past mistakes were made with retaining employees and consequently he shifted focus to fix this and retaining these employees. They distributed a survey to employees in over 400 management positions, in order to discover what challenges the company was facing in relation to employee management and job satisfaction. We interpret this as an externalization phase in relation to Nonaka’s theory on organizational knowledge creation, as employees’ are given the opportunity to express their tacit knowledge and
feelings through writing, and hence generate explicit knowledge, which the management can act upon. What Coca-Cola discovered was that employees had no belief in their management. Within their values Coca-Cola described the importance of collaboration, in which they intended to leverage the collective genius of their organization. We believe this helps form the culture of the organization, which is leaning towards the “competence” culture and quadrant of Schneider’s matrix as analyzed in the above section on their organizational culture.

Within the 2020 vision they depict, that beyond mentioning Coca-Cola being a great place to work, they are looking to attract, engage and retain the best talent possible by increasing people’s systems knowledge and cross-system movements, inspiring people to be passionate brand ambassadors and developing and recruiting women to achieve true diversity (2020 Vision, 2014). We view these as important measures being taken by the management, as they are dictating how the organization responds to the employee treatment. This is furthermore a motivating factor for the management to retain and attract new talent. Coca-Cola also established knowledge sharing and moving employees laterally within the organization to stimulate and retain their talents, which is an important focus. With reference to Nonaka, one of the essential elements to enhance learning and innovation within an organization is to identify and acknowledge the circumstances enabling knowledge creation. Additionally, a significant impact that the 2020 vision looks to achieve is by educating the entire organization from management to employees, in order to align the company with their core culture. We believe, this is allows for better strategic decisions to be made throughout the organization.

**Strategy: The Contextual Strategy**

Coca-Cola has been employing a strategy of organizational learning, that is pushing away from a control company culture and more towards a competency culture. Coca-Cola has always strived to produce the best possible product for their consumers, however it has been mentioned on multiple occasions, that management felt they had lost the connection between their core culture and the employee engagement. In order to circumvent this complication, the company has worked tirelessly at redefining their
culture and aligning strategies to meet their core identity. They have taken a more progressive approach to accepting failure, as they have used learnings from one of their most significant failures, which is described in the following. Furthermore, this example demonstrates Coca-Cola’s management of a failure case and the ensuing learning.

The case of Coca-Cola replacing their flagship product Coca-Cola with a new flavored beverage titled “New Coke”, has been one of the most famous marketing and product extension blunders in history and signifies their strategy in learning from failure. In 1985 Coca-Cola released a new product that was sweeter and expected to taste better than their rival Pepsi. Coke had made a few mistakes within this process that have led to this blunder. First they did limited target market research in controlled environments testing the products new taste. Unanimously the product had won in taste tests over the rival Pepsi product as well as their current Cola product. However, what they had failed to do was bring the testing directly to consumers. Some suggest a sampling to a mass amount of consumers could have led to the better understanding of their target market. There has also been a discrepancy about the sample size, in that taste testers were only getting a small amount of the product to consume, which weren’t comparable to an entire can.

This was one of Coke’s first attempts at innovating their flagship product, which proved to be a product extension failure. This also was hailed as one of the boldest single marketing moves in the history of consumer goods business (Riaz, 2008, p. 5) Mr. Goizueta later remarked, that one of the most significant results of “New Coke” was, that it sent an incredibly powerful signal, a signal that the organization really was ready to do whatever necessary to build value for the owners of their business. Also Mr. Goizueta characterized the "New Coke"-decision as a prime example of "taking intelligent risks", which according to Goizueta, is a strategy they have used ever since in order to learn from failures. He urged all employees to take intelligent risks in their jobs, saying it was critical to the company’s success (The Real Story of New Coke, 2012)

The organization was able to generate much learning from this failure. Sergio Zyman, former Chief of Marketing at Coca-Cola, felt it was a seminal moment for the Coca-Cola Company; “New coke kind of shook the company up” (Zmuda N, 2011, p. 14). This was
evidence that the company was willing to take risks and shake up their current operating standards. This acceptance through failure was further supported by management, and their understanding of the importance of taking a risk on their product could have for the organization. One of the most important lessons learned from this failure was, that the brand and their marketing are Coca-Cola’s main assets, not the taste of the sugary water that they are selling. This confidence propelled Coca-Cola to reconnect with its consumer base by reintroducing their flagship product under the newly branded label “Classic Coke”. Hence, a rebranding of the company took place after this moment. Their release of Coca-Cola Classic was even debuted on many media outlets including the three main nightly news broadcasts. This renaissance of the brand reconnected the organization with their consumers, and grew a stronger unity with those who love and appreciate their brand, according to Coca-Cola.

After this public failure, the management of Coca-Cola has been able to recognize and admit that failure is important to management, and that they are working harder with their employees and brand/advertising agencies to align their culture, and provide a positive light on acceptance of failure. Coca-Cola’s strategy comes at an interesting time for their product, as many core markets are shifting towards a healthier lifestyle; Coca-Cola is receiving negative press in relation to their product being unhealthy. However, by deploying their strategy of dedication to customers and their target markets, and continuously innovating their marketing and advertising strategies, we believe Coca-Cola will remain to be one of the most recognizable brands in the world. Also by utilizing their strategy of governing a business globally, by providing local solutions to each individual market, Coca-Cola remains to be relevant and present in all markets of operation. This strategy, of local management making decisions to fit their respective target markets, shows the governance of Coca-Cola’s stance of acceptance in relation to failure. They are working hard to shed the risk-averse culture, which has restrained their organization throughout previous years. Measures like employing the 2020 vision to align employees and licensed distributors is a strategy that the management must deliver on, otherwise they will have another failed strategy, that is not genuinely representative of who Coca-Cola wants to be within their core culture.
Therefore, based on above analysis of Coca-Cola we have named their strategy “The Contextual Strategy” due to their localized decision-making on the basis of their organizational vision. The management puts a clear emphasis on local plans for their respective markets with are reflecting the 6 P’s as well as the 2020 vision of the company in order to stay up-to-date.

Chapter VI: Discussion
RQ: How can organizations improve their learning capabilities through failure?

In the following section we will discuss our hypotheses on the basis of our analysis of the three case companies. Therefore, each hypothesis will be proved or disproved based on an assessment of all three company strategies, which we concluded from our analysis of 3M, Johnson & Johnson and Coca-Cola respectively. Furthermore, this evaluation of the hypotheses will form the basis for answering our overall research question.

Hypothesis 1
“The organizational culture can mitigate employees' perception of failure.”

The first point of discussion is based on our first hypothesis, and will be relating to the similarities yet differences between the strategies, that are employed by these three organizations. We have found within our case analysis, that while these three organizations have similar functions in regards to their multinational approach to reaching their consumers, the management and company ethos between the organizations have profound differences.

3M is working with a strategy of accepting failure, which has been directly in line with their company culture that was formed by one of the founders William L. McKnight. The company continuously works to provide an acceptance towards failure for their employees and this is received positively, allowing their organization to generate the strongest amount of learnings from this process. The McKnight principles represent the company’s core culture by serving as an artifact, which can be reverted to when making
decisions. Within this artifact there is a clear understanding that failure and mistakes are accepted, and rooted as basic assumptions within company. However, the McKnight principles are not the only mentions of acceptance of failure which has affected their employees understanding of failure. The different public explanations of the importance of past failures mentioned within the analysis have given a strong depiction of how management embraces failure. 3M's strategy is heavily revolving around the embrace of their company culture of cultivation. This interplay between having the employees fully understanding their customers and allowing them to develop innovative ideas to match these customer demands through the 15% rule is a significant feature their Autonomy Strategy represents. Their company culture has allowed for employees to take risks and this has been a direct influence on their employees’ acceptance to failure. By having a company culture which is more accepting of failure and empowering their employees to experiment, 3M has been able to circumvent the societal issue of failure. Therefore, we find that our first hypothesis has been proven as the company culture directly influences their employees’ acceptance to failure.

Based on our analysis we find that like with 3M, Johnson & Johnson's strategy is reflected in their Credo. The company's core culture is the defining factor in regards to their employee interaction. Similar to 3M, we find that the artifact reflecting each of their basic assumptions within their organizational culture, in the form of the McKnight Principles and the Credo, is stating the company's approach to failure explicitly. We can argue for the appropriateness of the wording, however both companies include the term “mistake” and the encouragement of same, which we interpret as a positivistic approach towards failure reflected in their organizational culture. With their strong organizational connection and unity on the basis of their Credo, they have been able to commandeer difficult times, such as the Tylenol case. Furthermore, with reference to our interpretation of J&J’s recruitment strategy, we claim that they primarily hire employees with a positive attitude towards their organizational culture and thus failure. Therefore, their employees are automatically geared towards the culture of the organization. However, this does not change the fact that their culture, as reflected in the Credo, is supportive of failing and learning from their failures. Additionally, J&J has created workshop groups in order to support innovation by changing employees’ perception of
failure. This proved to be effective according to Drew Boyd, who was employed with J&J for 17 years in marketing, mergers & acquisitions and international development. Another strong characteristic J&J has installed into their processes is the distribution of knowledge by changing positions within the organization. With employees having exposures to failures throughout the company, they can thereby better incorporate these learnings, and J&J is able to become a less risk adverse company, again stemming from the company culture and acceptance to failure imposed by the management. Therefore, we believe they have been able to circumvent many of the social issues in regards to employees’ understanding of failure by for instance employing tactics, which we interpreted as intelligent failure.

In contrast to our analysis of 3M and J&J, we do not find similarly entrenched organizational culture in our analysis of Coca-Cola. Based on our analysis we found, that one of the significant challenges their management is facing now is aligning their employees’ views and the management principles with their core culture. This has provided the company with a sense of stagnancy in regards to their development, according to our analysis. Granted their organization has one of the most recognizable and global brands in the world, they still have not provided a market-changing product since “Diet Coke”, which was introduced August 1982. This factor, coupled with the changing general perception of their target market in regards to health concerns of their product, could prove detrimental to Coca-Cola. It is our interpretation, that by having Coca-Cola unable to align their company culture and their employees, the company is unable to circumvent the induced learnings they can gain from failure. While their marketing and advertising agencies are continuously working on innovative approaches to connect with consumers, the company as a whole is becoming stagnant and therefore unable to change the internal social perception that failure is valuable. However, there are still some years before we can judge if the 2020 vision has been a success or not. Management is very ambitious with some of the goals, which for instance involves doubling system revenue and more than doubling servings to some 3 billion per day. It’s a daunting goal, considering the company wants to do in just over 10 years, what took nearly 125 years to accomplish (Zmuda N., 2011, p. 18). Until these results are in, we will remain our stance, that due to their inability to align their organizational culture
with employees properly, there will continue to be a discrepancy with their learning capabilities through failure. Therefore, we can conclude that due to the organizational culture of the company not reflecting an acceptance to failure, the employees’ perception is therefore not changed regardless of managerial efforts to affect this perception. This furthermore confirms our hypothesis, that employees’ understanding of failure is based on how the organizational culture is managed.

Based on our analysis of the organizational cultures, it is evident that Coca-Cola distinguishes themselves significantly from the other two companies, both in terms of the presentation of their core culture as well as in their overall organizational direction. As previously mentioned, we have seen similarities between 3M and J&J’s explicit acceptance of failure in the deeply rooted basic assumptions of their individual companies presented in artifacts as the McKnight Principles and the Credo. Correspondingly, Coca-Cola states their vision for 2020 and aligns with the 6 P’s of the organization, however we found no evidence of equally guiding principles as the other companies follows. Hence, we view it as a crucial factor for organizations to provide clear guidance and acceptance of failure through core cultural artifacts in order for employees to accept and learn from failure. Furthermore, with reference to Schneider’s matrix, Coca-Cola represents the company orientated organization, whereas we interpret that both 3M and J&J perform on the basis of a people orientation. This may be the reasoning behind their deficient alignment of employees’ understanding of failure and their organizational culture.

While failure is something all of these organizations have to deal with, we have found that by having a strong company culture, which is explicitly accepting failure, the employees will respond positively and understand the importance of the learnings gained. Furthermore, management expressing their view of accepting failure has been seen as paramount to the employees’ acceptance of same. However, if these managerial statements are not met with a company culture that embraces failure, there will be no impact on employees and their societal view of failure, as being inherently negative. Therefore, based on the three case studies we can confirm our first hypothesis.
Hypothesis 2

“If failure affects organizational learning, a process of experimentation can be applied to generate learnings.”

From our research on the topic of failure within the literature review, we were able to identify the many different learning processes, which organizations could implement in order to learn from failure. We found that there are overlapping between the various suggestions, however it generally boiled down to the following steps; that organizations needs to identify what a failure constitutes, then analyze and finally experiment. On the basis of our review of the literature on failure, it became apparent to us, that the experimental stage was the most crucial aspect in order to generate learnings from the process. Furthermore, based on assessment of organizational learning theories, we deemed Kolb’s learning cycle most relevant for organizations to implement in order to learn from failure, which will therefore be our point of discussion in the following. Through this understanding we turned to our cases, to understand to what extent the case companies were integrating these steps. What we discovered based on our analysis was that these companies are incorporating experimentation in significantly different manners.

3M has implemented this process of experimentation by allowing employees to use 15% of their work time on projects of their own choice. We believe that with this freedom 3M has been able to maintain their organizational drive in order to generate new and innovative products. The 15% rule gives their employees freedom incorporate Kolb's learning cycle, which would not have been possible if their management did not believe in these important learnings and were less willing to take risks. However, despite the time allowed for experimentation, we can furthermore argue that the company is implementing all stages of Kolb’s learning cycle as reflected in our example of the creation of Post-It notes. Therefore, we can conclude that on the basis of our research, 3M demonstrates incorporation of all phases of the learning cycle, which in connection with their organizational emphasis on failure and experimentation allows the company to generate learnings from their failures.
In contrast to our research of 3M, the analysis of Johnson & Johnson did not present a similar direct correlation to Kolb’s learning cycle, and thus ability for the organization to learn from failure. According to our analysis, the organization demonstrates their determination to learning and organizational knowledge creation through the integration of their action learning program. Furthermore our analysis revealed, that they have incorporated single-loop learning by allowing their leaders to experiment and recap on their learnings. However, we have not been able to discover that they use a process similar to Kolb’s learning cycle within the learning processes of the organization. J&J's explicitly stated encouragement of experimentation in the Credo indicates their attention towards the subject, and allows for their employees to understand the organizational stance on this and thus act upon it. Experimentation is the critical feature of the learning cycle, and while J&J presents their emphasis on experimenting as well as enforces action learning, we are not seeing the four steps being implemented within their strategy. Therefore, this does not prove that they are able to incorporate all phases of Kolb’s learning cycle in order to learn from their failures. Hence, based on our case study of J&J there is no obvious link between their organizational learnings and experimentation based on their failures.

Our analysis of Coca-Cola in comparison represents their emphasis on achieving a comparable type of environment as 3M’s. They have developed a strategy in order to take intelligent risks within the organization, as they are trying to incorporate Kolb’s learning cycle by being more responsive to decisions that have been made, and generate learnings from these. Additionally, their strategy of touting the important learnings, which came from the “New Coke” blunder, shows that the company is willing to reflect on their experiments, analyze the learnings and incorporate them back into the organization. However, we find that there is no set plan as how their employees can experiment and develop the product. Coca-Cola is very focused on remaining in their “non-alcoholic beverage” category, and look to advance in this category continuously throughout their extensive markets. However, they are not placing much freedom within their own development departments to take on experiments with their product. The last truly successful brand extension launch was in 1982 with “Diet Coke”. While we see that they are willing to explore risks and develop innovative marketing campaigns, this can
be the influence of ad agencies simply marketing their products innovatively. Within our research we have not seen a mention of having a mandate on experimentation, despite their incorporation of Kolb’s learning cycle in the example of the launch of “New Coke”. Therefore, we can conclude that all phases are applied in the example; however Coca-Cola’s averseness towards risk and failure, as explored in our analysis of their organizational culture, may very well influence their inadequacy to learn from failure. We interpret their lack of cultural acceptance of failure, and possibly the company’s experience with “New Coke” becoming a market failure, as the reasoning behind their deficient organizational capability to experiment and hence learn from their failures.

This means, that hypothetically our case studies prove that our second hypothesis is true. This is stated on the basis of above analysis, which is reflecting that both 3M and Coca-Cola have incorporated the stages of Kolb’s learning cycle in the two specific case examples, and have learned from their failures based on inclusion of all four phases. Additionally, the Johnson & Johnson case demonstrates no full incorporation of the learning cycle as well as no example of learning from their failures, but rather an example of the managerial handling of the Tylenol case. However, from our research we have been able to discover that organizations can learn from failure, presuming their organizational culture is clearly indicating acceptance of failure as well as experimentation. If that is the case, it is still our firm understanding that companies can increase their organizational learning capabilities through incorporation of all stages of a learning cycle like Kolb’s, which involves having a concrete experience, followed by reflective observation, then abstract conceptualization and finally active experimentation on what has been learned.

**Hypothesis 3**

“If management imposes a system to learn, the organization can evolve their capabilities.”

Ultimately, our final point of discussion is focusing on our third hypothesis, and will be comparing as well as contrasting the three case companies’ managerial strategies to increase organizational learning through failure. From our research we have found different learning techniques and came to understand, that a positive approach towards
double-loop learning imposed by management is critical in order to learn from failure. Furthermore, based on our analysis, it became clear that all three companies have notably different strategies, which will be discussed in the following.

3M’s management strategy has revolved around empowering their employees to create and generate innovative ideas. As stated in the analysis, we named this strategy “The Autonomy Strategy”. We believe this is one of the main factors for their success in remaining and innovative company for so many years. We have found in our research, that the company strives to produce a learning culture, that is representative of Argyris & Schón’s double-loop learning. This has been demonstrated by giving their employees the freedom to use their spare time in order to develop a product or idea. Furthermore, this is an example of allowing the employees to adapt their governing variables to different action strategies set forth by the organization. We believe this has allowed the company to conquer past failures and continue to learn through their challenges. Additionally, we discovered 3M’s ability to share knowledge among employees, which is another essential part in facilitating organizational learning and knowledge creation. With reference to Nonaka’s theory, 3M employs socialization and externalization processes through cross-functional projects and the 3M Technical Forum, which facilitates employee interactions and thereby supports their explicit organizational culture in regards to failure as well as organizational learning processes. Their strategy is directly focused on understanding their employees’ theories-in-use and referring to the McKnight principles, in order to affect the employees’ governing variables to take chances and think for themselves. Therefore, we interpret this as supporting our hypothesis, as 3M is better suited to learning from their failures through their firm management imposed emphasis on double-loop learning.

Based on our analysis of Johnson & Johnson’s managerial approach towards learning and organizational knowledge creation, it is our understanding that the company is incorporating double-loop learning into part of their organizational processes. However, our analysis exclusively demonstrates that the management of J&J has been able to implement this learning practice within their innovation department. This is exemplified by their creation of a community of practice, which allows employees to learn from previous experience and thereby increase their capabilities to search for alternative
solutions before problems arise. Moreover, knowledge creation as well as sharing are at the forefront of J&J’s management’s tasks and are initiated through position changes and their eUniversity. Hence, this represents their thorough focus on increasing organizational learning capabilities. According to our analysis, we labeled their strategy “The Decentralized Strategy”. We find that J&J’s decentralized management system allows for decisions to be made within their respective subsidiaries as an important freedom; however this does not immediately allow double-loop learning to reticulate throughout the entire organization. Hence, we believe this is a challenge that the organization faces in order to learn from failure across the multiple branches and markets they operate within. Double-loop learning gives employees the freedom to make their own decisions and be able to react to situations by changing their governing variables. According to our understanding, this is a critical managerial step for organizations to adapt, if they aspire to learn from failure across all departments within the organization. On the basis of our analysis, we can conclude that J&J’s managerial emphasis on double-loop learning within their innovation department proves to be successful, due to their continuous ability to share experiences and create innovative solutions. Therefore, in relation to the company’s learning capabilities within innovation, we can confirm our hypothesis, that their firm managerial emphasis on double-loop learning increases their organizational learnings from failure. However, based on our analysis we cannot generalize on the basis of the entire organization of J&J, but only confirm our hypothesis with reference to the innovation department of the company.

Coca-Cola is firmly rooted in what we have entitled “The Contextual Strategy”. Their company success has stemmed from their capability to produce a global brand that is effective at the local levels. This has been an important strategy, which Coca-Cola set out to accomplish as it globalized its reach after the 1950’s (Moreno, 2011). This is our reasoning behind labeling their strategy “The Contextual Strategy”. Their company culture is of rudimental control, and by releasing some of the managerial control and allowing the local entities to work with the product in order to make it conducive to their markets, we find that Coca-Cola is working towards developing their subsidiary companies to implement double-loop learning. By providing them with the freedom to
foresee their own markets and depict the best action strategies to be implemented, these subsidiary companies will be incorporating double-loop learning into their governing philosophy. However, we cannot foresee within our research, whether the subsidiaries and licensed manufacturers will actually incorporate double-loop learning into their management processes. Unlike 3M, that has a clear depiction of their willingness for employees to make their own decisions, which then affects their governing variables in making decisions, Coca-Cola simply gives the companies the freedom to navigate the market in manners they find most necessary. Therefore, we believe Coca-Cola is still at a lack in order to learn from failure, due to their inadequate managerial focus on double-loop learning.

Based on above discussion and our analysis, we can conclude that despite double-loop learning seems to be the ideal way of learning, there is too little evidence to that we can conclude that double-loop learning is implemented consistently in any of the three case companies. However, we can yet confirm our hypothesis based on our analysis that a firm managerial commitment to double-loop learning practices and model II, which is also reflecting a positive managerial approach towards double-loop learning, is fundamental in order to learn from failure. 3M showcases a great example of how commitment to double-loop learning imposed by management, increases their organizational learning capabilities. Additionally, the innovation department of J&J proves similarly. Hence, we found that only the management of Coca-Cola does not seem to integrate any learning types, which relates to our understanding that organizational capability to learn from failure is rooted in the organizational culture.

Chapter VII: Conclusion
Based on our research of the literature on failure, it became clear that the discussion was revolving around three key subjects, which all relates to the potential learning from failure. The first issue is a generally negative relationship between failure and the societal understanding of same. In order for us to understand this phenomenon though a scientific approach we brought in the work of Schein and Schneider in regards to organizational culture. Secondly, we found that specifically one step in the process of
dealing with failure stood out as imperative, which is the ability to experiment on the basis of a failure. In order for us to grasp this from the scientific fields we relied on the work of Kolb to further develop the understanding of an experimental process. And finally we discovered the managerial commitment to organizational knowledge creation based on learning from failure was a central issue. In order to better understand the managerial interactions we relied on Argyris & Schön's double-loop learning to help develop an understanding of the managerial role within failure. Additionally, our understanding of failure which was formed through our research reflects that when an organization does not learn from a process, regardless of the outcome, we view this as a failure. Our intersection of study is placed on the organization learning from their processes. With this knowledge as the foundation for our work, we decided to explore the topics by analyzing three case studies.

Our research has clearly demonstrated the significant importance of organizational culture, as this is a critical factor if an organization can accept failure which essential for an organization to learn from failure. Through our analysis of 3M, Johnson & Johnson and Coca-Cola, it became evident that in order to learn from failure, it is crucial for organizations to explicitly state their acceptance of failure in an artifact of their organizational culture. We discovered that 3M as well as Johnson & Johnson represents great examples of how their McKnight principles and Credo respectively guide their employees' behavior and perception of failure, and thus their organizational development. In contrast, Coca-Cola did not present their stand on failure in their vision or mission, which we found is reflected in their organizational behavior. The management of the Coca-Cola recently revealed their emphasis on risk-taking. However, if these managerial statements are not met with a company culture that embraces failure, there will be no impact on employees and their societal view of failure, as being inherently negative. Based on our analysis, we discovered that without a company culture, that is accepting of failure and clearly displayed for the employees, a company will not be able to circumvent the societal aversion to failure, which is understood as a general premise throughout organizations, with reference to our review of the literature on failure. Hence, by having a strong company culture, which is explicitly accepting
failure, the employees will respond positively and understand the importance of the learnings gained. Therefore, our first hypothesis proved to be correct.

Based on our literature review, we realized that various authors suggest implementation of different processes in order to learn from failure. All contributions were based on at least three steps, which involved identification of the failure, analysis of what happened, and ultimately experimentation in order to understand the outcome. In relation to this research, experimentation became our focal point, as we felt this step provided the strongest learning opportunities for organizations, but yet showed to be less enforced within the professional world. However, based on our research we view this step of experimentation as the only way to truly determine what happened within a plan and learn from it, regardless of it being a success or failure. Furthermore, we found Kolb's learning cycle ideal in order for organizations to exploit their learning potential. Based on our analysis, we found no demonstration of Johnson & Johnson implementing the full cycle as well as no example of learning from their failures. However, it is evident that both 3M and Coca-Cola present examples where they have learned from their failures and incorporate all stages of Kolb's learning cycle. Therefore, we believe that failure has a direct influence on organizational learning, and on the basis of this understanding, it is our firm belief that all stages of Kolb's learning cycle are ideal for organizations to rigorously apply in order to take advantage of this learning opportunity. This confirms our second hypothesis. However, based on our analysis we believe that our second hypothesis is directly influenced by the first. This means that organizations can learn from failure, presuming their organizational culture is open for experimentation as well as explicitly accepting failure. Hence, if that is the case, it is still our firm understanding that companies can increase their organizational learning capabilities through incorporation of all stages of a learning cycle like Kolb's.

From our literature review it became apparent, that management has one of the greatest influences into how a company can learn from failure. We discovered that when top management display their own failures or those of the company and discuss them in a productive manner, then the employees will be more empowered to take risks. Furthermore, we found that Argyris & Schön's theory of double-loop learning appeared to be an ideal learning process, and hence wanted to explore if firm managerial
commitment to double-loop learning could support organizational learning from failure. Based on our analysis, we can conclude that none of the case companies present clear evidence of implementing this learning process to its fullest. However, 3M demonstrates the best example of managerial commitment towards double-loop learning in their “Autonomy Strategy”, which reflects the freedom given to the employee in order to develop and learn from their experiences. The analysis of Johnson & Johnson only reveals commitment to double-loop learning practices within their innovation department. Additionally, their “Decentralized Strategy” does not support double-loop learning across the entire organization, however it allows for the subsidiaries to implement learning processes of their choice. Ultimately, Coca-Cola does not reveal significant managerial commitment to double-loop learning within the organization, despite their management is working towards developing their subsidiaries to implement double-loop learning practices through their “Contextual Strategy”. However, their inadequate ability to learn from their failures can most certainly be related to their organizational culture and understanding of failure. Therefore, we can still confirm our hypothesis based on our analysis that a firm managerial commitment to double-loop learning practices and model II, which is also reflecting a positive managerial approach towards double-loop learning, is fundamental in order to learn from failure. Yet based on our analysis one of the most pertinent aspects of managerial influence in regards to failure, is their ability to change the perception of failure through the organizational culture.

Our purpose for embarking on this journey was to better understand failure and its relationship with organizational learning. What we have learned is that, in order for an organization to learn from their failures, they must ensure that their organizational culture is explicitly accepting failure. If this is not present within the organization, then according to our research, the management imposed people-oriented organizational culture proves to be favorable in order for companies to learn from failure. Furthermore, it is emphasized, that the managerial acceptance of failure is stated in the form of an artifact, representing the basic assumptions of the organization. Once these principles have been aligned, it is critical for the organization to generate a strategy that focuses on
experimentation, which is aligned with the company culture. Our research demonstrates that implementation of the four steps of Kolb’s experiential learning cycle is an ideal strategy, which organizations can benefit from integrating, in order to learn from failure, as long as it encompasses all stages. Therefore, we believe that organizations can learn from their failures, based on the premise, that their company culture explicitly emphasize acceptance of failure and experimentation, as well as align with their managerial commitment to their organizational learning strategy. Additionally, on the basis of our work, we firmly believe, that organizations reflecting similar structures as the case companies, which can identify themselves with any of the strategies, that we have defined for our case companies, will be able to follow our guidance on, how they can organize in order to learn from their failures.

**Limitations & Further Research**

One of the challenging tasks we dealt with was to generate coherent arguments, as we were not able to get similar data for each company. This led us to draw conclusions on managerial practices based on secondary data which varied from case to case, and hence resulted in varied information. As we feel that our material could have been stronger with a better alignment of company cases. Had we chosen three product failures and dissected the different companies and how they dealt with this issue could have given us a more familiar base for an analysis. Instead of choosing an industry and comparing three companies, that do not have similar past failures.

A proper tracking of specific failure cases and how it became prominent within an organizational learning context would provide a stronger light into how organizations have learned from failure throughout the years. Our literature on the topic seemed to start around the 80s and became more prominent within the mid to late 90s and finally a prominence was showed throughout 2000 till current. Therefore we feel a description of how failure has been discussed historically, and how this has changed throughout the year could make for an embossed discussion on failure. Another point of departure that could be taken from our research is what type of company culture would be most conducive to learning from failure. From our understanding “people-oriented” culture is
adaptive to learning from failure. However we have only based our research of company culture off of Schneider's matrix. In order to further research it would be interesting to discover what the “ideal” culture would be for an organization to follow. Further, as we have focused on three firms, we believe it would be interesting to examine how the attitudes towards failure could be applied within a bigger data set. This could be done through a quantitative study of multiple organizations and their understanding of failure and organizational learning for example. Additionally, our approach to understanding learning capabilities from failure could be applied across different industries as we have worked specifically within predominantly consumer goods companies. There is also room for a study to be conducted on the “do’s & dont’s” within this field of study, which could be made into a normative framework.
Bibliography


3M Company. (2013). 3M Annual Report 2013. 3M.


JOHNSON & JOHNSON SERVICES, INC.


Johnson & Johnson. (2014). *Our Values and Caring*. Retrieved from Johnson And Johnson:
http://www.careers.jnj.com/our-values-and-caring


http://www.jnj.com/about-jnj

http://www.jnj.com/about-jnj/jnj-credo


The Organizational Journey to Learning Based on Failure  

**Kolb learning styles: David Kolbs learning styles model and experiential learning theory (ELT).**  
http://www.businessballs.com/kolblearningstyles.htm


http://www.ldu.leeds.ac.uk/ldu/sddu_multimedia/kolb/static_version.php


http://www.mediafactory.org.au/chin-yeekuan/2013/08/05/week-2-design-fiction/


Lukas, P. (2003, 4 1). 3M: A mining company built on a mistake stuck it out until a young man came along with ideas about how to tape those blunders together as innovations- leading to decades of growth.


*Primary Sources in the Humanities and Social Sciences.* (2011, August 10). Retrieved July 12, 2014, from Stauffer Humanities & Social Science Library: http://library.queensu.ca/research/guide/primary-sources


Appendix 1

Recorded and transcribed telephone conversation with Stefan Lindegard
April 30\textsuperscript{th} 2014, 11-11.30 AM

\textbf{Dennis:} First of all thank you very much for speaking with us Stefan, we really appreciate taking time of your ferry journey to chat with us. As you can see in our email we are master students studying at CBS taking our degree in organizational innovation and entrepreneurship. And we have come to this understanding that we feel failure and innovation has an interesting interaction between the two. We have come across your literature and find smart failing in organizations as very interesting and relevant and we wanted to speak to you about some of your experiences.

\textbf{Dennis:} What we were wondering is specifically within smart failing organizations what we are trying to get into is how do organizations learn and we were wondering about your experience with organizational learning. How do you get to a stage of being able to propose something like smartfailing organizations?

\textbf{Stefan:} Well the hard truth is it hasn't really caught on yet there are very few smartfailing organizations out there especially in the context of innovation. At the moment I see the picture is we are going to be slow on innovation for another year or two. We went through the crisis, which has seriously on innovation efforts and innovation initiatives, it has also cut down on innovation capabilities. And things are getting better now, but it still extremely slow on getting units started and projects running. I think we have a new normal that started about a year and a half ago, and I don't think in that time span you will see many organizations follow-up on terms like "smartfailing"

\textbf{Dennis:} Right because what we find very interesting is the literature from Amy Edmondson, Rita McGrath about principles of designing failure and Sim Sitkins with intelligent failure. All of this literature is very interesting and is proposing how to learn from it, but we feel its not proposing failure as a tool you can use. And that is where we envision there being a gap. Whether or not we can get to that, we are not sure, but that has been our departure.

\textbf{Stefan:} But you need to be very careful because if you go out and propose that this is about failure you are going to have a lot of people who don't want to talk about failure. That is why I had to rephrase and came up with the term smartfailing because you need to put some other language on it in order to get people positive, spin it like you actually said failure as a tool your gonna be a disconnect with the organizations because they don't like failure and use failure as a tool. I still here that you want to get the essence of its, inevitable in terms of innovation that you are going to fail, you are gonna fail a lot, what sort of products and service you bring out to market. But the thing is how do you learn from failure? And how can you start recognizing those
failures and how can you change those behaviors so you learn faster in order to be more successful the next time.

**Dennis:** Right, that’s a great point. So far when we have been discussing our interest and ideas in the academic sense it’s been well received. They are commenting on how it’s an interesting concept, but I think you are correct in saying we need to be conscious of how we are putting out our messages to organizations. So far we have gotten some interest but I think maybe changing our terminology and approach would be valuable for us.

**Stefan:** I mean you’re more than welcome to on the technology thing and I think you said it right, it’s not just one term but a terminology so you can have terms like return-on-failure and things like that, I actually did start some vocabulary that I posted a long time ago. But that also makes it more interesting and groundbreaking for your academic research. Just for your information I have been presenting on and off for about two years, probably given 5-6 presentations and the topic has been very well received and interesting but nothing really happens after that. Im very sure that there is interest in the topic for corporations they just don’t do very much about it. And the only full-fledged half day workshop I’ve done on this was going to a company took this in and used this as part of a full day leadership retreat. A Austrian-German company and they actually did some exercises around this that was rather interesting.

**Dennis:** Would you see any synergies between lean business processes and the concept of smartfailing? I mean this is something I was just thinking about, but in terms of lean business model would coincide with smartfailing and intellectual fast failing, I don’t know maybe..

**Stefan:** Well the thing about learn is it’s a process and its very well documented and works in certain environments and situations, so the strength of lean as a process and how its developed as a process if you could apply some of that smartfailing I think that would be very good approach. But on the other hand if you want to talk about innovation, you need to be a bit, you’re walking on an edge. If you go to lean and too process and you lead out the more creative ways when you talk about innovation. Innovation today in companies is much more about innovation management, but when you take lean you need the process and focus side but you also need room for something to happen on the more experimentation side. For instance you don’t talk much about experimentation when you are on the lean side of things. So when you go and use smart of lean you want to take this process with lean make sure you still have the experimentation side of it and the capture of failing.

**Dennis:** No I think that’s a good point, I think maybe lean isn’t the best point because in the sort of detect then analyze and experiment. The experiment is not part of the lean processes. You want to detect and analyze but then you also want to reiterate and change vs. experiment each time to determine what went right or wrong.

**Stefan:** It might be relevant to learn how it developed as a process and how this process succeed, the cool thing would be if companies would go in and have an approach or process and methodology to smartfailing and I think it could be inspired by lean.

**Dennis:** Yes that could be absolutely. So when you are describing about how you know organizations learn from failure and you are analyzing the innovation process. When you are
going through this process with an organization are you proposing to them then trying to do some testing on whether or not it is working? Or is it strictly you advising them and not having much interaction after that.

**Stefan**: Uhh that’s usually how it works, I go out there and sort of inspire companies I do different talks through half-day sessions full-day sessions and I actually try to stay away from consulting work. I haven’t done that myself and there hasn’t been much, from what I’ve seen out there effort that companies in order to do smartfailing in general and I don’t have much experience in general, beside the inspiration I can give them a compliment and then I have this one engagement with the company itself.

**Dennis**: And we’ve watched your video we’ve been all through your website and we’ve seen all the videos it has been great and beneficial for us.

**Stefan**: Is there a video on smart failing?

**Dennis**: From the conference that you were speaking about. It is about open innovation and smart failing.

**Stefan**: oh I think the one from Berlin maybe?

**Dennis**: Yeah it was because you were introduced in German.

**Stefan**: Oh yeah I think I did something there ya. Also I think I did a webinar did you check out my website, you can go into resources page and you can find a webinar on smart failing.

**Josephine**: I looked it up and went for the webinar but I wasn’t able to open it. It showed that it had already been played. And wasn’t possible to see again. And I’ll check and otherwise get back to you.

**Stefan**: Yeah send me an email, did you get the white paper on that.

**Josephine**: Yes we did, and we’ve both read the white paper. And as Dennis said its super relevant in terms of what we are writing and researching about. Smartfailing is definitely a term that’s very interesting. It is amazing we get to talk to you.

**Stefan**: But I ahh think there is some potential that you are doing here. It is something that is more in the future, so you will have some difficulties satisfying your professors, there’s not much history to this thing. So it is more about proposing some antidotes and method force, some kind of similarities of other areas and try and project what this will look like in the future.

**Dennis**: We are experiencing what you are describing. We had a meeting with our supervisor on Wednesday and our idea and our departures of how we would like to take this project is clashing with the academic world. And what our advisor is pushing us to divulge into organizational learning theories and get to the root of how an organization learns. And then put on the lenses of failure. We feel as though we have done some research on failure but I guess academically we are struggling to find the correct lenses of how we can view an organization and failure then write an analysis. That is where we are currently struggling with the master thesis.
**Stefan:** If you go in and narrow it down and know a lot about organizational learning that would be relevant for something for me to get some insights on in terms of smartfailing. But if you take organizational learning and you go into look at specific failures and then put it into the context of innovation that would narrow down your areas. I’m not saying it will be easy for you but then you can back track and see some of the bigger failures we have forgotten through innovation. Then you can find some examples that can support your argument and even track the history of it.

**Dennis:** I think that’s exactly what we are trying to do. Stefan, what we have also done is taking the professional and scholarly discussion through different Harvard business reviews and these types of things, and what we are hoping to do is map the discussion and says this is what’s been discussed in the different contexts. But we agree with your point that organizational learning theories are going to have to be the lenses to pull it through. This is why when we were originally messaging you we weren’t sure what to propose to you because, being in the infancy stage the project continues to evolve and I think in terms of speaking with you and providing some of the research on organizational learning specific to failure could be a future synergy between us.

**Stefan:** I’m really hung up on the next part in terms of writing stuff. You might want to give me writing on what types of what direction you are working on and some ideas what you are doing if you can do that, then we could see which ways you can stay in touch. I understand your deadline is coming up. Are you due to deliver in august?

**Dennis:** That’s our plan; we have just signed into our contract so we have contractual agreement of six months. But our internal deadline is august 1st but we have been trying to contact organizations and we are trying to take all of this information we are dealing with and getting one good rooted case. I have been trying to use my network to get into contact with companies. We will be meeting with a company McNeil who created Nicorette gum. And one of the research development assistants is willing to speak with us. We are trying to get some practical applications to a heavily academic thesis.

**Stefan:** If you have a 1 page abstract with what you are trying to accomplish and the questions you’d like to ask that could be a way in which I could try and help you. I’ll use my contact to try and find someone who would be willing to speak with you on those topics.

**Dennis:** Absolutely what we will be doing today is we will put together a 1 pager of what we are trying to accomplish. I have a chain of emails I have been sending to my network so I can send that with our overall vision. The challenge with this is the scope changes so on our end we feel a little uncomfortable proposing exactly what we want to do, because the scope of this thesis does change. But at the same time we really want to focus on the learning of failures and how we can utilize it as well as the organizational learning aspects. So I do think we have some strong points. It is just a matter of stringing them together in a strong manner.

**Stefan:** I think its ok that the scope is continuing and people understand that. The people ill try and get you in touch with and push a little are those who I know are interested in your topic as well. If you can combine that they know what I have been doing and they find that of interest and trying to work this into their organization now we have someone who is working on a master
thesis to move this further ahead. I think we can find a couple that are interested even tho they know you are still evolving.

**Dennis:** And I think that’s absolutely the case Stefan. Even at the end of the day when it comes to the thesis part if we have to bend and twist and turn some of our methodology and things to hand into our professors, we can still advance the research and the information we are generating and present it in a more conducive manor to those willing to work with us. There are different deliverables that we can produce.

**Stefan:** So would that be our next step? You can send me a 1 page description. And I’ll send that along. Does that work?

**Dennis:** Stefan that would be greatly appreciated. That was what we were hoping from this conversation. So we are very excited. We will be sending an email with a description. And we’ll take it from there

**Stefan:** And if I’m gonna send it to people then the less the better. So take care guys and we’ll be in touch.

**Dennis:** Thank you Stefan we really appreciate it.