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Listening: The Heart of Leadership?

An Exploratory Study on the Role of Listening and Mental Models for Ethical Decision-Making Using the Boeing 737 Max Scandal as an Illustrative Case

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Abstract

This exploratory study examines the role of listening and mental models for ethical decision-making. A model on listening is presented based on a review of the literature. The model proposes that the effectiveness of a decision-maker's listening impacts how much data the decision-maker can access from stakeholders and how much of that data the decision-maker will accurately understand. This can affect the decision-maker's ability to fill in own blind spots and consider stakeholders' interests and concerns when making decisions. The model also proposes that the effectiveness of a decision-maker's listening can affect a stakeholder's psychological safety and basic needs for autonomy, competence, and relatedness, thereby affecting the stakeholder's well-being and the degree to which they feel they can express their true selves. A case study is then presented based on the decision-making that led to the two fatal Boeing 737 Max accidents. Findings from the case illustrate how key decision-makers at Boeing seem to have been narrowly focused on only a few stakeholders and dimensions of the competitive challenge they had to solve. Financial pressure, ineffective listening to employees, and lack of self-awareness are discussed as potential explanations for why decision-makers at Boeing failed to meet their ethical obligations.

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Chapter 1: Introduction

1.1 Motivation for the study

All of us see the world differently. Our perception is shaped by our experiences, attitudes, and beliefs, and we constantly filter incoming data through our mental models of the world. Although this enables us to navigate our surroundings effortlessly, it also leaves us vulnerable to drawing premature conclusions based on faulty assumptions.

For trivial decisions, relying exclusively on our own perception is usually sufficient. However, in an organizational setting, when decisions increase in complexity and importance, our responsibility for acquiring an accurate understanding of the problem at hand increases. Because if we fail to fill in our blind spots, we risk making narrow-minded decisions that inflict negative externalities on stakeholders who depend on us.

However, as our natural inclination is to distort data to fit our pre-existing beliefs, expanding our understanding with new perspectives could be challenging. We tend to evaluate input from others through our own subjective lens, immediately assessing whether we agree or disagree with the perspectives they share. Listening in this way, with judgment, could deprive us of enlightening insights and deprive others of feeling understood. It could cause us to miss each other in psychological space, leaving us feeling frustrated, estranged, and disconnected.

If we, on the other hand, are able to temporarily suspend our judgment, we can listen with the intent to understand others, entering their subjective world to see the world as they see it. Although it is important not to lose our sense of self during the process, which could lead to neglecting our own experiences and values, this way of listening might leave us with a better understanding of the perspectives and positions of others. If we ought to make ethical decisions that take into consideration the interests and concerns of those around us, this might be an important ability to acquire.

1.2 Research question

The purpose of this thesis is to explore the **role of listening and mental models for ethical decision-making**. Scholars have extensively studied each of these topics separately, yet there seems to be a lack of studies on how these topics relate. My intent is to examine this abandoned crossroad in order to contribute to the literature by exploring how these topics might intertwine. Before proceeding, I will introduce three key terms used in this thesis.

Mental models refer to how our attitudes, beliefs, experiences, and limited cognitive abilities influence how we perceive the world around us.

Effective listening refers to our ability to gain an understanding of how others perceive the world. By reducing our judgment, we can listen in a way that enables us to see the world as someone else sees it and potentially be changed by it. It is also about our self-awareness, meaning we can listen to ourselves—our inner flow of experience—to get a better understanding of how our own filters distort our perception of reality.

Ethical decision-making refers to our ability to make decisions that go beyond our narrow self-interest by realizing that we have blind spots and cognitive shortcomings that can lure us into making decisions that are both narrow-minded and irresponsible. It indicates our ability to consider long-term consequences of our actions and take responsibility for a wide set of stakeholders on a broad set of dimensions.

There are many ways of examining these three topics. In this thesis, I focus primarily on the relationship between manager and employee. This relationship is particularly interesting because managers and employees usually have different responsibilities, competencies, and interests that cause them to perceive things differently. These different perceptions often create a basis for conflict, especially when employees feel that their concerns are not taken into consideration. Yet I go beyond this relationship to consider how effective listening, both to ourselves and others, influences our ability to take responsibility for negative externalities that we otherwise would have been likely to inflict on other stakeholders.

In order to study these issues, I first explore the research question based on a review of the literature before synthesizing my findings and presenting a research model. Thereafter, I consider the research question in light of the decision-making that led to the two fatal Boeing 737 Max accidents. I do this by exploring how the listening skills and mental models of key

executives at the aircraft manufacturer Boeing and the American Federal Aviation Agency (FAA) affected their decision-making.

1.3 Structure of the thesis

Chapter 2 presents the research design of the thesis.

Chapter 3 reviews the literature related to mental models, listening, and ethical decision-making.

Chapter 4 synthesizes the findings from the literature review and proposes a research model on listening.

Chapter 5 details the background information for the Boeing 737 Max case study. Findings from a thematic analysis of an investigation report of the 737 Max accidents and a content analysis of Boeing's annual reports are also presented.

Chapter 6 offers a discussion of the case.

Chapter 7 concludes the thesis by presenting implications and sharing ideas for future research.

Chapter 2: Research design

This chapter will show the overall approach to how the research question will be answered. The purpose of my research and the philosophical assumptions will be described. In the same manner, it will be displayed how I have carried out my research, and the reasons behind my choices will be explained.

2.1 Purpose

Several types of studies can be carried out, depending on the research question and the purpose of the study (Saunders et al., 2019). The purpose of this study is to explore the connections between listening, mental models, and ethical decision-making. Even though many scholars have written a lot on these topics separately, I have not been able to find much research on how they are related. Since I want to explore the intersection between these topics—understanding their interrelatedness better and in more depth—I consider my research to be explorative. My study will, however, also involve descriptive elements that characterize a situation or a phenomenon. Based on this study, I can make no definitive claims on the causality between different variables, but I can suggest relationships that might exist.

2.2 Philosophical stance

In all parts of the research process, researchers make assumptions and choices based on their beliefs about how knowledge should be created (Saunders et al., 2019). This set of assumptions and beliefs is called research philosophy, and influences how the researcher understands their research, their choice of research methods, and how they interpret their findings.

There are several paradigms of research philosophy. Two of the most influential paradigms are positivism and interpretivism. Positivism asserts that there exists one universally true, external reality (Saunders et al., 2019). Within this paradigm, knowledge is usually developed using the scientific method, finding causal explanations through observations and measurements. The researcher should be objective and neutral, and not interfere with the research process. This usually leads to deductive, quantitative research methods.

Interpretivism, on the other hand, asserts that reality is socially constructed, and that there therefore are multiple meanings and interpretations that can be made and that might be equally valid (Saunders et al., 2019). Reality is understood through people's narratives and how they give meaning to the world around them. The researcher's subjectivity always influences the research process, and objectivity and independence of the research process is not possible. This philosophy usually leads to inductive, qualitative research methods.

There is no need to commit to one of these paradigms. I will instead take a pragmatic approach and let my research question, as well as practical constraints, drive my choices. Listening, mental models, and ethical decision-making are topics that are quite subjective by nature. They are about how we make sense of the world around us, how we can tap into the perspectives of others and understand their point of view, and how we make decisions based on our own values, beliefs, and experiences. Furthermore, most of the research on these topics is of a qualitative nature, and mostly consists of textual data. In addition, exploring how these topics are related requires me to take an active role in the research process. My judgments about what is relevant literature, my interpretations of findings and how they connect to the literature, will influence the conclusions I reach. Based on these factors, my research will have clear characteristics of the interpretive paradigm.

These topics could also have been explored from a positivist paradigm, at least separately. Neuroscientific methods are, for example, promising for figuring out more about what happens in our brain when we listen and make decisions. Based on my time constraints and competence, however, such an approach is not fruitful for my thesis.

2.3 Approach to theory development

Another aspect of the research design is the approach to theory development, which may be seen as either inductive, deductive, or abductive. The approach used often follows from the philosophical stance.

A deductive approach relies on established theory and often attempts to falsify it (Saunders et al., 2019). It goes from a general observation to something specific. If the premises are true, the conclusion is also true. An inductive approach, on the other hand, does not rely on established theory, but instead attempts to create new theory based on the data that is gathered. It goes from

a specific observation and attempts to say something more general based on it. This observation cannot guarantee that what has been observed will be true in general.

Abductive research is a more pragmatic approach, which switches between deduction and induction to find the most likely explanation (Dudovskiy, n.d.). It is suitable for both building and modifying existing theory (Saunders et al., 2019). In this study, I rely on existing theory on all three topics I am exploring, while searching for new connections. I therefore consider my research to be abductive. My overall approach does, however, also have a clear resemblance to eclecticism, which involves combining ideas and theories from a broad range of sources without a commitment to a single theory or paradigm (Britannica, 2017).

2.4 Methodological choice

It is also normal to distinguish between qualitative and quantitative research. The main difference is that quantitative research generally analyzes numeric data, usually numbers, while qualitative research generally analyzes non-numeric data, usually text (Saunders et al., 2019; Grønmo, 2020). However, research designs can also incorporate both types of studies.

My research is a mixed methods study. It is mainly qualitative, since I base my research on a lot of textual documentation. But I also supplement my research with a quantitative approach based on an interesting observation I found during my case study. This is in line with my pragmatic philosophical stance.

2.5 Research strategy

The next aspect to consider is the choice of research strategy, which is the practical plan of how the research question should be answered (Saunders et al., 2019). I will now explain the two strategies of this thesis.

2.5.1 Narrative literature review

First, a narrative literature review will be used. A narrative literature review is suitable for identifying weaknesses in a particular field, to evaluate research, to provide an overview of the

current state of the theory, and to develop new theory (Baumeister & Leary, 1997). One advantage of a narrative literature review is that it can explore a broader set of questions than any one empirical study can. A single study will, in most cases, not have sufficient data to make broad conclusions about a particular theme. This means that there are knowledge gaps that no single study can fill alone. A narrative review can overcome this limitation and fill the knowledge gap by searching for connections across different studies. This can allow for new theories and hypotheses to be developed (Baumeister & Leary, 1997).

Narrative reviews differ from systematic reviews. Systematic reviews use a highly structured, predefined, and reproduceable approach for collection and summarization of different research studies (Greenhalgh et al., 2018). Narrative reviews, on the other hand, do not have the same rigidity. In a narrative review, the researcher is also an active part of the process and contributes to theory development and understanding by summarizing and interpreting the literature.

Since the purpose of my research is to figure out more about the relatedness between three distinct topics, I consider a narrative review to be the most effective way to explore my research question. It will give me the flexibility to look for relatedness between three fields of study that are otherwise rarely connected in research papers. The purpose of my review is both to give an overview of the current theory, but also to synthesize the findings and contribute to the literature by advancing the understanding of these topics.

2.5.2 Case study

The second strategy I will use is a case study. Case studies often explore a topic in a real-life setting (Saunders et al., 2019). By looking at the dynamics between the topic and the real life-context, new insights can be found and become the basis for development of theory and new hypotheses. A case study can consist of one or more cases. Usually, a single case study is used when there is some uniqueness to the case, while a multiple case study is preferred to see if similar findings can be replicated across cases.

The case I have chosen is the Boeing 737 Max scandal, where financial-focused decision-making led to two fatal accidents, killing 346 individuals. In this case, I explore how the listening skills and mental models of managers at Boeing and the FAA, who had regulatory authority over Boeing, contributed to the decisions they made from the beginning of the

development process of the Max to the aftermath of the accidents, a time span of eight years, from 2011 to 2019.

There are several reasons for choosing this case. First, as a quite new case, it has not yet been over-researched. Second, it seemingly contains many of the characteristics of listening issues, unethical decision-making, as well as narrow-minded thinking. Third, there is a lot of documentation publicly available that facilitates the research of this case. Fourth, I have an interest in and experience from the aviation industry, where I have worked as an air traffic controller since 2014. Because a main issue in this case is the balance between safety and financial focus, I can put both my safety experience from the real world and the knowledge I have acquired from my studies of economics and management to use. Even though this may give me some advantage in understanding the dynamics within the case, there is a real risk that my safety experience, which is an ingrained part of me, will lead to biases in my interpretations. However, I attempt to minimize them. There are several explanations and interpretations that can be made of the same case depending on who researches it. Accordingly, the readers of my analysis may make up their own opinions.

My study is based on a single case. I think the case study complements the literature review by showing how these concepts can unfold in a real-life setting. Still, similar accidents have happened previously in other organizations, and I would have preferred to have used a multiple case study design. Due to time and work capacity constraints, such a wider approach was not a feasible solution.

2.6 Data collection and analysis

2.6.1 Narrative literature review

For the literature review, I collected data in an unsystematic manner through Google Scholar and Oria. I did not follow any predetermined search protocol or strict selection criteria, but instead chose papers based on my own judgment of whether they seemed to be relevant to my research question. I attempted to primarily select peer-reviewed research papers, as well as books written by authors that also have published high-quality peer-reviewed research. In some

instances, however, I selected other papers because they contributed with valuable insights to my research question.

The point of departure for my literature search was the readings I had done on Carl Rogers' books on client-centered therapy and empathetic listening. In addition, I considered papers on psychological safety and bounded rationality to be of interest. My first selection of literature was therefore Rogers' books. Subsequently, I made searches with keywords like "empathic listening", "listening with understanding", "perspective taking", and "active listening" to find other supplementary literature on listening. I was especially interested in finding newer research, but my general impression eventually became that little empirical research on listening has been made.

During my readings I eventually decided on how to structure my review. I concluded that understanding the relationship between decision-making and listening also requires an understanding of how we perceive ourselves and the world around us. This caused me to tweak my research question to include something on our own subjectivity: our mental models.

Ultimately, I created three distinct sections: i) how we perceive the world around us, ii) how listening can or cannot lead us to perceive the world differently, and iii) ethical decision-making. To find papers related to these sections, I used keywords like "ethical decision-making", "mental models", and "self-concept". During the literature review, I also found many references to other papers that I thought could be relevant. This led me to include topics like attitudes, employee voice and self-determination theory, as well as including additional papers related to other themes.

The intention of my research was to explore a different question than the research papers themselves addressed. The purpose of including these papers was to see if they indirectly addressed concepts related to listening, even though listening was not the direct scope of their research. I do not methodologically critique or review each paper included. Instead, I look for relationships between the different parts of the literature to gain insight into how they are related. To some extent, my literature review shares some characteristics of meta-ethnographic syntheses that attempt to produce new meaning beyond the scope of individual studies (France et al., 2019). The different sections of the review can be distinguished as three parts that I attempt to synthesize to create a new holistic understanding. The synthesis occurs in chapter 4, where I propose my research model based on the review.

2.6.2 Case study

The 737 Max case spans between 2011, when the development of the aircraft started, and 2019, when the second crash happened. My research depends on secondary data, which is data that has already been collected by someone else for some other purpose (Saunders et al., 2019). The case has been thoroughly investigated, and there are a lot of publicly available documents related to this case from dependent sources. Specifically, *The House Committee on Transportation and Infrastructure*, which is a committee of the United States House of Representatives that has jurisdiction over all US transportation (The House Committee on Transportation and Infrastructure, n.d.), has published transcribed interviews with key decision-makers, internal communication documents, such as emails and surveys, from both Boeing and the FAA, as well as their own holistic report, in which they have analyzed contributing factors to the accidents and included the most important findings from their investigation.

I have based most of my own research on the final report of the committee because it includes some of the most relevant material and provides a total overview of what happened. It includes interpretations and commentary from the authors of the report, which may contribute to understanding the narrative. I have also familiarized myself with other documents and sources related to the case to get a better understanding of it and to cross-check claims that are made. I have included some of these documents in my analysis because they contained valuable data.

I have performed a thematic analysis to gain insight into the report. A thematic analysis is a method used to identify themes across a data set (Saunders et al., 2019). The approach is flexible and can be used for a variety of types of qualitative research, regardless of whether it is deductive, inductive, or abductive. I considered this to be an appropriate choice because it enabled me to systematically search for patterns related to the three key topics my research is about and to look for new associated themes. Although I performed this thematic analysis, my discussion about the case also incorporates other sources and findings.

Due to a finding from the thematic analysis—a discrepancy between what managers said they prioritized and what they appeared to actually prioritize—I decided to add a quantitative content analysis of nine of Boeing's annual reports. A content analysis is used to search for the presence of concepts, words, and themes within a text (Columbia Public Health, n.d.). There are different types of content analysis for various purposes. My purpose was to quantify the presence of "safe" and "$" within the annual reports to see if there was a pattern that could indicate what

managers at Boeing focused on. I was especially interested in finding whether there was a difference in the annual reports prior to the Max accidents compared to after the accidents. Therefore, I used a simple conceptual analysis of these explicit terms, where I counted the presence of the words I was looking for.

2.6.2.1 Thematic analysis

I performed the thematic analysis in the following way. As Saunders et al. (2019) state, the starting point is to become familiar with the data by reading through it several times and taking notes of recurring patterns. Thereafter, the data must be coded, which means giving different blocks of data, such as actions, thoughts, and beliefs, a label based on its meaning. Data that have similar meaning are given the same code. The approach to theory development influences how data is coded. Because my approach is abductive, I started the coding process with an idea of what I was looking for based on my literature review. Even though I had a sense of what I was looking for, I also let the content of the data direct my coding. I did this process manually by labelling data directly in the report, in addition to making a list of the codes that I used. I only coded the parts of the report that I thought were relevant to my research question.

The next steps are searching for, refining, and naming themes (Saunders et al., 2019). Codes that have similar meaning are grouped together to form a broader theme. I did this by looking for similarities between the different codes on my list. I grouped codes that seemed to have similar meanings together and considered if they could function together as a coherent theme for later analysis. Some groupings seemed to fit well, while others did not. I therefore repeated this process several times until I was able to find the right relationship between the codes and how they could be grouped. I gave the different themes names based on what broad topic they were about. I then found the data that I had coded and put it under their respective theme. This led me to redefine certain themes to reduce overlap and to ensure they were sufficiently distinct. Some themes were redefined and collapsed into a single theme because of similarity in meaning. I also eventually chose to scrap a couple of themes that I had constructed because they were not sufficiently related to my research question.

The last step is analyzing the themes and writing a coherent report that tells the story of the data (Braun & Clarke, 2006). This includes showing the reader extracts of the data to illustrate how one has come to one's conclusions, as well as arguing for how the data relates to the research question. I have done this in two steps. In the results section of the case study, I show examples of data from the report that illustrate how I have arrived at a certain theme. In the discussion

section of the case study, I analyze some of the findings and consider how they relate to my research question. However, the discussion section is not solely based on the thematic analysis, but also incorporates other elements, such as the content analysis and other material I found relevant.

2.6.2.2 Content analysis

The content analysis was performed as follows. First, the level of analysis was decided (is it a theme, concept, or word? See Public Health Colombia, n.d.). Since the content analysis only was a supplement to my other methods, I decided to keep the complexity low. Therefore, I only looked for the presence of the word "safe" and the symbol "$".

The next step was to decide whether I would distinguish between different forms of the word. I decided I would include all occurrences of words that started with "safe". This meant that I also included words such as "safely" and "safety". The "$" sign was only searched for in its original form. To keep the complexity low, I did not include words such as "dollars" or other terms or sentences that could have a similar conceptual meaning.

Then I decided on the rules I would follow during the search process. The first rule was that I would exclude words that included "safe" that were referring to an organization or title. This excluded findings of "safe" in contexts such as "Board Aerospace Safety Committee" and "Chief Aerospace Safety Officer". I also decided to exclude all mentions of "safety" that were used in the context of the Covid pandemic. This excluded findings of "safe" in contexts such as "new COVID-19 safety practices".

Thereafter, I chose which annual reports I would include in the analysis, altogether nine annual reports, from 2012 to 2020. I did not consider all parts of the reports to be relevant. The reports are more than a hundred pages long, but most of the pages are financial statements. I considered the pages where the management at Boeing addresses their stakeholders through text and pictures to be of interest, which occurs at the beginning of the reports. All the annual reports have a similar setup. I therefore decided that I would include all pages, including the front page, prior to the 10-K section of the reports. This reduced the number of pages I had to analyze to ten (annual reports 2012–2015), 14 (annual reports 2016–2019), and 18 (annual report 2020).

Finally, I performed the actual search process using the search function in the Adobe Acrobat Reader. I manually went through each hit, and counted the occurrences of my search words, while excluding false hits and other hits that were affected by my exclusion criteria.

2.7 Research quality

In this section, some aspects that impact the quality of my research will be accounted for.

2.7.1 Narrative literature review

My literature review has several weaknesses. First, I started this research with a clear interest in the subject of listening and with an implicit hypothesis that there most likely is a positive connection between ethical decision-making and listening. As a result, I have to a large extent been actively searching for literature that could confirm what I already believed to be true. Even though I have been aware of the potential negative effects of this confirmation bias during my research, this awareness has likely not been sufficient to overcome it. I have, however, actively attempted to look for contradicting literature, but I have not been successful at finding any clear indications that my hypotheses are wrong. This could, of course, be an indication that they have merit. Although I think there is a close relatedness between these concepts, and this also is supported my findings, there might be alternative explanations that could be more accurate.

A second weakness is my literature search. The point of departure was my existing knowledge of listening primarily based on Rogers' books, and biases in decision-making primarily based on the work of Kahneman and Tversky. Since I cannot search for things I do not know that exist, my literature search has been restricted to my own limited knowledge of these topics. I have, however, been able to acquire new knowledge during the process. I have therefore several times added papers and done new searches based on the new concepts I have been exposed to. In addition, my search technique has been quite arbitrary based on keywords I thought would lead to relevant results. A more proficient searcher would perhaps have been able to find both newer and more relevant literature. Moreover, I selected literature based on my own perception of whether it was suitable for my research purpose. While this has enabled me flexibility and allowed me to find literature quickly, there are most likely many valuable papers that I have not selected based on a wrong perception of their importance.

A third weakness is my lack of distinction between empirical, theoretical, and anecdotal evidence. In a few instances, I have made clear what the specific paper I am referring to did methodologically. But in most cases I have not. This problem is perhaps most relevant to the listening section. Much of this section is based on Rogers' books. While his books do contain

references to empirical research, they largely consist of his opinions based on his own experiences as a psychologist. Even though Rogers was a leading figure in his field and several other sources agree on the importance of empathic listening, this increases the uncertainty of the validness of the claims I make. However, I also think there is a big value in using these resources in my review. I find the perspectives Rogers brings to the table to be rich and insightful, even though not all of them have been empirically tested.

Furthermore, as a researcher, I have been an active part of all steps of the process, making decisions on which literature to include, interpreting the literature, and putting the different parts together into a new whole. In essence, the developed synthesis/research model is my interpretation of how these concepts relate. Different researchers, doing similar processes, might have drawn other conclusions based on their experiences and perception of how these concepts intertwine.

2.7.2 Case study

The case study is heavily based on the investigation report of *The House Committee on Transportation and Infrastructure*, which is not an independent committee. In fact, it is a political committee that at the time of the investigation had a democratic majority. This means that the narrative that they create in the report could have been influenced by their political stance. However, I have cross-checked the report with other sources, and my personal conclusion is that their report is of high quality and can be trusted. For example, another report investigating the FAA was delivered by the *U.S. Senate Committee On Commerce, Science, and Transportation*. This committee had a republican majority at the time of the investigation. They find similar issues. In essence, I do not think the political element is troublesome.

My decision to mainly base my analysis on the committee report is subject to some weaknesses. The report contains the committee's own narrative, evaluations, and criticism of what happened at Boeing and the FAA. To back up their claims, they have included examples of internal communication at Boeing and FAA, such as emails, survey data and other documentation. Thus, my analysis is based not only on the internal communication itself, but also on the interpretation of the authors of the report. This makes me vulnerable not only to weaknesses in my own interpretation, but also to weaknesses in the interpretations and choices that they have made. This is partly mitigated, since the primary source material also is accessible to me, which means

that I can evaluate whether their interpretation makes sense. Still, my interpretations are vulnerable to framing effects from their analysis.

Another issue is related to what the committee has included and left out of their report. What are the reasons behind their choices? Based on the report and the material I have read, I find strong indications of lack of listening and narrow-minded thinking and decision-making at both Boeing and the FAA. But I do not know what I might be missing. There could be a lot of other internal communication that could give a different picture than this report and the documents they have chosen to publicly release.

An ethical issue I have considered is related to the persons that are named in the committee report. Even though this is a public report, and that the persons that are named have been mentioned in much more public arenas than this master thesis, it would be regrettable if I were to convey information that is incorrect or misleading. However, based on the report, the documents that have been released, and other sources, I consider this risk to be low.

I still want to stress that the publicly released documents have been interpreted by the committee. My interpretation is based both on reading some of the source material directly and on the committee's interpretation. There are also other interpretations that can be made of the material that could be more or less valid. In fact, what *really* happened will never be totally known. Different persons looking at the case will focus on different things dependent on who they are. I therefore encourage the reader to make up their own opinion. In chapter 6.4, I also discuss alternative explanations and narratives to mitigate the tendency to obsess over the intentions and actions of individuals.

Lastly, the content analysis of the annual reports has limited value on its own. I added the content analysis as a small supplement to the case discussion based on a finding from the thematic analysis. For example, what if Boeing at some stage decided to replace "$" with "dollars"? This would reduce the frequency of "$", but this would of course not matter if it was replaced with a synonym and the total frequency of the concept was the same. Similarly, what if Boeing hired a new communication department, and that the frequency of "safe" simply is due to a new communication strategy based on the preferences of the department, and not because safety has become a more salient issue for managers at Boeing?

However, since I use the content analysis as a supplement to other observations, I think the findings do have value. Regardless of the cause, a shift in public communication focus has

happened. This pattern is apparent by reading through the annual reports and other publicly available material at Boeing, such as quarterly reports and proxies to shareholders. Whether this means that safety has become a more salient issue in the managers' day to day operations, remains an open question.

Chapter 3: Narrative literature review

3.1 Our subjective world

3.1.1 Bounded rationality

Neoclassical economics has traditionally considered the human decision-making process to be rational. This implies that we as decision-makers know our preferences, can apply our knowledge consistently, can deal with stress and uncertainty, can make accurate assessments, and are able to calculate and choose options with the highest expected utility (Simon, 2000). In reality, our human brain does not have the unlimited computational power those abilities require. Instead, it has limitations that make decision-making processes messy. Since the 1950s, when Herbert Simon published his work on bounded rationality, several scholars have illustrated how we fail to make optimal decisions in the way the rational model prescribes (Bazerman & Moore, 2017). Even though we attempt to make rational decisions, we are unsuccessful in predictable ways due to both internal and external factors, such as perceptual errors, lack of information, and influences from our environment.

Our knowledge of ourselves, others, and the world is enclosed in mental knowledge structures called *schemas* that help us interpret our surroundings (Klimoski & Mohammed, 1994). These knowledge structures enable us to form impressions rapidly based on our previous experiences (Aronson et al., 2013). While schemas help us navigate the world effortlessly, they can also cause suboptimal thinking. They often lead us to interpret ambiguous information in accordance with our expectations and fill in missing information with our own assumptions (Baldwin, 1992). Furthermore, random factors, such as priming and how accessible the schema is in our memory, can affect which schema is retrieved and applied in a situation.

In addition, our thought processes lead us to make faulty judgments, which is a main source of our inability to make rational decisions. The dominant view of how thoughts arise is the dual process theory, which postulates that humans have two distinct cognitive processes for thinking (Kahneman, 2003). The first, system 1, is fast, intuitive, and emotional. System 1 allows us to interpret our surroundings automatically without conscious thought (Aronson et al., 2013), and is the basis for most of our decisions. System 2, on the other hand, is slow, deliberate, and

effortful (Kahneman, 2003). It is system 1, due to how it generates highly accessible impressions, that controls our judgments unless we actively override it with system 2. System 2 allows us to engage in deliberate reasoning, monitor our intuitive system 1 responses, and correct for errors if detected. It enables us to think things through and should preferably be used for important decisions (Bazerman & Moore, 2017). It has, however, limited capacity and is also easily disrupted, especially if we are subject to stress or time constraints.

Tversky and Kahneman (1974) have shown that we use heuristics, mental shortcuts, to make inferences about our surroundings when we rely on our intuitive system 1 thinking. These heuristics determine the impressions we get and the judgements we make. Even though heuristics are useful since they help us handle complexity efficiently, they make us vulnerable to systematic biases that influence our judgment and lead us to wrong conclusions (Bazerman & Moore, 2017). We use several types of heuristics when we make judgments, which in turn can induce numerous biases. I will now briefly mention four heuristics and what Bazerman considers to be the mother of all biases to establish some ground for the rest of this thesis.

First, we have an *availability heuristic*, which is our tendency to assess situations based on what is most easily retrieved from memory (Bazerman & Moore, 2017). Second, we have a *representativeness heuristic*, which is our tendency to put people or things into categories that we compare. Third, we have a *confirmation heuristic*, which is our tendency to selectively choose which data we will use when we test hypotheses. Fourth, we have an *affect heuristic*, which is our tendency to base our decisions on our immediate emotional responses instead of higher-level reasoning. While these heuristics help us make quick, and often effective judgments, we are usually unaware of how they influence our thought processes (Tversky & Kahneman, 1974). Consequently, we fail to question our judgments and correct for the predictable errors they tend to create (Bazerman & Moore, 2017). Hence, we are affected by an *overconfidence bias*. We trust our judgments and believe they are correct, even though there exists evidence that we should be questioning ourselves.

Felin et al. (2017) provide a different look at bounded rationality that I think is relevant to the later sections in this thesis on mental models and listening. They claim that the literature on bounded rationality relies on a troublesome assumption of an objective, all-seeing eye that knows what the rational choice in any given situation is. They suggest that instead of considering deviations from this as biased, we should consider them as indications of how we direct our perception and awareness. This means there is no objective, optimal solution waiting

to be correctly perceived. Instead, reality has several expressions and representations, depending on the perceiver. The perceiver imposes their expectations, assumptions, and theories on their surroundings. Hence, different individuals see different realities because they have unique life experiences and focus on different things. Therefore, we can interpret a situation in numerous ways and there is not necessarily one correct interpretation that is objectively optimal (Felin et al., 2017).

3.1.2 Self-concept

As humans, we have thoughts and feelings about what it means to be ourselves, a self-concept, which can be looked at as our own ideology about who we are in the world (Gecas, 1982). It includes aspects such as our various social identities and personal attributes that eventually have emerged as "us" throughout our interaction with the world and others. Our self-identity determines how we express ourselves in relation to others in different types of social roles (Caldwell, 2009). In addition, we have a moral identity, which includes our answers to questions regarding right and wrong, what personal qualities one ought to pursue, and who and what we feel responsible for.

There are three important motives linked with self-concept that drive our behavior (Gecas, 1982). The first motive is *self-efficacy*, which is connected to our sense of being an active agent in our lives. We find ways to increase our competence, power, and we continuously search for purpose and direction. If we lose our sense of control and no longer perceive that we have any influence on our environment, this can create feelings of alienation and reduced well-being (Gecas, 1982).

Secondly, we have a *self-esteem* motive, which means that we feel a need to maintain and enhance a positive image of ourselves (Gecas, 1982). If we encounter information that threatens our self-concept, this motive can make us distort reality in self-serving ways. It could, for example, cause us to selectively process the threatening information by neglecting parts of it and by framing the rest in ways that are beneficial for ourselves. It could drive us to search for information that puts us in a positive light, while ignoring information that could lead us to a more negative conclusion.

The third motive is the need for *consistency* (Gecas, 1982). We have rigid knowledge structures, self-schemas, of ourselves, that we tend to maintain in order to feel a sense of continuity of who

we are. We feel committed to different types of roles, their associated behaviors and values. When we experience a lack of congruence between whom we think we should be and how we are behaving, this leads to cognitive dissonance, a feeling of discomfort, that motivates us to either change our behavior or to find ways to rationalize it (Gecas, 1982; Caldwell, 2009).

3.1.3 Self-deception

Self-deception means being unaware of how we come to believe what we do, and includes practices like avoiding the truth and justifying our self-interested behaviors (Tenbrunsel & Messick, 2004). It could lead us to claim that we know more than we do, engage in wishful thinking, and be unwilling to examine evidence that contradicts what we want to believe or that could be a source of discomforting feelings (Caldwell, 2009). Furthermore, we often project our own problems onto others and deny problems that are apparent to outsiders. We also tend to blame others and avoid acknowledging our own contribution to what has happened.

All these self-serving mechanisms are types of self-defenses we engage in to protect our egos (Caldwell, 2009). While these self-defenses help us avoid pain, handle stress, and preserve our sense of self-worth, they also have adverse consequences for our perception of the world around us. If we deny ourselves access to the truth and are insensitive to feedback from our environment, it gets more difficult to grow as persons and create healthy relationships with others. When we distort reality to serve our own interests and are unable to see the nuances of situations, we often end up treating others as objects instead of persons with unique value. As a result, trust deteriorates, and we deprive ourselves and others of realizing the fullest potential of our relationship (Caldwell, 2009).

3.1.4 Self-awareness

Since self-deceiving distortion and filtering of reality usually happens unconsciously, awareness of our own self-deceiving tendencies is necessary if we want to understand ourselves and others more accurately (Caldwell, 2009). Self-awareness involves the ability to be receptive to cues from our environment about how others perceive us, knowing our strengths and weaknesses, and understanding our emotions. It involves being able to monitor and reflect on our behavior, and taking active behavioral choices based on these assessments in order to live life more congruently and in adherence to our ethical obligations (Caldwell, 2009). Self-

awareness is also considered to be a cornerstone of emotional intelligence and our ability to be empathetic towards others (Caldwell & Hayes, 2016). Emotional intelligence and self-awareness enable us to become sensitive to the needs of others in different contexts and communicate in ways that effectively strengthen our relationships.

3.1.5 Attitudes and beliefs

Self-deception stems from our beliefs, attitudes, and intentions (Caldwell, 2009). Many factors, such as personal experiences, age, ethnicity, values, education, and upbringing, influence our beliefs (Ajzen & Fishbein, 2005). Some of our beliefs are explicit, which means we can articulate and reflect on them, while others are implicit, which means they are unconscious and involuntarily activated (Aronson et al., 2013). Our beliefs influence our attitudes, which are our evaluations of other individuals, ideas, and objects. Our attitudes can also shape our beliefs, for example through distorted processing of information.

Some of our attitudes are strong, rigid, and resistant to change (Ajzen & Fishbein, 2005). The stronger the attitude is, the more accessible it is in our memory as a learned association. This increases the likelihood that it will be automatically activated and that it will define how we perceive new situations. This makes it more likely that we engage in a behavior or judgment that is consistent with that attitude. Thus, when such an attitude is activated, it can bias our thinking (Ajzen & Fishbein, 2005).

If we have the capacity and motivation to engage in deliberate thought, we can construct our attitude and attempt to correct for biases (Ajzen & Fishbein, 2005). But if we lack self-awareness and are blind to our own beliefs and attitudes, random factors and experiences from our past can heavily influence our thinking without us even realizing it. This is especially troublesome when our attitudes lead to maladaptive behaviors.

3.1.6 Mental models

Our attitudes, beliefs, self-concept, self-deception tendencies, and cognitive limitations all impact how we perceive our surroundings and behave. This is highly relevant to our ability to listen and make ethical decisions, which are the next main sections of this literature review. To get a grip on what the point of departure of listening interactions are, I will now discuss the

concept of mental models. This concept has slightly different meanings depending on the context. In essence, they all relate to how we make sense of the world around us, but they sometimes differ in scope. I will discuss this concept mainly from two perspectives. First, as the way we holistically make sense of the world. Secondly, as a type of toolbox, which we can use to frame situations differently.

To begin with, I want to mention that mental models relate to schemas. While schemas are inflexible knowledge structures that help us make fast associations, mental models can be considered a combination of several schemas that are used dynamically to make sense of the world and predict what will happen (Jones et al., 2011; Chermack, 2003). There is data everywhere, but as humans, we do not have the mental capacity to process everything in our complex surroundings (Besnard et al., 2004). Instead, we handle data selectively and build simplified internal representations of the world, mental models, that become the basis for our reasoning and decision-making processes (Jones et al., 2011).

Werhane et al. (2013) consider this to be based on social constructivism, which postulates that our mind actively constructs and projects meaning to our surroundings instead of passively taking in the external world. When we experience something, we interact with the incoming, complex stream of data through selective filtering and framing (Werhane et al., 2011). Our life experiences, attitudes, beliefs, biases, and goals influence what we pay attention to and how we filter information (Chermack, 2003). Thus, we create meaning of new situations through our unique lens of preexisting assumptions and beliefs. This means that all of us to some extent have a different understanding of the external world.

Since our way of filtering information is unique, and because when we filter something is always left out, our internal representation of reality is always incomplete (Besnard et al., 2004). This means that we have blind spots. However, as previously discussed, we tend to be overconfident and believe that our understanding of the world is correct. This is especially true when events around us meet our expectations, which can be considered data we use to support our own hypotheses about our surroundings. Our intuitive, system 1, reasoning is particularly vulnerable to this, and often causes us to make wrong inferences. Our deliberate system 2 can, in contrast, look for counterfactual data and overcome our faulty intuitive judgments (Johnson-Laird & Ragni, 2019).

Mental models can also be looked upon as tools that we apply to understand something. By knowing a lot of ideas from a diverse set of disciplines of knowledge, we can see the world through several frames (Parrish & Beaubien, 2019). For example, the disciplines of physics, chemistry, biology, economics, and psychology all have some big main ideas and models of looking at the world. By knowing the basics of these ideas, we do not have to restrict ourselves to utilizing them only within that narrow context. Instead, we can apply the principles these ideas teach us to make sense of other situations. This enables us to tap into a toolbox of models that we can apply to see a problem from a diverse set of angles. It allows us to deframe ourselves from the usual lenses through which we see things, detach ourselves from their limitations, and reframe the situation to see it through a new lens (Dunbar et al., 1996).

3.2 When two subjective worlds meet

3.2.1 What is listening?

We hear sounds all the time. It is a passive, involuntary process that does not require much effort (MacLeod, 2016). Listening, on the other hand, is an active process that requires cognitive effort. When we listen, we attempt to understand and interpret the whole message that someone is trying to communicate, and not just passively receive the words. This includes being attentive to cues such as body language, tone of voice, and being able to recall the essence of what the other person said. Good listening requires concentration and the ability to focus. If our mind wanders, the sounds the other person makes may be perceived by us, but effective listening has not taken place (MacLeod, 2016).

3.2.2 Ineffective listening

Listening can be of different effectiveness. As mentioned, we see the world through mental models that are colored by our experiences, attitudes, and beliefs. In addition, we are vulnerable to self-deception, self-serving tendencies, and flawed judgment. We bring this with us into conversations. Consequently, if we are not aware of how our own biases and assumptions color our view of the world, there is a high probability that our ability to listen will suffer. It could cause us to engage in negative listening behaviors that hurt communication, such as ignoring information that does not fit with our preexisting schemas; pretending to listen while waiting for our turn to speak; becoming defensive; believing that we already know what the other person will convey; interrupting, and not paying attention to the whole message of emotions and meanings being communicated (MacLeod, 2016).

One of the most renowned scholars on listening was the American psychologist Carl Rogers. Rogers considered one of the biggest roadblocks to effective communication to be listening with judgment (Rogers & Roethlisberger, 1952/1991). This happens when the listener is judging and evaluating the statements of the other person, which is an inclination we all have. It is an unconscious, automatic process. Instead of understanding how others experience the world from their perspective, we tend to evaluate their statements from our point of view. When we listen in this manner, we focus on our own feelings and thoughts about what the other person is saying. Rogers calls this listening *about* instead of listening *with.* We try to figure out whether

we agree with the other person, whether we approve of what they have to say, and judge them based on how they fit into our understanding of reality. This way of listening can lead us to talk past each other. We engage in a dance of evaluation, but do not obtain an understanding of how others see things. Their thoughts and emotions go unheard, even though we are right there with them. Thus, no meaningful communication occurs between us (Rogers, 1961/2012).

3.2.3 Empathetic listening

There is, however, another type of listening that is on the other side of the quality spectrum. This is listening with understanding, also known as active listening and empathetic listening, a concept thoroughly explored by Rogers. This is a listening construct with three components: comprehension, attentiveness, and relational aspects (Itzchakov & Kluger, 2017).

An empathetic listener attempts to see the world through the eyes of the other person, exploring what the expressed ideas and attitudes look like from the other person's internal frame of reference (Rogers & Roethlisberger, 1952/1991). This means that the listener attempts to accurately sense the emotions and meanings as the other person senses them, as if the listener were the other person (Rogers, 1959). It means fully attending to the other person. As the conversation develops, the listener regularly expresses their understanding of what the other person is communicating. By doing this, the listener can be corrected and gain a more precise comprehension of the other's subjective world. This also makes it clear to the person being listened to that there is someone on the receiving end who is attempting to understand them.

Listening empathetically goes beyond words, since words rarely capture the full extent of our experience. There are emotions behind the words that may or may not be apparent through our tone of voice, choice of words or body language. If one person enters the conversation thinking that communication is a logical and rational process, in which an understanding of the words the other person is conveying is enough to understand what they are expressing, the communication will be ineffective, since much of the meaning will go undetected (Rogers & Roethlisberger, 1952/1991).

Empathetic listening also includes features that impact the listening effectiveness and influence whether the relationship will improve or deteriorate (Rogers, 1959). The first feature is *positive regard,* which is entering the relationship with an attitude of warmth, acceptance, and respect for the other person. For a relationship to improve, there must be at least some positive regard

present that is felt by the other person. Ideally, the positive regard should be unconditional. This means that we always meet others with an attitude of acceptance, and not just when they conform to our expectations.

A second feature is *suspension of judgment.* Judgment or evaluation can be perceived as a threat by the other person, which could increase defensiveness (Rogers, 1961/2012). In a state of defensiveness, we attempt to maintain our current self-concept (Rogers, 1959). Instead of accepting an experience fully as it is, we either distort it to make it fit with our concept of self or deny it entry to our awareness. In a state of openness, we do the opposite. Instead of distorting experiences to make them fit with our self-concept, we revise our concept of self to include these experiences. Instead of shielding ourselves from certain thoughts and emotions that we may think are wrong or should not be there, we embrace them. We let these emotions and thoughts enter our awareness fully as they are. We do not feel any need to change them, even though they might be disturbing or even contradictory. By doing this, there is a state of congruence between the self and the experience, which according to Rogers is a key to being a fully functioning and psychologically well-adjusted individual. Thus, when we suspend our judgment in a relationship, we create a condition that allows others to be more open. The other person is not pressured to conform to an external standard, but can instead be their own judge of what a valid expression of themselves looks like (Rogers, 1961/2012).

The third feature is the degree of *congruence* of the listener. While it is crucial that the person being listened to feels they can be themselves fully without having to hide behind a façade, it also matters that the listener is genuine (Rogers, 1961/2012, 1959). To be congruent requires a high degree of self-awareness. The listener must be able to listen closely to their own inner experiences. If the listener can be open to their own feelings and attitudes during the conversation, accepting the feelings' presence in awareness instead of distorting or diminishing them, and even communicating them to the other person when it feels right to do so, the listener has a high degree of congruence. A congruent listener does not play a role. Instead, they are themselves in the relationship. There is a match between their inner experiences and what they express through words and body language. This increases the genuineness of the whole relationship, increasing mutual trust. If the listener, on the other hand, is not sufficiently self-aware, for example by suppressing negative feelings, these feelings still might express themselves in small ways. In such a case, the listener sends mixed signals to the other person, which reduces trust.

Another characteristic of empathetic listening is that the listener is willing to be changed (Rogers & Roethlisberger, 1952/1991). When we are temporarily able to reduce our tendency of judgment and defensiveness, and instead focus on experiencing the world as someone else is experiencing it, embracing reality from their point of view, there is a chance that this understanding will affect us. We could get influenced, our views could change, and there is a chance we learn something new. Rogers says this is a risk that many lack the courage to undertake. This is also in stark contrast to entering the conversation predetermined that our way of seeing things is the right way. However, since everything we perceive is filtered through our preexisting schemas, it is not possible to listen entirely without bias (Bodie, 2010). Nevertheless, if we are sufficiently aware of our own tendencies to selectively interpret information, we can monitor ourselves, and, to the best of our abilities, attempt to temporarily enter the subjective world of the other person and try to view it as they do.

3.2.4 Effects of empathetic listening

Listening with empathetic understanding has important benefits. The first benefit is related to the feeling of connectedness (Rogers, 1980/1995). When someone feels that another person is able to grasp their inner experience in an accurate way, they feel less alienated and more connected to other human beings. Having their experience validated reduces the feeling of estrangement. On the other hand, if somebody experiences that nobody understands them correctly, this could lead to feelings of isolation and abnormality, thus weakening the feeling of relatedness to others. A study by Morelli et al. (2014) supports the claim of human connectedness. They show that feeling understood activates areas of the brain associated with reward and social connection, while not feeling understood leads to feelings of negative affect.

A second benefit is that the person being listened to feels accepted, valued, and cared for (Rogers, 1980/1995). Listening empathetically is a sign of respect and interest in the other person, an acknowledgment of their worth (Rogers & Farson, 1957/2015). When someone is listened to in this way, they become more open and less self-critical of inner experiences. It becomes easier for the individual to allow for a more diverse set of thoughts and feelings to flow through awareness. Thoughts and emotions that previously were considered by the individual to be too scary to acknowledge internally or to experience fully, may to a larger degree be embraced and accepted as a part of being human. When someone can be vulnerable in this way, without the fear of being ridiculed, rejected, or judged, but rather experience

someone who accepts them for the person they are, a condition for growth and integration is created. According to Fonagy and Allison (2014) having one's subjectivity understood could lead to less rigidity and open for perceiving the world and oneself differently. When someone expresses their understanding of what we are saying, we get a better understanding of what we are saying ourselves. We get to clarify and dwell deeper into our own experiences. A study by Itzchakov et al. (2020) support this claim. They found that high quality listening enables the speaker to reflect on their experience. This can enhance the speaker's self-insight and reduce their prejudice.

Another benefit is that someone who feels understood becomes less defensive (Rogers & Roethlisberger, 1952/1991). Feeling heard leads to a reduction in black-white thinking, exaggerated statements, and to more constructive and nuanced conversations. Poor listening, on the other hand, leads to increased defensiveness (Itzchakov et al., 2020). It also undermines the reflection opportunities that increased self-insight requires. Rogers also suggests that feeling heard leads to more positive attitudes towards the conversational partner, a claim that a study by Bruneau and Saxe (2012) supports. This study was, however, made in a quite different context. They studied perspective-taking and perspective-giving in the context of intergroup conflict and asymmetrical power relationships. They found that being heard, meaning that the perspective-giver (the person who spoke) felt that the conversational partner had nonjudgmentally, empathically, and accurately paraphrased the perspective they communicated, led to more positive attitudes towards their conversational partner.

On an organizational level, another positive effect of listening with understanding is that it leads to a conversation that is more connected to the objective truth (Rogers & Roethlisberger, 1952/1991). When we are able to reduce judgment and are aware of the colored lens through which we are looking at the world, we can stop acting on our own assumptions. Instead of immediately voicing our own opinions based on our first perceptions of what someone else is saying, we can instead ask for clarification to gain a clearer understanding of their point of view. By doing this, we can engage in dialogue, instead of debate (Schein, 1993), which allows us to build mutual understanding. Rather than trying to convince others that we are right, we can explore the subtleties of each other's thinking, which enables us to get a fuller picture. This has positive implications for the decision-making process. It enables group members to explore each other's thinking and clarify misconceptions. This creates a better collective understanding of what the decision means. The probability of interpreting the decision differently has been

reduced. This is also positive for the follow-up and implementation of the decision, as the group has a mutual understanding of where they are headed (Schein, 1993).

Furthermore, if we ought to make decisions that incorporate other people's concerns and interests, one of the best sources for acquiring this understanding, is most likely through conversations with the affected stakeholders themselves. Research from negotiation indicates that listening is a key for obtaining a better understanding of others' interests (Itzchakov & Kluger, 2017), which is important for identifying possibilities for integrative, win-win solutions (Rognes, 2015). It is also important for our general ability to handle situations where stakeholders have opposing interests, as miscommunication based on a false understanding of others' intent, could lead to escalation of conflicts (Wall & Callister, 1995).

3.2.5 Psychological safety

According to Rogers (1961/2012) empathetic listening creates a climate of psychological safety. In this climate, individuals can feel free to explore what it means to be themselves without fear. Experiences are accepted as they are into awareness, instead of being suppressed or distorted by defensive mechanisms. Ideas can be played with and rigidity is reduced. Rogers thinks of this as a climate in which individuals can grow as persons and be creative, a climate in which the potential of the individual can be released and actualized. The individual does no longer feel threatened or forced to conform to the expectations of others. The individual's sense of worth and value is grounded in themselves rather than in the evaluation and praise of others.

Rogers' understanding of psychological safety has a close resemblance to how scholars understand it today. Psychological safety is often defined in terms of how safe an individual perceives it to be to take interpersonal risks (Edmondson & Lei, 2014). Certain behaviors have uncertain outcomes, and how an individual thinks that others will respond will affect whether they engage in this behavior (Edmondson, 1999). Psychological safety is dependent on several factors, among others, whether individuals feel they can be themselves without being rejected, share their opinions without negative consequences, and whether they perceive they are participating in a climate of mutual respect in which people have positive intentions towards one another (Newman et al., 2017).

When someone takes an interpersonal risk, for example by voicing a controversial or unfiltered opinion, how others respond will affect the feeling of psychological safety. If the person is met

with disapproval, is ridiculed or rejected, this could cause feelings of loss of face, inferiority, or embarrassment, which could lead to self-censorship, disengagement, and self-protecting behaviors (Nembhard & Edmondson, 2006; Edmondson & Lei, 2014). Leadership style also impacts psychological safety. Leaders who behave in a supportive, democratic manner and who are open to critique, impact psychological safety more positively than unsupportive, authoritarian, and defensive leaders. Similarly, leaders who include team members in discussions, acknowledge and appreciate their contribution, positively affect psychological safety (Bradley et al., 2012).

There are several beneficial effects of psychological safety. When people feel psychologically safe, they are more likely to communicate openly, share information and knowledge, give feedback, disclose mistakes, and request help from others (Edmondson & Lei, 2014). They are more willing to be vulnerable, share thoughts, and speak up. These behaviors have positive implications for creativity and innovation, identifying risks and opportunities, and organizational learning. In addition, psychological safety is linked to larger organizational commitment, more positive attitudes towards teamwork, and more successful implementation of new initiatives (Newman et al., 2017).

Furthermore, a mutual feeling of psychological safety enables people to engage in constructive task conflicts (Bradley et al., 2012). When team members feel that others have positive regard for them, the tendency to interpret the contributions of others as personal attacks reduces. Team members can challenge each other without having to artificially soften their opinions to preserve a sense of group harmony. Hence, it becomes easier to actively engage in discussions and disagreements in a constructive way, which is positive for the team's effectiveness.

3.2.6 Self-determination theory

Another perspective that can shed light on why the responses of others matter in interpersonal relationships is self-determination theory, which addresses what types of motivation individuals feel when undertaking certain behaviors. Self-determination theory distinguishes between different types of motivations on a continuum from controlled to autonomous (Gagné & Deci, 2005). Controlled types of motivation are dependent on factors such as rewards, punishment, and contingent self-worth. Autonomous types of motivation, on the other hand, are based on how the individual perceives that the behavior is related to their goals, values, and interests.

When individuals are autonomously motivated, they are self-determined, and feel in control of their actions (Deci et al., 1989). This can lead to a higher degree of job satisfaction because the individual feels that the work is self-initiated and personally relevant (Gagné & Deci, 2005).

Self-determination theory postulates that human beings have three basic psychological needs that impact psychological functioning, well-being, and development (Deci & Ryan, 2008). These are the needs for autonomy, which is related to feeling in control of one's actions, relatedness, which is feeling social belonging, and competence, which is related to the feeling of mastery (Van Quaquebeke & Felps, 2018). The satisfaction of these needs impacts whether the individual will feel an autonomous or controlled type of motivation.

In addition, the fulfillment of these three basic needs is important for the functioning of interpersonal relationships (La Guardia & Patrick, 2008). When others reach out to us, we can support their needs by responding to them sensitively with positive regard, encouraging them to explore their experiences, and helping them face their challenges. Furthermore, if people have autonomous motives for attending to their relationships, they tend to show more positive interaction behaviors compared to people who have a more controlled motivation. Their behaviors are open and flexible, instead of avoidant and defensive.

Our behavior can support or thwart others' need for autonomy, relatedness, and competence (Ryan & Deci, 2008). Since the experience of self-determination positively affects aspects such as learning, self-esteem, creativity, and feelings of worth (Deci et al., 1989), how we behave is important to consider if we ought to treat people with dignity. Van Quaquebeke and Felps (2018) suggest that leaders could engage in respectful inquiry, which they define as asking open questions followed by listening attentively to the answer. When leaders ask open questions, they invite the other person to express themselves and reveal what they think. When leaders listen attentively to the answer that is given, they show interest and care. Respectful inquiry also signals to the other person that they are competent, belong, and have control. However, this must be genuine. If the leader asks questions without listening well, the leader sends opposite signals of disinterest and falsehood, which could hurt the other person and deteriorate the relationship.

3.2.7 Employee voice

Listening is also related to the concept of employee voice, which is about employees' opportunities to speak up and share their ideas and perspectives in an organization, both to managers and their coworkers (Nechanska et al., 2020). Having employees who speak up is important for several reasons, such as knowledge sharing, exploring new opportunities, improving services and products, as well as identifying problems and threats. When employees are willing to speak up, managers can tap into a more diverse set of knowledge that can be used to improve their decision-making. If employees, on the other hand, stay silent, important information could remain unshared, hurting the organization's interests. Hence, employee voice has important implications for organizational performance (Nechasnka et al., 2020; Sherf et al., 2019).

Several factors can influence employee voice, such as organizational structure, culture, and availability of formal and informal voice mechanisms (Nechanska et al., 2020). Two important issues are related to psychological safety and voice efficacy. Employee voice is negatively affected when employees feel that interpersonal risk-taking is unsafe or think that speaking up will lead to negative career consequences. The likelihood of speaking up is similarly reduced if employees do not expect that their input will be listened to.

The way managers act has important implications for employee voice. When managers actively encourage and ask for employees' input, they signal to the employee that their thoughts matter (Sherf et al., 2019). This motivates employees to speak up. However, many managers do not encourage employees to speak up or show any openness to receive input. One explanation is that managers differ in their long-term orientation and sense of control. While employee voice can lead to increased long-term performance, it can have short-term costs in terms of friction and disagreements. If the manager is not long-term oriented, voice-seeking behaviors are less likely. Managers also differ in their sense of control over their environment. Some managers just relay information from top-management, and do not really have sufficient power to elicit meaningful change. This can lead to a reluctance to seek out input from others (Sherf et al., 2019).

A second explanation is that managers can feel threatened by employee voice, and thus do not seek it in order to protect their egos from criticism (Sherf et al., 2019). Managers can correctly or incorrectly interpret input from employees as a signal of their own shortcomings (Fast et al.,

2014). This can threaten the manager's feeling of self-worth and competence, and lead to self-defensive behaviors. Studies have also shown that people in general do not tend to take advice from others, especially if the other person is in a position of less power and the feedback has not been asked for.

A third, slightly more pessimistic, explanation, is that some leaders are narcissists that, through self-deceiving and self-defensive mechanisms, feel they are entitled to impose their enlightened view of the world upon their organization (Caldwell & Canuto-Carranco, 2010). They use others as means to reach their self-serving goals, and kill morale, trust, and employee initiative in the process.

Unfavorable conditions for employee voice can lead to employees who intentionally or unintentionally remain silent (Nechanska et al., 2020). Some employees might withhold information to get back at their employer. Others might be compliant to get by, but end up withdrawing emotionally and stop actively participating and sharing their thoughts. If employees feel the psychological contract with their organization has been broken, they could start feeling cynical toward it, adopting an attitude that their organization lacks integrity, and acts in an unfair, untruthful, and insincere way (Abraham, 2000). This could lead to negative consequences, such as a decrease in cooperative behaviors, and cause feelings of dissatisfaction, such as frustration, alienation, and contempt. It can also deteriorate trust and ruin the relationship between employee and employer, which can hurt organizational effectiveness (Naus et al., 2007). If employees perceive the environment as toxic or that their contribution is not appreciated, and if they feel that they are not treated with dignity and respect, this could eventually lead to their resignation (Caldwell & Canuto-Carranco, 2010). This could cause the organization to lose valuable competence and hurt the company's long-term interests.

3.3 Making ethical decisions

3.3.1 The need for ethical leadership

Friedman (1970/2007) famously stated that the only objective of business is to maximize profits and to serve the interests of shareholders, as long as the agreed upon rules of society are followed. While this theoretically, from a neoclassical economics free market perspective, leads to the most efficient outcome, reality differs from the economic models business schools teach. In real life, corporations are not limited to playing competitive games within laws that have been mutually agreed upon to protect the common good. Instead, corporations actively shape laws to fit their own agendas through lobbyism and revolving doors (Ramanna, 2020), inflicting negative externalities and public bads on society (McGahan, 2020).

Some of the biggest economies in the world are now powerful corporations (Belinchón & Moynihan, 2018). They span across international borders, complicating regulations that are already thwarted by self-interested politicians. Fortunately, many organizations have adapted business practices that to a larger degree attend to the interests of multiple stakeholders. Nevertheless, managers are still expected to deliver economic results to shareholders. Companies often incentivize managers, deliberately or accidentally, to pursue short-term economic performance, which increases the probability of irresponsible business practices (Ims et al., 2014). While corporate governance is supposed to protect shareholders' long-term interests, most shareholders do not have long-term interests in the companies they own, with an average share holding time of about eight months (Fiske, 2016). For those who remain, corporate governance is often ineffective, with several instances of incompetent boards and directors that function as puppets of the CEO (Chatterjee & Pollock, 2017). Relying on markets or incentives alone is therefore insufficient for responsible business behavior.

Bazerman and Moore (2017) suggest that many corporate scandals are not best explained by leaders who consciously choose to behave unethically in self-serving ways. Instead, they offer a view based on bounded ethicality, which suggests that we sometimes behave contrary to our values, but do not realize it due to system 1 thinking. When we consciously think ahead of time of ethical dilemmas, we tend to have a clear sense that we should and will act ethically (Bazerman & Tenbrunsel, 2011). But if the situation arises, there is a risk we will not behave as we predicted. This is because problems that arise in real time rarely are framed in ethical

terms, but instead in business or legal terms. The ethical dimension tends to fade away, which can lead us to ignore the ethical ramifications of our actions. Furthermore, many unethical scandals cannot merely be explained by the actions of one individual alone, but rather as a collective failure where bystanders indirectly support behavior they would otherwise condemn (Bazerman & Tenbrunsel, 2011). Regardless of the reasons for such scandals, it is clear that organizations need decision-makers who are able to demonstrate care and respect for multiple stakeholders over a long time horizon.

However, decision-makers often face difficult tradeoffs between self-interest and concern for others (Tenbrunsel & Messick, 2004), and pressure for high financial performance could cause leaders to sacrifice human and ecological interests (Hicks & Waddock, 2016). Waddock (2019) argues that leaders should put themselves in the shoes of their stakeholders, listen to them, learn from them, and understand their point of view before decisions are made. By realizing that the world is connected and by measuring success in other ways than short-term financial performance, businesses can contribute to sustainability and overall goodness. Through long-term, holistic thinking, leaders can take responsibility for how their actions affect others.

De Colle et al. (2017) emphasize the responsibility that leaders have for their employees. They argue that leaders must treat employees with dignity, recognize their full complexity as humans, and not just use them as economic resources as means to an end. Treating someone with dignity involves acts such as acknowledging them, accepting them, creating safety, understanding them, treating them fairly, validating them, valuing their contribution, and helping them to live good lives. One way of enabling dignity is to enable employees to be the persons they are in the roles they fill, giving them freedom to fill their roles with their own humanity and creativity. This can open for authenticity, trust, and for people to bring passion into reaching shared organizational goals (de Colle et al., 2017).

3.3.2 Decision-making

Organizational decision-making can be looked upon as a process consisting of four stages (March & Olsen, 1976). First, an individual perceives a discrepancy between their own mental representations of the world and how the world actually is. This discrepancy drives the individual's behavior in choice situations, which is aggregated into organizational actions based on a shared sense of this discrepancy across the organization. Lastly, the environment responds

to the actions of the organization, which will give individuals in the organization new data they can use to reassess their own mental representations. This four-staged cycle of choice can thus also be considered a cycle of learning.

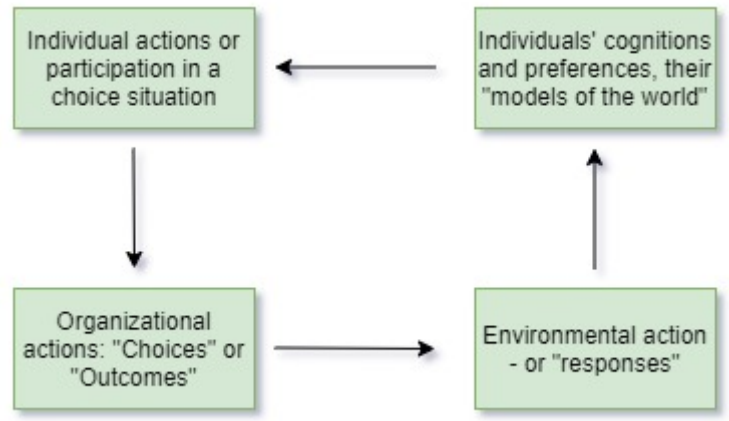

Figure 1: The cycle of choice (from March & Olsen, 1976)

The model of choice has some assumptions (March & Olsen, 1976). It assumes that the mental representations of individuals will drive their behavior, that individual behavior will lead to organizational action, that organizational action will lead to responses from the environment, and that responses from the environment will affect the mental models of individuals in organizations.

In real life, each of these assumptions could break down (March & Olsen, 1976). This is because organizational decision-making is full of ambiguity and complexity. Organizations do not always have clear objectives or a correct understanding of their environment, and the arenas of decision-making frequently become arenas of power struggle, politics, and group socialization. Organizational members do not necessarily learn and adapt from the feedback they receive from their environment. Random factors could affect each stage of the choice process, and there often lacks a clear link between the outcome and the decision that was made.

3.3.3 Considering multiple stakeholders and dimensions

The mental models of decision-makers affect how they act in choice situations. If they fail to acknowledge that their own perspectives frame the decision-making process, they are prone to entering choice situations unaware of their own blind spots, biased schemas, and that their perception and judgment is affected by internal and external factors, many of which are outside

their control (Thiel et al., 2012). This can cause them to not make use of important decision-relevant information that is easily accessible, thus leading them to miss important aspects of the problems they attempt to solve (Bazerman & Moore, 2017).

If decision-makers, on the other hand, are aware that their perspective is limited, they can actively seek out new information through dialogue with others. Since mental models are dynamic, they can be actively altered to perceive situations in new ways (Werhane et al., 2013). They can be reflected over and talked about. If decision-makers seek out information and challenge their habitual thinking, they can deepen their awareness, integrate more perspectives, enter choice situations with more accurate mental models of the world, and thereby increase their potential to make responsible decisions.

An important question for ethical decision-making is how far managers perceive that their responsibility reaches and which stakeholders they pay attention to. While conventional stakeholder theory usually focuses on organizations' responsibility towards contractual stakeholders such as employees, customers, and suppliers, Zsolnai (2006) argues that organizations also have a natural, non-reciprocal responsibility towards all beings that are impacted by their operations. This includes extended stakeholders such as nature, society, and future generations.

According to Mitchell et al. (1997) managers tend to prioritize stakeholders they perceive to have power to influence the firm, and that have legitimate and urgent claims. Managers' perceptions are, however, subject to biases that could cause them to focus too extensively on powerful stakeholders that demand attention (Tashman & Raelin, 2013). Less powerful stakeholders are more likely to be neglected, even though they could have legitimate claims. Managers often have a self-interest in pleasing the expectations of their most powerful stakeholders. They may, however, also lack knowledge and fail to understand what kind of obligations the firm has towards extended stakeholders. Failing to recognize the interests and concerns of a broad range of stakeholders, could mean that decision-makers enter choice situations with an insufficient understanding of the problem at hand.

Another key issue is which dimensions of a problem decision-makers take into consideration. Mitroff (1998) argues that a common issue when facing problems is narrow-mindedness. This can lead us to find precise solutions to the wrong problem or cause us to miss important aspects of the problem we are trying to solve. To get a holistic understanding of the problem and its

consequences, Mitroff recommends that we consider four dimensions of the problem. First, there is a *scientific*/*technical* dimension, which is the one we usually remember to consider. This is considering technological tools and frameworks. Secondly, there is an *interpersonal/social* dimension, which is concerned with the social context and interpersonal relationships. Thirdly, there is an *existential/spiritual* dimension, which includes aspects such as values and spirituality. Lastly, there is a *systemic* dimension, which means examining how the problem fits into a larger context, for example by looking at ecological ramifications. By considering multiple dimensions of problems, we can obtain a deeper insight into second- and third-order consequences of our actions for ourselves and others, future generations and nature, and take a greater responsibility for avoiding unintended long-term effects of our actions (Ims & Zsolnai, 2006).

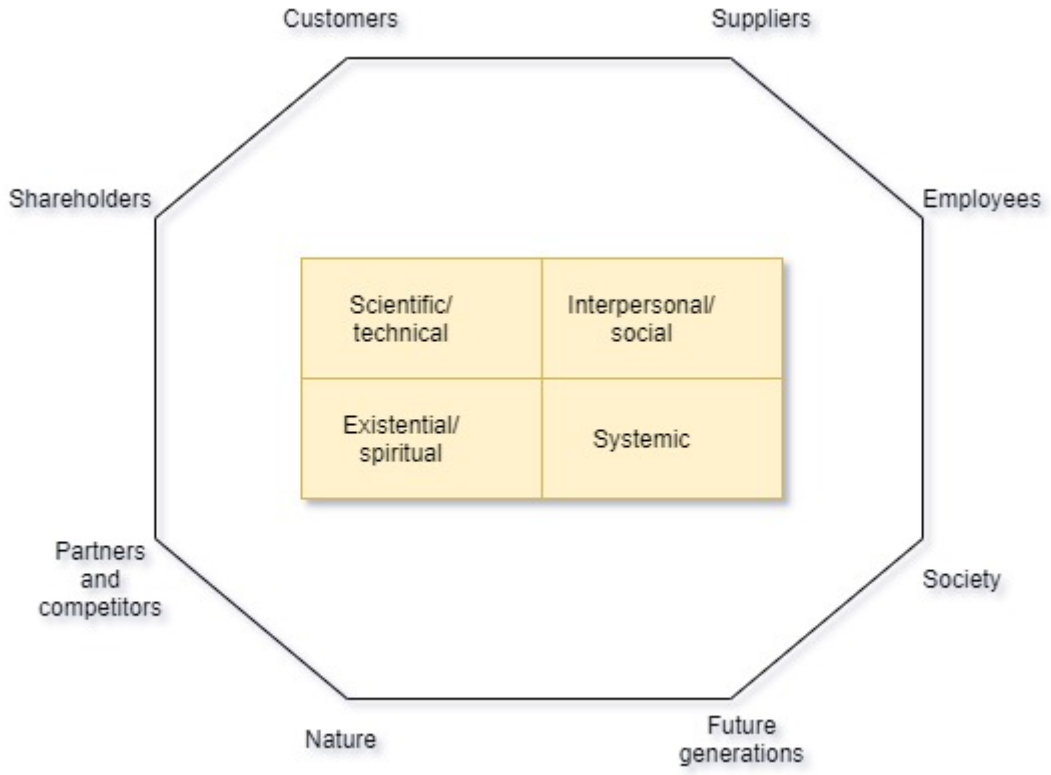

Figure 2: Multiple stakeholders and dimensions (based on Mitroff, 1998, and Zsolnai, 2006)

Chapter 4: Research model

4.1 Summary

Thus far, I have reviewed three main topics. The first topic was related to mental models—namely, how our attitudes, beliefs, experiences, and limited cognitive abilities influence how we perceive the world. The second topic was related to effective listening—that we by reducing our judgment can listen in a way that positively supports others' basic psychological needs, and that enables us to see the world as someone else sees it and potentially be changed by it. The third topic was related to ethical decision-making, indicating that our blind spots, bounded awareness, and bounded ethicality can lure us into making narrow-minded decisions. Based on the literature review, I will now propose a model that explains how these concepts are related.

4.2 Context

First, I will briefly explain the context of the proposed model. In the previous chapter, I presented the cycle of choice as a model for organizational decision-making, which provides the overall context of my model. More specifically, I place my model within the box of "mental representations" of the decision-maker. Many factors can influence a decision-maker's mental representations, including listening to stakeholders. The model I propose is an interpersonal, dyadic model suggesting that some relationships could occur in a one-to-one interaction between a decision-maker and one individual stakeholder, such as between a manager and an employee. The relationships between variables of the model are based on the literature reviewed in the previous chapter.

4.3 Proposed model

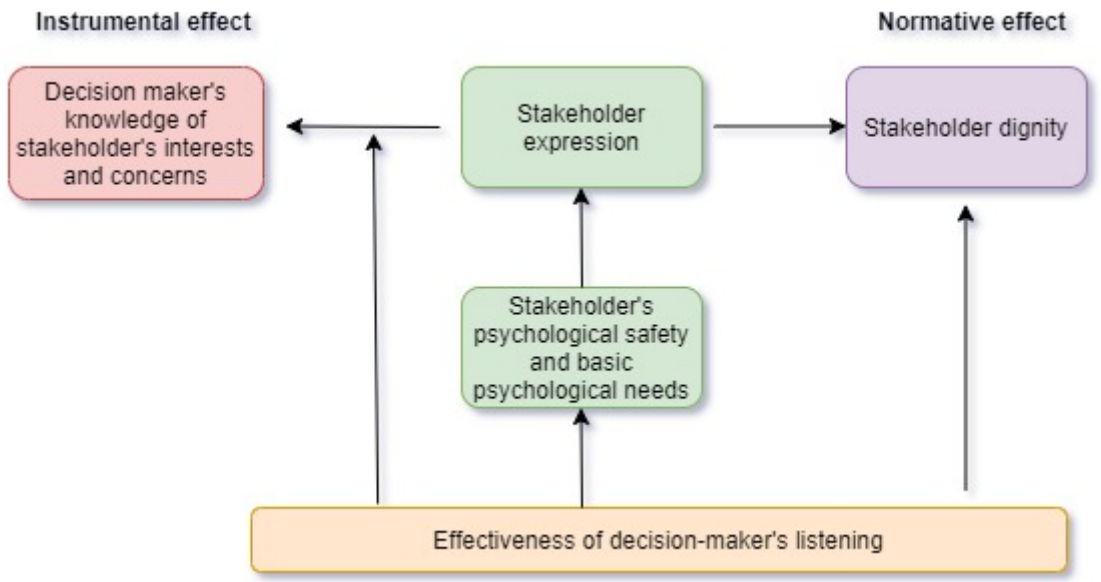

Figure 3: Listening model

As I explain the relationships within the model, I use the terms "manager" and "employee" instead of "decision-maker" and "stakeholder", respectively, in order to give concrete examples of the model's relationships. I also use one example of effective listening and one example of ineffective listening to show how the variables relate.

What is effective listening?

In the section on listening, I presented Rogers' listening construct, which includes three components: comprehension, attentiveness, and relational aspects. I consider effective listening to be the degree to which someone masters these three components in an interpersonal setting. Thus, effective listening implies that someone is able to master the mental aspects of listening, such as paying attention and seeing the world from someone else's point of view, and interpersonal behaviors, such as conveying understanding, clarifying uncertainties, and showing positive regard.

Stakeholder's psychological safety and basic psychological needs

A manager who listens effectively could positively impact an employee's basic psychological needs for autonomy (for example, by letting the employee control the conversation), competence (for example, by giving the employee the opportunity to share their expertise), and

relatedness (for example, by showing care and respect). Effective listening could also positively impact psychological safety, such as through a manager's consistent display of positive regard.

However, these same needs could also be thwarted by ineffective listening. A manager who controls conversations, interrupts, and never asks questions or conveys back their understanding of what an employee has expressed could negatively impact the employee's needs for autonomy, competence, and relatedness. Similarly, managers who fail to show positive regard and who create fear and uncertainty could negatively impact psychological safety.

Stakeholder expression

When an employee's basic psychological needs are met, they are more likely to express themselves. The employee can openly talk about their interests and concerns. The employee will likely feel that they can be their true selves to a larger extent. They can share their authentic being and do not have to hide behind a façade in order to meet their manager's expectations of whom they should be. The employee is accepted and respected as the person they are. An employee who feels psychologically supported is also more likely to feel an autonomous type of motivation, which is associated with a broad range of positive effects for both the individual and the company.

On the other hand, if an employee's basic psychological needs are thwarted, they are less likely to express themselves. They might not feel they can share their interests and concerns. They might operate under negative stress due to the fear of retributions or negative career consequences. They might feel they have to hide parts of themselves because they fear they will not be accepted as the person they are. An employee who does not feel psychologically supported is also more likely to feel a controlled type of motivation, which means that the potential for increased organizational effectiveness and personal well-being is not reached.

As a clarifying example, let us consider two theoretical employees: one who is effectively listened to (Employee Eff) and another who is ineffectively listened to (Employee Ineff). Both employees have three interests, I1, I2, and I3, and three concerns, C1, C2, and C3. In addition, both employees have a sense of how much of their true selves they dare to express (on a scale from 0%, which is hiding completely behind a façade, to 100%, which is showing their true selves).

Employee Eff might feel that it is safe to share 90% of I1, I2, and I3 and 85% of C1, C2, and C3, and they might feel that they can be 95% of their true selves in the relationship. Employee Ineff, on the other hand, might feel that it is safe to share only 70% of I1 and I2 and 60% of C1. This employee does not share I3, C2, or C3 at all. The employee might feel that they must put on a mask to get by, showing only 40% of their true selves.

The implication is that the effectiveness of a manager's listening could impact the degree to which employees share concerns and interests and the degree to which they feel they can be their true selves in interactions. Thus, the effectiveness of the manager's listening leads to two different effects.

The normative effect: Dignity

The first effect, which is normative, is the degree to which the employee is treated with dignity. As mentioned in the previous chapter, treating someone with dignity involves acts such as acknowledging them, accepting them, creating safety, understanding them, validating them, and helping them live good lives. Effective listening contributes to all these factors through the support of the basic needs for autonomy, competence, relatedness, and psychological safety. It is a way of respecting others and creating a climate in which they can be their true selves. It is a way of treating others as ends in themselves. It is a way of promoting the well-being of others, which Hicks and Waddock (2016) argue should be at the core of ethical leadership.

The instrumental effect: More data

The second effect, which is instrumental, is the manager's access to valuable data. When an employee speaks up, the manager will have a larger pool of data to tap into. The listening construct consists of different parts. Although a manager is effective at handling the interpersonal element of listening through supportive behaviors, there is also a comprehension part of listening that could moderate how much of the pool of data the manager correctly understands.

For example, even if an employee feels safe enough to express 100% of their interests and concerns because the manager is effective at the interpersonal dimensions of listening, the manager must correctly understand the data in order to utilize it in a choice situation. The manager interprets the data through their own mental model of the world, which will, to some degree, distort the data. If the manager listens effectively by temporarily suspending judgment and making an effort to see the world as the employee sees it, the manager might gain a 90%

correct understanding of what the employee has expressed. Meanwhile, a manager who ineffectively listens from their own point of view and with judgment might acquire only a 60% correct comprehension.

In either case, some data will inevitably be lost. Effective listening will, however, first increase the pool of data that the manager can potentially tap into because the employee feels safe to express more of their interests and concerns (through the interpersonal dimension). Second, effective listening will increase the degree to which the manager correctly understands the interests and concerns that the employee expresses (through better comprehension).

4.4 What is the ethical relevance?

If we return to the overall decision-making context (see Figure 1), we can now see how the model I have proposed fits into the bigger picture. The listening has, or has not, changed the mental model of the decision-maker. The new insights and knowledge the decision-maker has potentially acquired by listening to stakeholders can then be used in the decision-making (the choice situation).

What ethical relevance does this have? A decision-maker who listens effectively has a higher probability of entering a choice situation with an accurate understanding of the interests, concerns, and perspectives of stakeholders. These perspectives can help the decision-maker fill in their own blind spots, increasing their ability to make a holistic decision. For example, the decision-maker might gain an understanding of important second- and third-order consequences that were important to consider.

Similarly, a decision-maker who listens ineffectively might be unaware that they are missing important data. This means that the decision-maker enters the choice situation with an insufficient understanding of the problem, increasing the probability that the decision will be narrow-minded. The decision-maker might believe that they have a sufficient understanding of the problem at hand, but might in reality have created a climate in which stakeholders feel unsafe sharing information. In addition, the decision-maker's evaluating tendencies might lead them to distort data to make it fit with their own preexisting beliefs, thereby leading them into an unwarranted confidence in their own perception of the problem.

4.5 Outside the model

Even when the decision-maker listens effectively and gains an accurate understanding of the stakeholder's perception of the world, this knowledge is not sufficient for an ethical decision to be made. The decision-maker must still choose to make a decision that goes beyond their narrow self-interests.

The decision-maker must also judge how the various stakeholders' perspectives fit into the bigger picture. Stakeholders have different interests and concerns, and not all of these can or should be met. The decision-maker must consider the long-term effects of the decision for a broad set of stakeholders from a technical, social, existential, and systemic dimension. Lastly, the decision-maker must incorporate these aspects into the decision itself based on a holistic assessment of the problem.

Two relevant factors that I have left out of the model are self-awareness and external stressors. The decision-maker's self-awareness affects their ability to listen effectively. We have an inner life, an inner voice, an inner flow of experiences that we can explore and become aware of. By realizing that we see the world through a subjective lens, we can start exploring how our own biases, beliefs, and experiences influence our perception of reality. We can then attempt to suspend our own inclination to evaluate things from our own point of view and instead try to see the world as the stakeholder sees it. In addition, external stressors can influence what we pay attention to and how effectively we listen. Time pressure and framing effects can make us vulnerable to seeing the world in a rigid way and cause us to shut out input from others, thereby increasing the probability of narrow-minded decision-making. It can also make us vulnerable to considering too few stakeholders and too few dimensions of the problem we face (see Figure 2).

4.6 Limitations

My proposed model has some limitations. First, it is not ideal that the listening construct used incorporates several variables. Which parts of the listening construct are most important for ensuring that the listening is effective? How are stakeholder needs and psychological safety affected by the different aspects of listening? Is it the interpersonal supportive behaviors that

are most important, or is it the mental aspect? What happens if a decision-maker is effective at one dimension of listening, but ineffective at another? To me, it seems intuitive that the mental aspect of listening is the key for gaining new insights as a listener, yet it is impossible to access these insights if the stakeholder feels unsafe and does not express them. An improved version of the model should distinguish among the different variables of the listening construct to clarify these distinctions.

Second, it is important to note that effective listening is just one of many factors that could influence stakeholder needs and psychological safety. Even when a decision-maker listens effectively, there is no guarantee that the stakeholder will feel safe to express themselves. The history of the relationship, trust, and other factors could intervene. In addition, individual differences could affect the relationships in the model. Therefore, effective listening must be considered as one of many factors important for decision-makers to consider. Similarly, effective listening is just one of several factors that impact the degree to which stakeholders are treated with dignity. For example, what if a decision-maker listens effectively, but never incorporates any of the interests and concerns of powerless stakeholders into the decisions? Thus, effective listening must be considered a potential positive contributor in combination with other factors.

Third, effective listening is just one of several factors that could influence the mental model of a decision-maker. Even when a decision-maker listens effectively and learns something, there is no guarantee that this will lead to more ethical decisions. As previously discussed, each relationship in the four-stage model of choice (see Figure 1) could break down. If a decision-maker changes their mental representations of a problem after listening to a stakeholder, it does not necessarily mean that the decision-maker will actively use these insights. In many cases, listening to stakeholders will not provide any new insights that the decision-maker was not already aware of.

Fourth, there is a cost associated with effective listening. Listening takes time, and time is limited. The importance of listening will depend on the problem at hand. Some problems will probably require decision-makers to listen well and gather a wide range of perspectives in order to make a wise decision. However, many decisions are trivial, and even when a decision is important, the decision-maker sometimes already has a sufficient understanding of the problem. In either case, decision-makers must at some point cut off what is irrelevant and settle for a solution they feel is adequate. Although decision-makers should temporarily suspend judgment

to understand others clearly, their roles eventually require them to judge. If not, they risk entering a state of decision paralysis in which they are constantly searching for new input and unable to choose from among the available alternatives.

Fifth, when we listen effectively, seeing the world as someone else sees it, we risk being changed ourselves. This could enrich our understanding and fill in our blind spots, but it could also make us vulnerable to losing our sense of who we are. Bråten (1973) argued that, in interactions with others, we could be seduced by the model power of the other person—that is, their model of the world could feel so convincing that we end up neglecting our own experiences and knowledge. This could lead us to submit to the other person's way of thinking, reducing our ability to reason clearly based on our own values and experiences. If there are stakeholder conflicts, it is also likely that some stakeholders will actively attempt to manipulate the decision-maker to serve their own interests. Thus, there is a risk that listening could negatively impact our mental representations. If we are aware of this possibility and have a clear sense of our own values, some of the risk could likely be mitigated. This requires us to listen effectively to ourselves in order to recognize how the interaction might have impacted us. Yet even when we have this awareness, we might change subconsciously and never realize it.

Finally, in an organizational context, decision-makers are typically leaders, not psychologists. Although the focus of this thesis is decision-makers' willingness to open up and potentially be influenced by others through effective listening, leaders must also influence others. There is a time for listening, but also a time for expressing one's own values and opinions in order to create the change that the organization requires based on one's own sound judgment and total assessment of what the situation requires. Thus, finding the golden mean between listening too much and too little is a challenge that leaders must tackle.

Chapter 5: Case findings

5.1 Introduction

In chapter 6, I will consider the research question in light of the decision-making that led to the two Boeing 737 Max accidents. In this chapter, I will provide background information for the case, and present findings from the thematic analysis of the investigation report and the content analysis of Boeing's annual reports. This chapter is structured as follows:

Chapter 5.2 provides background information for the case and explains key terms.

Chapter 5.3 provides a timeline of the case.

Chapter 5.4 presents findings from the thematic analysis of the investigation report.

Chapter 5.5 presents findings from the content analysis of the annual reports.

5.2 Background

On October 29, 2018, Lion Air Flight 610 crashed 13 minutes after departure on a domestic flight in Indonesia, killing the 189 passengers and crew. Only five months later, on March 10, 2019, Ethiopian Airlines Flight 302, a flight between the capitals of Ethiopia and Kenya, crashed six minutes after departure, killing the 157 persons on board. In both cases, a brand-new Boeing 737 Max aircraft was used. And in both cases, a new safety critical system, MCAS (maneuvering characteristics augmentation system), forced the nose of the aircraft to pitch downwards, putting the aircraft in a deadly dive which the pilots were unable to counter (The House Committee on Transportation and Infrastructure (HTIC), 2020).

The story begins in 2010, when Airbus, Boeing's main competitor, launched the Airbus A320 Neo, an aircraft which was significantly more fuel-efficient than Boeing's 737 NG (Next generation), Boeing's best-selling aircraft. Airbus' value proposition was strong, and Boeing had to respond. In 2011, Boeing started their development of the Boeing 737 Max, which would

be based on the same design as the Boeing 737 NG aircraft but be significantly more fuel-efficient (HTIC, 2020).

Because the Max was a successor to the 737 NG, Boeing was making changes to an already approved design. This allowed Boeing to go through a simplified certification process, in which they mainly had to document any deviations from the approved design to the FAA (Federal Aviation Agency). Staying within this simplified process gave Boeing incentives to minimize changes to the aircraft, since major changes would have made the certification process more complex. However, some changes had to be made to make the aircraft more fuel-efficient. Compared to the NG, the Max was heavier and had larger engines with a different placement. These changes led to flight stability issues during certain conditions. A key issue was that the aircraft's nose was more likely to pitch upwards, which increased the risk of stalling. To address this, Boeing created a new flight control software system, MCAS, which could automatically activate to counter this tendency by forcing the nose of the aircraft downwards (HTIC, 2020).

One of the most important financial goals of the Max program was to reach a training certification of level B from the FAA, which would mean that pilots that were already flying the 737 NG could transition to the Max without requiring simulator training. This would significantly increase Boeing's value proposition by saving airliners substantial training costs. However, Boeing feared that the MCAS system had the potential to lead to larger certification and training requirements. They therefore decided to characterize the MCAS as an extension to the speed trim system, instead of emphasizing that it was a new function (HTIC, 2020).

Boeing had strong financial incentives to avoid jeopardizing the level B training objective. Even though the FAA had not decided on which level of training that would be required for the Max, Boeing early on actively marketed the aircraft as only requiring level B training towards potential customers. Boeing also entered into an agreement with the airliner Southwest, in which Boeing would be highly financially penalized if they failed to achieve level B certification (HTIC, 2020).

During the development of the Max, Boeing systematically downplayed the importance of MCAS towards the FAA. The FAA had delegated a lot of their oversight to authorized representatives (AR), which were Boeing employees who had been given authority by the FAA to validate that systems complied with FAA requirements. The AR representatives, who thus had conflicting interests between Boeing and the FAA, failed to inform the FAA about

important safety concerns that they had raised internally at Boeing. Thus, by delegating its oversight to Boeing, the FAA's oversight lost a lot of its effectiveness (HTIC, 2020).

During the development process, Boeing was under strong commercial pressure. They were already experiencing problems with another aircraft program (the 787 Dreamliner), and they had to equalize Airbus' competitive advantage. Many employees at Boeing felt that the commercial pressure had safety implications, and concerns were raised within several departments that quality was being compromised. A Boeing AR representative did also address MCAS directly, by raising concerns about the potential dangers of repeated MCAS activation. The AR representative also raised concerns that the MCAS only took input from one AOA (angle-of-attack) sensor, instead of two, which meant that if the sensor malfunctioned, it could give the MCAS erroneous input and cause it to activate. In both the Lion Air and Ethiopian Airlines crashes, this happened, and the nose of the aircraft was forced down repeatedly by the MCAS system. Because Boeing had not been transparent about the system, pilots were unaware of it, and did not know how to correctly solve the problems that arose (HTIC, 2020).

The House Committee report (2020) shows that there was a climate of undue pressure and fear of retributions for speaking up about safety issues at both Boeing and the FAA. It shows that there was a culture of concealment at Boeing, and that the FAA did not perform its regulatory duties effectively. It shows that the recommendations of technical experts were overruled by senior management, and that key executives felt pressure to deliver financial results. It shows that employee concerns were not addressed, and that the production of the 737 Max was ramped up despite several red flags. After the first crash, both Boeing and the FAA blamed the pilots, instead of addressing the faulty design of the MCAS system and providing pilots with the training they actually needed.

The House Committee's main findings are as follows:

- "The MAX crashes were not the result of a singular failure, technical mistake, or mismanaged event. They were the horrific culmination of a series of faulty technical assumptions by Boeing's engineers, a lack of transparency on the part of Boeing's management, and grossly insufficient oversight by the FAA–the pernicious result of regulatory capture on the part of the FAA with respect to its responsibilities to perform robust oversight of Boeing and to ensure the safety of the flying public. The facts laid out in this report document a disturbing pattern of technical miscalculations and

troubling management misjudgment made by Boeing. It also illuminates numerous oversight lapses and accountability gaps by the FAA that played a significant role in the 737 MAX crashes" (HTIC, 2020, pp. 6–7)

- "The FAA failed to ensure the safety of the traveling public" (HTIC, 2020, p. 15)
- "Costs, schedule, and production pressures undermined safety of the 737 MAX" (HTIC, 2020, p. 17)
- "Boeing failed to appropriately classify MCAS as a safety-critical system, concealed critical information about MCAS from pilots, and sought to diminish focus on MCAS as a "new function" in order to avoid increased costs, and "greater certification and training impact"" (HTIC, 2020, p. 19)
- "Boeing concealed information from the FAA, its customers, and pilots that the AOA disagree alert were inoperable on most of the 737 MAX fleet, despite their operation being "mandatory" on all 737 MAX aircraft." (HTIC, 2020, p. 22)
- "Boeing's economic incentives led the company to a significant lack of transparency with the FAA, its customers, and 737 MAX pilots regarding pilot training requirements and negatively compromised safety." (HTIC, 2020, p. 24)

5.3 Timeline

2010	Airbus' A320 Neo is launched
2011	**Boeing 737 Max development starts**
November, 2012	A Boeing test pilot uses more than 10 seconds in a simulator scenario to respond to uncommanded MCAS activation, a "catastrophic" result that Boeing does not share with the FAA or its customers
2013	A Boeing engineer's request to install a synthetic airspeed indicator on the Max is rejected due to concerns that it could jeopardize the pilot training objective

June, 2013	A Boeing AR approves that MCAS can be described as an addition to the speed trim system instead as a new function because of a fear of greater certification and training requirements
July, 2014	Boeing markets to potential customers that the 737 Max will not require simulator training, even though the FAA still has not made its decision on this issue
2015	A Boeing AR raises a concern about whether the MCAS is vulnerable to single AOA sensor failures
2016	Michael Teal, chief project engineer, is given restricted stock options after the Max' first flight for keeping the Max' production schedule
March, 2016	Keith Leverkuhn, general manager of the 737 Max program, and Michael Teal approve a redesign of the MCAS that increases the system's authority to move the aircraft's stabilizer. Boeing thereafter, with FAA's approval, remove references to MCAS from Boeing's flight crew operations manual
June, 2016	After a Max test flight, a Boeing AR raises a concern over the safety implications of repeated MCAS activation
August, 2016	The FAA decides that simulator training is not required for pilots transitioning to the Max from the NG. In fact, only two hours of computer-based training is needed
September, 2016	Boeing grants its technical pilots an excellence award after having achieved the level B training objective
March, 2017	**The FAA certifies the Max**
May, 2017	Airliners that are inquiring about Max simulator training are strongly discouraged from undertaking such training by chief technical pilot Mark Forkner

August, 2017	Boeing is aware that the AOA (angle-of-attack) disagree alert is not functioning on most of the 737 Max aircraft worldwide. Boeing does not inform the FAA or its customers. A Boeing AR agrees to postpone addressing the issue through a software update until 2020, when the launch of a new version of the 737 Max is planned
June, 2018	Ed Pierson, a production plant supervisor, raises concerns with senior Boeing management about production and schedule pressures that he thinks have safety implications
October 29, 2018	**Lion Air Flight 610 crashes**
November, 2018	Boeing and the FAA issue advisories for pilots, but do still not mention MCAS by name. After customers explicitly ask about MCAS, Boeing decides to describe the system
December, 2018	FAA conducts a risk assessment (based on an overly optimistic assessment that 99/100 pilots will respond correctly to uncommanded MCAS activation) that shows that without any fix to the MCAS there will potentially be 15 more fatal crashes during the Max lifetime (one fatal accident every second year), leading to 2900 deaths
After the first crash	Boeing still asserts that MCAS does not affect flight safety, and recommends to the FAA that reading printed material describing MCAS is sufficient and that simulator training is not needed
March 10, 2019	**Ethiopian Airlines Flight 302 crashes**
March 11, 2019	China grounds the Max
March 12, 2019	European Union grounds the Max
March 13, 2019	United States grounds the Max

5.4 Results: Thematic analysis

5.4.1 Theme one: Goal-oriented behavior

This theme is about how the commercial focus at Boeing affected their operations.

The report shows that the goal of achieving level B training was considered as critical for achieving the financial objectives of the Max program.

> This carries tremendous risk to the Program," wrote Mr. Forkner, "as differences greater than Level B will be unrecoverable for our early NG/MAX customers like [redacted], due to simulator availability. (HTIC, 2020, p. 147)

> "Failure to obtain Level B training for RCAS is a planet-killer for the MAX," wrote Mr. Forkner. (HTIC, 2020, p. 155)

The importance of keeping the training objective intact impacted how pilot checklists were designed.

> Mr. Forkner's emails and instant messages show how closely intertwined the Level B (nonsimulator) training goal was with technical decisions that affected training. In July 2014, for example, the Level B training goal overshadowed discussions Mr. Forkner had with a colleague concerning the development of pilot checklists for the Flight Crew Training Manual. As related to the specific checklists they were developing, Mr. Forkner advised that they follow "the path with the least risk to Level B" and "sell" an action pertaining to trim technique as a "very intuitive basic pilot skill."
>
> Mr. Forkner's colleague cautioned: "I fear that skill is not very intuitive any more with the younger pilots and those who have become too reliant on automation."
>
> Mr. Forkner responded: "Probably true, but it's the box we're painted into with the Level B training requirements." (HTIC, 2020, p. 155)

It affected how Boeing presented the new MCAS functionality.

> However, a little more than two weeks after Mr. Teal sent his May 2013 email about MCAS and "pilot differences training," several Boeing employees had a meeting to specifically discuss MCAS and the impact it could have on pilot training and certification requirements for the 737 MAX aircraft. An email summarizing that meeting said, "If we emphasize MCAS is a new function there may be greater certification and training impact." (HTIC, 2020, p. 150)

It affected how Boeing responded to customers who were inquiring about Max simulator training.

> Once the FAA obviated the need for simulator-based differences training on the MAX in August 2016, a decision that largely affected U.S. airlines, and after the MAX was certified in March 2017, Boeing aggressively discouraged foreign-flagged airlines from setting their own simulator training requirements. In particular, emails from Mr. Forkner concerning the company's foreign airline customers show strong opposition to simulator training and grossly inappropriate language in reacting to airlines that even inquired about simulator training needs for their MAX pilots. Mr. Forkner also boasted that his efforts to talk airlines out of simulator training was of significant financial benefit to Boeing. (HTIC, 2020, p. 156)

It impacted Boeing's engineering decisions.

> Some of the former Boeing engineers interviewed for the article noted how Boeing's desire not to have simulator training had a detrimental impact on the MAX's engineering decisions. One former employee said that internal Boeing performance reviews focused on cost savings and not safety. The article emphasized that corporate pressure regarding simulator training on the MAX is "essential to understanding how an emphasis on costs twisted a process that's supposed to produce the best, safest planes." The Committee's investigation has revealed similar findings. (HTIC, 2020, p. 162)

> Unfortunately, the request to install synthetic airspeed on the 737 MAX was rejected by Boeing management because its introduction would have been too costly and may have resulted in the FAA requiring simulator training on the MAX – something that would

> have jeopardized the 737 MAX program's clear and consistent goal to avoid simulator training requirements. (HTIC, 2020, p. 170)

It affected Boeing's interactions with the FAA.

> In November 2015, Mr. Forkner also wrote about the need to "push back very hard" against the AEG regarding potential simulator training requirements and said he "will likely need support at the highest levels" at Boeing in negotiating with the FAA regarding such requirements for the 737 MAX's Roll Command Alerting System (RCAS). (HTIC, 2020, p. 155)

Reaching important goals was incentivized.

> To thank Mr. Teal for his leadership of the 737 MAX program and for helping to keep the program on schedule, Mr. Teal received a bonus in the form of restricted Boeing stock shares after the first flight of the 737 MAX in January 2016. (HTIC, 2020, p. 117)

> In fact, the Committee has learned that in September 2016, one month after the FAA provided Boeing with provisional approval for Level B (non-simulator) training for 737 MAX pilots, Mr. Forkner and his team of technical pilots that had been promoting Level B training were granted an award for their efforts from Boeing. An internal Boeing email said that the technical pilot team received the company's Commercial Aviation Services (CAS) Service Excellence Award on September 14, 2016, "along with the Training Development Team for their role is [sic] developing the MAX Level B differences training which was approved by the FAA." (HTIC, 2020, p. 158)

In addition to reaching the training goal, Boeing also faced ambitious production goals.

> For those working on the factory floor and supervising the monumental task of assembling the 737 MAX aircraft at this rapid production rate, however, the problems they encountered were intensified by the pressure to produce. In the spring and summer of 2018, with literally thousands of MAX orders on the books and production ramping up, employees at the Renton plant were working significant overtime, including back-to-back weekends. Like any large-scale industrial manufacturing facility, safety and quality control were key concerns. But the Committee's investigation has found that in

> at least some cases those concerns appeared to take a back seat to Boeing management's concerns about staying on schedule on the 737 MAX production line. (HTIC, 2020, pp. 173–174)

Boeing implemented measures to emphasize the importance of keeping the schedule.

> "[O]ne of the mantras that we had was the value of a day, and making sure that we were being prudent with our time," said Mr. Leverkuhn, "that we were being thorough, but yet, that there was a schedule that needed to be met…" (HTIC, 2020, p. 168)

> To remind Boeing employees of how critical sticking to the program's schedule was, Boeing's management introduced "countdown clocks" into the MAX program, and they made certain that they were easy to spot. (HTIC, 2020, p. 168)

Increasing productivity was a focus of CEO Muilenburg.

> On a January 31, 2018, fourth quarter 2017 earnings call with the media and aviation industry analysts, Dennis Muilenburg, then-Chairman, President and Chief Executive Officer (CEO) of The Boeing Company at the time discussed the Renton facility's 737 production line.
>
> > I had a chance to be out on the line again just recently. And they're implementing productivity improvements, production line flow improvements, tack time improvements, all while rolling the MAX into the line.
> >
> > So while it's a challenging situation, it's a high-volume line, fast moving line. We're continuing to ramp up while we introduce the MAX into the line. It requires daily focus and daily attention. The ramp up continues on track, and we're not seeing issues or any problems that are out of the ordinary. And I remain confident that we'll achieve our MAX ramp-up goals for 2018. (HTIC, 2020, p. 173)

Tight schedules negatively impacted the Max simulator program.

In April 2018, a Boeing employee lamented: “This is a direct result of a pour [sic] plan which I objected to repeatedly since day 1. The schedule simply did not permit for any corrective actions to be taken…” (HTIC, 2020, p. 160)

In May 2018, a frustrated Boeing employee mentioned it took six hours to resolve the large number of deficiency reports and complained about Boeing management pushing forward despite the problems. “[T]hey are ploughing forward regardless of the danger, failing to appreciate the implication of Boeing failing to qualify a Boeing device…” he wrote. “They are failing to appreciate that a delay would be less costly than the incurred costs…. (HTIC, 2020, p. 160)

They were also deeply troubled by Boeing’s poor management of the simulator program, lack of adequate engineering support, and schedule pressure that they felt was driving a rushed process resulting in mistakes and apprehension about the quality of the simulators. (HTIC, 2020, p. 159)

5.4.2 Theme two: Feelings of pressure

This theme is about personal pressure that was felt by management at Boeing and FAA. It is also about the pressure employees felt to prioritize the commercial aspects of the operations.

Boeing's contract with Southwest put the company under significant pressure to achieve certain goals.

> As part of the contract, Boeing agreed to pay Southwest $1 million per MAX airplane that Boeing delivered to Southwest if its pilots were unable to operate the 737 NG and 737 MAX "interchangeably" "due to any reason. On top of that, Boeing agreed to reimburse Southwest for any training expenses that exceeded 10 hours if the FAA required more than 10 hours of pilot training and/or required flight simulator training. That agreement left Boeing with significant financial exposure if it failed to obtain Level B (non-simulator) training requirements from the FAA.
>
> When Ethiopian Airlines flight 302 crashed in March 2019, Southwest had 34 MAX aircraft in its fleet. In October 2019, one year after the Lion Air flight 610 crash, Southwest had 246 firm MAX orders, 34 of its MAX aircraft were grounded, and it had the option to purchase 115 additional MAX aircraft. Thus, if the FAA had required pilot simulator training for MAX pilots, Boeing would have been required to pay Southwest nearly $400 million to offset the simulator-based pilot training requirements. (HTIC, 2020, p. 148)

Even before the FAA had decided on the Max training requirements, Boeing marketed the Max as limited to training level B, which put pressure on the FAA.

> Boeing was not simply pushing hard to obtain Level B pilot training, it was blurring the lines between what it "hoped" the FAA would determine and the FAA's actual decision concerning pilot training requirements. In 2014 marketing materials to a potential customer airline, for instance, Boeing had slides that said pilot training would be "limited to Level B Training only" and only included a small note indicating that this was "pending 737 MAX certification."
>
> In addition, despite Mr. Teal's assertion in the transcribed interview that Boeing was waiting for the FAA to make a determination on the MAX pilot training requirements, in July 2014, more than two years before the FAA would complete its pilot training

> evaluations and flight testing to make a determination, Boeing boldly claimed in a press release that no simulator training would be required. (HTIC, 2020, p. 145)

The FAA had also previously, related to the 787 Dreamliner, felt pressure from Boeing.

> While none of these altered 787 Dreamliner aircraft were delivered to Boeing's customers prior to FAA's approval of the design change, one FAA official involved in this issue told Committee staff that he believed this was a way for Boeing to game the system. By the time Boeing alerted the FAA about the changes, it had proceeded so far into production that it could claim that making a change was untenable in view of a tight delivery schedule and argue that it would lose millions of dollars if it was forced to scrap the wing sets it had already produced. As a result, FAA managers were under tremendous pressure to approve Boeing's design changes, this FAA official observed. (HTIC, 2020, p. 82)

Employees and managers at the FAA felt that the pressure from the commercial industry had safety implications.

> It also found that, "Employees and managers reported that external pressure from industry is strong and is impacting the AVS safety culture." (HTIC, 2020, p. 75)

The report indicates that managers at Boeing were under pressure to deliver on their goals. Chief Technical Pilot Forkner sent an internal email 28. March 2017, stating:

> I want to stress the importance of holding firm that there will not be any type of simulator training required to transition from the NG to the MAX. Boeing will not allow that to happen. We'll go face to face with any regulator who tries to make that a requirement. (HTIC, 2020, p. 156)

In an internal message, Forkner expressed his frustration with airliners that inquired about simulator training.

> "Now friggin Lion Air might need a sim to fly the MAX, and maybe because of their own stupidity. I'm scrambling to figure out how to unscrew this now! idiots" That same month Mr. Forkner emailed a colleague, "I'm putting out fires with the [redacted] who suddenly think they need simulator training to fly the MAX!

> ARGGGGGGGGGGGGGGGGGGGGGGGGGGGGGHHHHH!!!!!!!!!!!" (HTIC, 2020, p. 156)

This frustration seems to have been related to the importance of keeping the training objective intact.

> However, Mr. Forkner's hard sell tactics to dissuade airlines from simulator training was the result of an implied message from Boeing management to discourage such training because of the threat it posed to the marketing strategy and ultimately the profitability of the 737 MAX program. (HTIC, 2020, p. 158)

> Obtaining Level B training must have come as a tremendous relief to Mr. Forkner. It is clear from emails and instant messages provided to the Committee by Boeing that Mr. Forkner was under tremendous pressure to ensure Boeing achieved Level B training on the MAX. In a December 2014 email to a Boeing colleague, 20 months prior to the FAA's decision on the MAX's training requirements, Mr. Forkner expressed concern based on his responsibility to coordinate training requirements with the FAA's Flight Standardization Board. "[I]f we lose Level B," he wrote, the blame "will be thrown squarely on my shoulders," conveying his feeling that he would be held personally responsible by Boeing's leadership for the financial consequences of not obtaining Level B training. (HTIC, 2020, pp. 154–155)

> In his interview with Committee staff, Mr. Teal also claimed that he did not believe MCAS was a concern in regard to the impact it could have on obtaining Level B training. "I don't recall the MCAS ever being a concern associated with level B training," he said. That statement, however, does not square with the facts. In May 2013, Mr. Teal sent an email to senior leaders on the MAX team regarding significant risk issues. That email very specifically tied the inclusion of MCAS in the aircraft to potentially jeopardizing Boeing's goal of obtaining Level B training. Specifically, the email said: "Differences Pilot Training: Ensuring that the level of change on the MAX keeps the Differences training to 16 hours or less of Level B training. Concerns include the impact of the

> resolution of 25.1322 trade and the Autopilot roll saturation change driven by the addition of MCAS to the flight controls system." (HTIC, 2020, pp. 149–150)

A survey indicated that Boeing ARs experienced undue pressure.

> Further, the adoption of an ODA organizational structure exposed Boeing-appointed Ars to greater risks of undue influence from managers. For example, the JATR reported signs of undue pressure on ARs who perform delegated functions "which may be attributed to conflicting priorities and an environment that does not support FAA requirements." This is consistent with Boeing's own internal survey, conducted in 2016, at the height of the 737 MAX's certification activities and provided to the Committee from a whistleblower, which found that 39 percent of Boeing ARs that responded perceived potential "undue pressure" and 29 percent were concerned about consequences if they reported potential undue pressure. (HTIC, 2020, pp. 69–70)

There are also indications that employees felt fear of retaliation for raising issues.

> According to the *Seattle Times*, the Boeing employee who filed the complaint said management was more concerned with cost and schedule than safety or quality. The complaint also alleged that Boeing hid inflight safety incident data from the European Union Aviation Safety Agency (EASA), according to the newspaper. Further, it reported that the employee who filed the complaint expressed concerns about retaliation for even raising these issues internally at Boeing. The Boeing employee apparently wrote, that given "the nature of this complaint, the fear of retaliation is high, despite all official assurances that this should not be the case. There is a suppressive cultural attitude towards criticism of corporate policy – especially if that criticism comes as a result of fatal accidents," wrote the employee. (HTIC, 2020, p. 172)

Boeing's CEO expressed that safety always was prioritized despite commercial pressure.

> Mr. Muilenburg, did, however, acknowledge that "pressure" exists but suggested that it never interferes with safety. "Now, I will say it is true that we have competitive pressures every day," admitted Mr. Muilenburg. "We operate in a tough, globally competitive world. But that never, never takes priority over safety," he said. (HTIC, 2020, p. 186)

5.4.3 Theme three: Lack of transparency

This theme is about the lack of transparency and under-communication between Boeing and its key stakeholders.

To avoid increased pilot training, Boeing had incentives to downplay the MCAS functionality.

> As the MCAS strategy made clear, it was important to Boeing to limit any impact on increased certification and pilot training. Increases in either would have increased the cost of the 737 MAX program. Three key concerns: 1) that MCAS had the potential to increase certification scrutiny; 2) that MCAS could have led to greater pilot training requirements; and 3) that references to MCAS in training and other manuals could increase costs to both Boeing and its customer airlines, appear to have driven Boeing's efforts to downplay MCAS as much as possible.
>
> To achieve those objectives, Boeing appears to have pushed the idea that MCAS was simply an extension of the Speed Trim System. While technically this is accurate, describing MCAS that way helped to obscure the fact that MCAS was a new function on commercial aircraft. To be clear, Boeing provided information to the FAA about MCAS, including some in which MCAS was characterized as new. However, the rationale for describing MCAS that way was clearly laid out in the meeting minutes referenced above that approved a strategy to help Boeing attempt to shield itself against greater certification and training impact. (HTIC, 2020, pp. 98–99)

Boeing did not inform the FAA about critical data.

> Despite the fact that Boeing knew that the consequences could be "catastrophic" if a pilot did not react quickly enough to uncommanded MCAS activation, and the fact that Boeing cited this fact repeatedly over the years in their internal coordination sheets on MCAS, based on their own internal test data, no one at Boeing apparently informed the FAA about this critical data. Between 2015 and 2018 Boeing issued six separate coordination sheets on MCAS that referenced the "catastrophic" consequences of a greater than 10-second pilot response time. At least four Boeing ARs, reviewed, prepared, approved and/or were copied on these coordination sheets. The Committee has been unable to find any indication that any of these ARs informed the FAA about this critical test data. (HTIC, 2020, pp. 114–115)

Nor did Boeing share information about the MCAS functionality with pilots.

> Boeing not only discounted concerns from its own engineers that in hindsight proved remarkably pertinent to improving the safety of the 737 MAX, but it also did not share certain information about what it knew about MCAS with— regulators, and it chose not to inform the vast majority of MAX pilots about the very existence of MCAS. The unions representing pilots at American Airlines and Southwest Airlines, both of which operate the 737 MAX, allege their members were not made aware of MCAS and the system's ability to command the 737 MAX into a dive until after the Lion Air crash. (HTIC, 2020, pp. 117–118)

> Nevertheless, this information was not shared with MAX pilots, and references to MCAS were eventually removed from 737 MAX related documents provided to air carriers, including Southwest Airlines, at Boeing's request. (HTIC, 2020, p. 118)

Boeing did not share information about a problem related to a technical malfunction that affected 80% of the Max aircraft.

> In essence, by its actions, Boeing chose to conceal this fact from the FAA, affected customers, and MAX pilots. Most astoundingly, Boeing continued to manufacture and deliver scores of MAX aircraft with non-functioning AOA Disagree alerts, without informing the FAA, airlines, or pilots about the fact that the alert, though described in technical materials provided to airlines, was not functioning on those airplanes. (HTIC, 2020, p. 128)

After the first accident, Max pilots were deprived of safety critical information.

> The Boeing OMB failed to directly alert crews to the fact that the Lion Air pilots were overcome by multiple warnings and alerts leading to confusion in the cockpit. It also did not reference MCAS. (HTIC, 2020, p. 196)

> Neither the FAA's AD nor Boeing's OMB mentioned MCAS, depriving MAX pilots of important information. (HTIC, 2020, p. 198)

5.4.4 Theme four: Concern for stakeholders

This theme is about concern for stakeholders.

Managers at Boeing were concerned about the financial impact of a production halt.

> The *Seattle Times* also reported that some work groups at the plant had "asked their managers about perhaps stopping the production lines in order to catch up" on all of the half-finished airplanes that were accumulating at the Boeing factory. "Managers have responded categorically that a pause cannot happen because of the severe impact it would have on suppliers, on airline customers and on the company's stock price," wrote the *Seattle Times.* (HTIC, 2020, p. 179)

Leaders at FAA were also concerned about financial outcomes.

> According to the survey results, "Many believe that AVS senior leaders are overly concerned with achieving the business-oriented outcomes of industry stakeholders and are not held accountable for safety-related decisions. (HTIC, 2020, p. 75)

At Boeing, the concern about financial outcomes impacted behaviors toward other stakeholders.

> In December 2017, Mr. Forkner informed a colleague in an instant message exchange that he made a foreign airline "feel stupid about trying to require any additional training requirements." "… I just jedi mind tricked this [sic] fools," Mr. Forkner wrote. "I should be given $1000 every time I take one of these calls," he said, and then added "I save this company a sick amount of $$$$" (HTIC, 2020, p. 157)

Internally at Boeing, one employee was concerned about the pilots.

> In discussing whether or not to inform 737 MAX pilots about the inoperable AOA Disagree alert through an Operations Manual Bulletin (OMB), one Boeing employee wrote to a colleague on October 5, 2017, "I still think we need a bulletin to let them [the pilots] know what they may be missing…." The employee's colleague responded by recommending Boeing send a Fleet Team Digest, rather than an OMB, because the inoperable AOA Disagree alert was not considered a safety issue and because there are no specific crew procedures to deal with a non-functioning alert. In the end, Boeing never sent either notice to MAX pilots. (HTIC, 2020, p. 130)

One plant supervisor was concerned about his workers and what the pressure could lead to.

> In particular, in June 2018, a Boeing plant supervisor at the Renton final assembly facility began to raise serious concerns with senior Boeing management regarding safety and quality control problems he was witnessing in the production of the 737 MAX. (HTIC, 2020, p. 174)

> Scott, I have some safety concerns that I need to share with you as the leader of the 737 Program," wrote Mr. Pierson. "Today we have 38 unfinished airplanes located outside the factory. The following concerns are based on my own observations and 30 years of aviation safety experience." Mr. Pierson cited two key concerns. "My first concern is that our workforce is exhausted. …. Fatigued employees make mistakes," he warned. "My second concern is schedule pressure (combined with fatigue) is creating a culture where employees are either deliberately or unconsciously circumventing established processes."
>
> Mr. Pierson detailed some of these specific concerns and said these issues could lead to "inadvertently imbedding safety hazard(s) into our airplanes. As a retired Naval Officer and former Squadron Commanding Officer, I know how dangerous even the smallest of defects can be to the safety of an airplane. Frankly right now," he wrote, "all my internal warning bells are going off. And for the first time in my life, I'm sorry to say that I'm hesitant about putting my family on a Boeing airplane. …. I fear serious process breakdowns will continue to occur if we continue pushing our employees to the limit," he wrote. (HTIC, 2020, pp. 175–176)

Some employees were more focused on other types of stakeholders.

> In February 2018, a Boeing employee said there were 180 discrepancy reports (DRs) with the MAX simulator in England at its London Gatwick (LGW) site. "Honesty is the only way in this job – integrity when lives are on the line on the aircraft and training programs shouldn't be taken with a pinch of salt," wrote one frustrated Boeing employee. "Would you put your family on a MAX simulator trained aircraft? I wouldn't," he said to his colleague, who answered: "No." (HTIC, 2020, p. 159)

5.4.5 Theme five: Not listened to

This theme is about the concerns of employees, and how they were not listened to.

The report shows that FAA management did not listen to their technical experts.

> Exactly one week later, on March 1, 2019, FAA management overturned the BASOO's decision and allowed Boeing to continue producing the 787 Dreamliner without the copper foil to the dismay of FAA's technical experts. In short, following Boeing's appeal, the FAA reversed its decision, rejecting the safety concerns of its own technical experts.
>
> The issue, however, continued to concern FAA technical experts even after the FAA's official ruling. As one FAA expert wrote in an email on June 14, 2019, to seven of his colleagues, "This is clearly a contentious issue and Boeing is rushing the certification so they can deliver airplanes." In a separate memo to FAA management on June 27, 2019, an FAA employee wrote of his concerns that FAA management was delegating the System Safety Assessment to Boeing simply because the FAA could not "support the airplane delivery schedule." He went on to say, "I do not agree that delivery schedules should influence our safety decisions and areas of safety critical findings, nor is this consistent with our safety principles." (HTIC, 2020, pp. 81–82)

Not being listened to created feelings of demoralization within the FAA.

> In his testimony to the Committee, Mr. Collins recounted how during his early years at the FAA, he experienced a much different safety culture where managers and designated engineering representatives worked collaboratively with an applicant to resolve design deficiencies. More recently, according to Mr. Collins, FAA's safety culture has been negatively transformed. Today, FAA's management has permitted manufacturers to produce airplanes that do not comply with safety standards, according to Mr. Collins. This has jeopardized aviation safety and demoralized FAA's critically important technical workforce that has strongly opposed those decisions. (HTIC, 2020, p. 80)

> "There is no respect for an expert culture that has existed through years of experience. There is no acknowledgement of recommendations made by experts or an explanation about why a different decision was made." (HTIC, 2020, p. 69)

The plant supervisor Pierson did not feel that his perspective was acknowledged.

> Mr. Pierson recalled telling Mr. Campbell: ''In … military operations, if we have these kinds of indications of unstable safety type of things, we would stop.'' Mr. Pierson was attempting to highlight his previous recommendation that the Renton plant's production line should temporarily cease operation because of his significant safety concerns. Mr. Campbell responded: ''The military is not a profit-making organization,'' according to Mr. Pierson. (HTIC, 2020, p. 177)

This consequently led to his exit.

> The supervisor, Edward Pierson, voluntarily retired early in August 2018 primarily due to his belief that Boeing management was not taking these issues seriously enough or confronting them thoroughly enough to adequately address his safety concerns. (HTIC, 2020, p. 174)

However, he still persisted and attempted to get heard, but got no answer.

> On February 19, 2019, Mr. Pierson escalated his concerns yet again, this time to Boeing's Board of Directors—all of them. He sent a detailed four-page letter that included several attachments to the dozen members of Boeing's Board of Directors. He summarized his concerns and requested that the Board look into them. He also wanted them to share his concerns with the accident investigators at the National Transportation Safety Board (NTSB), with the Federal Aviation Administration (FAA), and with Indonesian civil aviation authorities. (HTIC, 2020, p. 181)

> Mr. Pierson never received a response from the Boeing Board of Directors. Less than three weeks later the 737 MAX suffered its second fatal crash in less than five months. (HTIC, 2020, p. 182)

There were also listening issues within other departments.

> In another case, a Boeing AR raised a concern about the impact of erroneous AOA data on MCAS, but his query was largely dismissed by his Boeing colleagues, and the concern about this issue was not shared with the FAA. While there is no specific requirement for ARs to report concerns to the FAA, their potential to do so was further precluded from being shared with the FAA in the cases cited above when their Boeing colleagues explained away the concerns. (HTIC, 2020, p. 71)

The recommendation of some of Boeing's engineers to include safety equipment was rejected due to concerns about larger certification requirements.

> Some Boeing engineers, however, strenuously argued that synthetic airspeed was one technical feature that may have dramatically improved safety on the 737 MAX if it had been installed. Even more chilling was that the Boeing engineer who wrote to the Senate Committee on Commerce, Science, and Transportation said that in 2015 his Boeing manager argued against including synthetic airspeed on the MAX, reportedly stating, "People have to die before Boeing will change things." (HTIC, 2020, p. 172)

> Adding synthetic airspeed would have helped to eliminate these potential conditions that could lead to pilot confusion and distraction. However, Boeing chose not to do that. A Boeing engineer involved in this issue recently wrote to the Senate Committee on Commerce, Science, and Transportation about his frustrations related to synthetic airspeed and other issues regarding the development of the 737 MAX. "I specifically advocated for a system that would have enabled" synthetic airspeed to be placed on the 737, "but upper management shut down the project over cost and training concerns," he wrote.
>
> The notion of adding synthetic airspeed to the MAX was raised three separate times with Boeing managers and rejected on the basis of cost and potential pilot training impacts, according to an internal Boeing complaint filed by a Boeing engineer and reported on by both the *Seattle Times* and the *New York Times*. According to the *Seattle Times* story, Michael Teal cited those reasons when he ultimately made a decision not to include synthetic airspeed on the MAX. (HTIC, 2020, pp. 171–172)

5.4.6 Theme six: Not taking responsibility

This theme is about how management at FAA and Boeing blamed others, neglected issues, and did not take responsibility for their actions.

The report shows that management within Boeing had a belief in *the process.*

> Despite that assessment, the two most senior Boeing officials on the 737 MAX program were both extraordinarily reluctant to acknowledge any missteps or mistakes in the development of the 737 MAX aircraft. In an interview with Committee staff, Michael Teal, the former 737 MAX Vice President, Chief Project Engineer and Deputy Program Manager, said: "We believed that we have a safe aircraft as designed, as intended, and put out with the designs and training associated with it." Mr. Teal defended Boeing's work by saying the company followed its process. For example:
>
> **T&I Committee Staff**: [B]ecause you followed the process, your testimony is that the 737 MAX was safe when it was certified.
>
> **Mr. Teal:** My testimony, that by defining and delivering and certifying the aircraft, it has been determined as safe. That is the process we worked through. (HTIC, 2020, p. 121)

> Keith Leverkuhn, the former General Manager of the MAX program, said he was unaware of any efforts to install synthetic airspeed on the MAX until these stories appeared in the media. However, during a transcribed interview with Committee staff, he said: "[W]hat I can say is that changes to the airplane, we had a very, very detailed process associated with any change that was being forwarded to make its way on the airplane, and sometimes, those changes were not accepted and it was either due to schedule or cost, or frankly, functionality that wasn't required." (HTIC, 2020, p. 172)

At the FAA there were indications that following system processes no longer ensured an outcome of integrity because of incomplete information and lack of accountability.

> Moreover, some FAA officials believe the new ODA system limits the information they receive in negative ways and that they are not always provided with a clear or complete

> view of issues that could inform and potentially alter their position on certification related issues. According to a story in *The Seattle Times*, a former Boeing aviation-safety engineer who worked as a designated engineering representative under the old designee oversight system and as an AR under the newer system, indicated that there was a dramatic difference between the implied obligations at the core of each system. Under the old system, this engineer said "we knew we'd lose our livelihood if we didn't maintain the integrity of making decisions the way the FAA would do it. That check is no longer there." (HTIC, 2020, p. 70)

At Boeing, not all processes were followed.

> On top of all of the other issues surrounding MCAS and the questions from Boeing's own engineers that appear to have not been thoroughly addressed, MCAS also failed to meet several of Boeing's own design requirements on certain issues. According to the Boeing Coordination Sheets regarding MCAS, the Aerodynamics Stability & Control Requirements included:
>
> "MCAS shall not have any objectionable interaction with the piloting of the airplane."
>
> "MCAS shall not interfere with dive recovery."
>
> In both the Lion Air and Ethiopian Airlines accidents MCAS failed to meet these design requirements. (HTIC, 2020, pp. 119–120)

The Boeing management were aware of an undue pressure survey, but did not think it was a significant issue.

> Both Michael Teal, the former Chief Project Engineer on the 737 MAX program, and Keith Leverkuhn, the former Program Manager of the 737 MAX program, acknowledged in transcribed interviews with Committee staff that they were aware of this internal Boeing survey, but dismissed undue pressure as a significant issue. (HTIC, 2020, p. 70)

Instead of investing in safety nets, the cheapest solution for Boeing was to make pilots the safety net, even though Boeing knew uncommanded MCAS activation would have catastrophic consequences.

> At the meeting with American Airline pilots, one of the Boeing officials said that despite the reports that MCAS was a "single-point failure" system, that was not true because they believed the pilots were part of the "system" and essentially served as a backup to any technical failure of MCAS. "So the [MCAS] function and trained pilot are part of the system," said one of the Boeing officials. "So rightly or wrongly, that was the design criteria, and that's how they're being certified with the – the – the system and the pilot working together," he said. (HTIC, 2020, p. 204)

> In this case, however, Boeing had internal test data revealing that its own test pilot tried – but failed – to respond in time to an uncommanded MCAS activation event in a flight simulator which would have resulted in the loss of the aircraft in a real world situation. This was not simply a hypothetical scenario. It was the result of a flight simulator test by a trained Boeing test pilot. From everything the Committee has learned in its investigation, there is no evidence we have found that shows Boeing shared the results of that test with the FAA or its 737 MAX customers. Boeing simply assumed away this potentially deadly scenario with the false expectation that pilots would be the backup to any technical design flaw. Boeing gambled on the fact that the pilots would be the fail-safe mechanism to prevent an aviation tragedy which contributed to fatal consequences in both MAX crashes. (HTIC, 2020, pp. 207–208)

Between the two crashes, both Boeing and FAA blamed the pilots instead of taking responsibility for ensuring flight safety.

> The Committee also examined the response of both Boeing and the FAA **after** the crash of Lion Air flight 610 on October 29, 2018, and **before** the crash of Ethiopian Airlines flight 302 on March 10, 2019. The collective responses in this critical time period were woefully inadequate and appeared predisposed to blame the pilots. In the case of the FAA, even as evidence mounted that Boeing had not been fully transparent with them regarding key data and actions related to issues surrounding Boeing's analysis of the redesigned MCAS system, for instance, the agency failed to take those actions into account in regards to its decision to continue to let the 737 MAX fly.
>
> Instead, as the months moved on and even in the aftermath of the second MAX crash of Ethiopian Airlines flight 302, the FAA appeared to follow Boeing's lead on blaming the

> pilots for both MAX crashes and downplaying the fundamental technical design flaws that Boeing designed into the 737 MAX aircraft and that the FAA either did not identify or failed to adequately understand prior to its certification of the MAX. (HTIC, 2020, pp. 192–193)

Between the two crashes, the FAA's own analysis showed that several more crashes statistically would occur due to MCAS. Despite this, the Max was allowed to remain flying.

> The analysis was based on the assumption that only one out of 100 pilots would fail to react properly to uncommanded MCAS activation resulting in Stabilizer Trim Runaway. This seems to be a gross over estimation that predicted 99 out of every 100 pilots would correctly respond to this scenario, given the fact that one of Boeing's own test pilots failed to respond quickly enough in a simulator test. It seems the number of potential future accidents without a fix to MCAS may have been much higher than these predictions assumed.
>
> Nevertheless, the results of the TARAM analysis indicated that even with the FAA's Emergency AD, but without a fix to MCAS, there could be more than 15 fatal 737 MAX crashes over the estimated 30-year lifetime of the fleet, then estimated to be 4,800 aircraft, resulting in over 2,900 deaths. Statistically this meant that the FAA was predicting there would be one fatal 737 MAX accident every two years for the next 30 years—or one fatal accident roughly every 24 months for the next 360 months. The FAA assumed that these potential future crashes would result in the loss of life for everyone on board the planes and some bystanders on the ground as well. However, they also estimated that Boeing would have a fix for MCAS by July 2019. Until MCAS was fixed, however, the aircraft and its passengers were still at risk.
>
> Despite the TARAM analysis, the FAA permitted the 737 MAX aircraft to continue flying. In addition, Boeing continued to expand the MAX fleet in between the time of the Lion Air crash in October 2018 and the Ethiopian Airlines crash in March 2019. (HTIC, 2020, pp. 210–211)

Between the two crashes, on November 27, 2018, there was a meeting between Boeing and the Allied Pilots Association. One of the APA officials communicated their frustration about the lack of transparency. Boeing answered that safety was their first priority.

The Boeing official also suggested that regardless of the cause of stabilizer trim runaway, whether it was due to MCAS or something else, that the procedures to correct that condition were all the same. But a frustrated APA official, referring to the Lion Air pilots said, “These guys didn’t even know the damn [MCAS] system was on the airplane – These guys didn’t even know the damn system was on the airplane. … [N]or did anybody else… that’s the problem I have.”

Despite the heated exchanges, one of the Boeing officials attempted to emphasize that safety was Boeing’s number one priority.

> You’ve got to understand that our commitment to safety is as great as yours. It really is. And the worst thing that can ever happen is a tragedy like this, and the—and the even worse thing would be another one. So we have to do all the things we can to make sure that this never happens again, and we will, and we always do. We have that commitment to safety.

Fifteen weeks later, the 737 MAX suffered its second fatal crash. (HTIC, 2020, p. 205)

5.5 Results: Content analysis

Sample: Nine annual reports (2012–2020)

Year of annual report	Frequency of “safe”	Frequency of “$”
2020 (pp. 1–18)	38	4
2019 (pp. 1–14)	42	8
2018 (pp. 1–14)	4	43
2017 (pp. 1–14)	4	56
2016 (pp. 1–14)	2	52
2015 (pp. 1–10)	3	49
2014 (pp. 1–10)	6	47
2013 (pp. 1–10)	2	46
2012 (pp. 1–10)	2	39

Chapter 6: Case discussion

In this chapter, I provide a discussion on the Boeing 737 Max case. First, I consider how certain issues seemed to be more salient at Boeing than others. Second, I discuss how this affected which stakeholders Boeing focused on. Third, I consider how the management at Boeing listened to their employees' concerns. Lastly, I take a holistic overview of the case and consider how systemic factors impacted what happened.

6.1 Salience

6.1.1 The focus on safety in public discussions

Boeing's management has numerous times stated that safety was the company's highest priority. It would be surprising if Boeing's management did not intellectually understand that safety had to be prioritized, considering the long careers of several of Boeing's managers in the aviation industry, which is highly safety-oriented. CEO Muilenburg, for example, had worked at Boeing since 1985 in both engineering and managerial positions, and his internal knowledge structures must undoubtfully have been impacted by working at a safety organization for such an extended period. However, even though managers at Boeing knew that safety was important, it appears that this intellectual understanding did not manifest itself into their short-term focus and daily operations.

In fact, there seems to be a distinct difference in managerial focus before and after the Max accidents. The thematic analysis illustrates how Boeing time after time prioritized profit over safety prior to the second accident. The results from the content analysis show a definite shift in managerial communication before and after the accidents. Before the Max accidents, financial performance was to a much larger degree addressed in Boeing's annual reports than safety. After the accidents, the opposite pattern emerged. The same pattern is also apparent in Boeing's quarterly reports and proxies to shareholders, even though these were not included in the analysis.

What can explain these findings? One explanation could be, as Bazerman and Tenbrunsel (2011) argue, that even though we are aware of our values when we engage in deliberate system

2 thinking, we will not necessarily act according to them when an ethical situation arises because the situation is framed differently. When managers of Boeing engaged in public discussions about safety, the discussions were framed in terms of human lives. As a result, their mental representations about the importance of safety were more easily retrieved. In their daily operations as managers, however, arising challenges were likely framed as business problems. The most accessible knowledge structures were then related to business and financial performance, and the problems were addressed accordingly.

A second explanation could be that we are more likely to pay attention to our moral standards when we are reminded of ethical values (Gino et al., 2009). In public discussions about aircraft accidents, ethical values become prominent. There is most likely also a spotlight effect of getting the public's attention, which according to Dear et al. (2019) can prime reputational concerns. This, in combination with threats of legal action, could most likely increase the tendency to "say the right thing" in public discussions.

6.1.2 The discrepancy between words and actions

Thirdly, the discrepancy between words and actions seems to be related to the concept of salience bias, which is the tendency to focus one's attention on what is most prominent while ignoring equally important information that is less attention-grabbing (The Decision Lab, n.d.). One could argue that prior to the first 737 Max accident, safety was not a salient issue at Boeing. The public was content with travelling in Boeing airplanes and took safety for granted. Boeing's management had therefore no immediate pressure to deliver on safety. Instead, they were under pressure to equalize Airbus' new competitive edge. Boeing were also suffering financially from issues related to their 787 Dreamliner program. This increased the importance of ensuring that the 737 Max program would become profitable.

It appears that achieving financial performance consequently became the priority for managers at Boeing. This focus also intensified after Boeing signed Southwest as their customer, since a failure to reach the training requirement objective would have led to significant financial penalties. The financial bonus and excellence awards that were issued when the training objective was reached illustrate that this goal was prioritized. The countdown clocks that were installed at one of the production facilities to stress the importance of meeting production targets

also illustrate that the Boeing management implemented measures to reach goals of high importance for the company's profitability.

The 737 Max eventually emerged as the cash cow that Boeing had hoped for. The quarterly presentations of Boeing show that the focus on ramping up production to deliver even higher returns to shareholders was prominent and that CEO Muilenburg was confident in meeting their production commitments and on finding ways to improve on them. However, creating high expectations also meant that Muilenburg had to deliver on these promises.

6.1.3 The pressure felt by managers

The internal communication at Boeing illustrates the personal pressure managers at Boeing felt to deliver on their goals. For example, failing to deliver on the training objective would have inflicted large costs on the company, and chief technical pilot Forkner expressed that he thought that such a failure would have been thrown squarely on his shoulders. The internal communication also shows that strong feelings were involved, and it appears like airliners that inquired about simulator training were considered as obstacles to reaching the training requirement objectives that had to be overcome. Moreover, failing to reach the production targets would have led to negative consequences for airliners that were expecting deliveries and would certainly have had a negative impact on the share price. This put pressure on keeping the production up, even though there were clear indications that the pace was causing problems.

It is important to contemplate what implications a failure to deliver on these objectives could have become for these managers. A halt in production, a redesign of features, or a failure to get the right FAA approvals would have had vivid economic consequences that immediately would have become visible. How would the shareholders and the board of Boeing have responded if the company's managers suddenly decided to make adjustments that would have led to such costs? Their competence and decision-making abilities would probably have come under scrutiny. Their careers would most likely have been negatively impacted. They would most likely have felt a loss of face by having to back out of commitments they had confidently made in public. They would have felt disappointment by letting down their colleagues that believed in their abilities to deliver. Furthermore, they would most likely have been negatively impacted economically, for example by not receiving bonuses that reaching certain objectives would have qualified them for. Thus, the managers of Boeing had a lot to lose by changing course. Since

losses feel twice as painful as the pleasure of gaining something of equal value (Kahneman & Tversky, 1979), changing course was most likely an unappealing option.

This leads me to the hypothesis that the imminence of this potential loss was significantly more salient to Boeing managers on a daily basis than concerns about safety. The costs associated with changing course could have been easily calculated and put on paper. It would have been easy to attribute these costs to an individual manager's decision. I think these sources of potential loss led managers at Boeing to primarily frame problems they faced as financial problems instead of safety problems. Forkner's statement that "but it's the box we're painted into with the Level B training requirements" (HTIC, 2020, p. 155) and Campbell's statement that "The military is not a profit-making organization" (HTIC, 2020, p. 177) both show signs of this tendency. It appears that reaching business objectives were at the center of their mental models, and that questioning whether the objectives themselves were reasonable, no longer was an easily accessible part of their mental repertories.

6.1.4 Cost cuts are salient, safety is not

Moreover, while the negative economic implications of halting production are easily calculated, which increases their salience, the positive effects of spending time and money on preventive safety measures are almost invisible. Safety usually becomes salient after an accident happens. The positive safety benefits of altering the course would therefore have been unclear and harder to defend. Similarly, the consequences of reducing time and money on preventive safety measures are also to a large degree hidden until an accident happens. The negative impact on safety is not necessarily an easily observable characteristic. Negative effects on safety can gradually grow and manifest themselves long after the decision is made, and do not necessarily become apparent in the short-term. The short-term economic benefit of reducing money and time spent on safety, on the other hand, is a number that can be reported at the next quarterly meeting as a positive cost-cut measure.

Thus, there seems to exist a quick, delightful feedback loop for short-term cost cuts. They immediately become observable and can be reported as a positive measure at the next quarterly presentation. They are likely celebrated and socially rewarded. Spending money on safety, on the other hand, creates a feedback loop that feels arduous, where decision-makers must defend

that they are investing in a preventive measure that—if successful—never will have anything tangible to show for itself.

It also seems like quarterly presentations to shareholders could increase the probability of short-sightedness and one-dimensional thinking. When shareholders mainly inquire about the company's financials, the CEO must spend a larger portion of their time on this aspect of the business. It is an arena where the CEO is put under pressure and held accountable for their financial progress. This could prime management into focusing on short-term metrics that give them the opportunity to show tangible financial progress. This could increase the risk that managers enter choice situations with a mental representation of the world that is overly focused on financials.

6.2 Stakeholder concern

6.2.1 Solving the wrong problem precisely

The management of Boeing had to equalize the competitive edge of the Airbus A320 Neo and attract airliners that were on the lookout for cost-competitive aircraft. However, it seems like the prominence of financial objectives in the mental models of the Boeing management caused them to solve the wrong problem. Essentially, they were solving the problem of creating a cost-effective aircraft in a cost-effective manner, when they actually should have solved the problem of creating a safe cost-effective aircraft in a safe cost-effective manner. The management at Boeing appears to have been narrowly concerned with two stakeholders: The company's shareholders and the management of airliners who were comparing prices between Boeing and Airbus. Consequently, the 737 Max to some degree became an aircraft created by CFOs for CFOs. However, creating a new cost-efficient aircraft based on the 737 design, without any major changes that would require extensive training for pilots, proved to be challenging.

Nonetheless, the committee report illustrates Boeing's determination to overcome obstacles to their financial objectives. They failed to meet their own design criteria for safety systems. They downplayed the importance of MCAS as a safety-critical system, even though they internally knew that uncommanded MCAS activation could lead to catastrophic consequences. They did not include safety features and pilot training requirements that had the potential to jeopardize

their cost goals. They actively talked airliners out of giving their pilots simulator training. They marketed the 737 Max to potential customers as not requiring simulator training, even though the FAA still had not made their decision on what the training requirements would be. They knowingly delivered 200 Max aircraft to customers with faulty angle-of-attack disagree alerts without informing them, and a software update that could have fixed this issue was postponed several years because Boeing found it convenient. They ramped up the Max production at the factory, even though there were clear indications that the pace was causing quality issues.

6.2.2 Sacrificing the interests of stakeholders

While Boeing, at least in the short-term, were successful at the technical dimension of finding ways to cut costs, their one-dimensional problem-solving inflicted negative externalities on other stakeholders. For example, by not taking care of the interpersonal dimension of the problem, Boeing deprived pilots worldwide of safety-critical information. This lack of transparency reduced the ability of pilots to deal effectively with issues that could arise. This decreased the flight safety of every 737 Max flight, without the awareness of crew and passengers, who had no reason to believe that the new 737 Max would be unsafer than older generations of the 737 family.

Boeing's decisions also proved fatal for 346 human beings, who were deprived of life itself. Additionally, Boeing inflicted harm on the families and friends of these 346 individuals, who were deprived of people they loved. Reflections about the existential dimension—of human dignity—also seem to have been lacking at both Boeing and FAA, since they between the two accidents did not take action to fix the flaws of the Max. Instead, Boeing continued ramping up deliveries of the Max while blaming the pilots, and the FAA allowed the Max to keep flying, despite having made an internal calculation, based on overly optimistic figures, that several catastrophic accidents were waiting to happen.

Another existential aspect was the dignity of employees at both Boeing and the FAA, whose concerns and recommendations were overruled and neglected. These employees had a sense of pride in their work and could feel the deterioration of quality and integrity in the work that was done, while being too small themselves to stop the economic machines their organizations had become.

Furthermore, the managerial decisions at Boeing disrupted the operations of airliners that had the Max as part of their fleet. After the second accident, the grounding of the Max fleet was extended several times, and at one point indefinitely. This caused uncertainty and loss of livelihood for thousands of aviation professionals who had jobs associated with the Max, inflicting stress on them and their families.

The decisions of Boeing and the FAA also had a systemic dimension. Their lack of integrity harmed the public's trust not only towards the aviation industry, but also towards government institutions. Considering that the world already faced severe challenges related to fake news, polarization, and institutional honesty, the Max case became another example that could be used as proof for living with a general attitude of mistrust. Many airliners also started concealing that they had the Max aircraft in their fleet, feeding the dishonesty loop. The Max accidents probably also caused more people to travel by car, which is significantly more unsafe than commercial air travel, putting these travelers at higher risk of harm.

6.2.3 Economic consequences

Ultimately, Boeing's short-term orientation also proved negative for the company itself and those who were shareholders at Boeing in the aftermath of the two crashes. Boeing were eventually forced to ground its 737 Max fleet, which inflicted the company billions of dollars in increased costs (Gelles, 2020), hurting the share price and the shareholders' economic interests.

However, any shareholder who was a part of the Max development journey and sold their shares prior to the crashes would have been well economically off as a consequence of Boeing's short-term financial focus. Managers at Boeing were also economically well-off regardless of the crashes. There is no indication that they were forced to pay back the bonuses they had received. While CEO Muilenburg voluntarily gave up his 2019 bonus (Reuters, 2020), this seems like pure window-dressing, considering that the crashes were the result of decisions that were made not only in the year of 2019, but also in every year going back to at least 2011. The development process of the 737 Max spanned over two CEOs and certainly a range of different lower-level managers.

This also illustrates the problematic aspects of short-term incentive schemes that do not keep managers accountable for the long-term consequences of their decisions. This could be

especially problematic at safety organizations since the negative safety implications of decisions often take a long time to emerge. The negative effects on safety often manifest themselves into latent conditions for failure. Only at a later stage, when sufficient layers of safety are broken and line up like holes in a Swiss cheese (Reason, 2000), the adverse effects become apparent in the form of an accident.

6.2.4 Belief in the process

It is therefore problematic that key managers at Boeing defended their decisions by saying they followed *the process* at the company. What they seem to miss is that their own actions negatively impacted the integrity of the process. Since any process could rely on faulty assumptions, sound judgment is still needed to evaluate it.

Nevertheless, cutting only one corner does not necessarily lead to an accident, since other safety layers often will prevent an accident from happening. For example, if the pilots of the two crashes had been properly informed, or trained, on deactivating MCAS, they would most likely have been able to remain in control of the aircraft, even though the MCAS system itself was flawed. Similarly, if pilots had not been informed, but the MCAS system relied on two AOA sensor inputs instead of only one, this redundancy would have prevented the MCAS system from activating based on erroneous input. Likewise, if the FAA had taken proper regulatory oversight responsibility, they could have acted as a final safety defense layer by holding Boeing appropriately accountable during the development process.

Unfortunately, cutting one corner was not the case at Boeing. Corners were cut all over the place, creating latent conditions for failure that were waiting to line up. In the end, all the short-term, cost-focused decisions at Boeing eventually added up. However, there were many chances for Boeing to create layers of safety if they had prioritized to do so. If managers at Boeing had decided to create a safe cost-efficient aircraft, instead of a cost-efficient aircraft, they would most likely not have decided on using the old 737 design in the first place, but instead designed a new fuel-efficient aircraft based on their engineers' perceptions of what such an aircraft might look like. This could have prevented all the subsequential problems to begin with.

Even after the Max design was put in stone, opportunities for investing in safety were present. For example, Boeing could have scratched the training objective, which would have made it easier to include other safety features and provide pilots with proper training. Boeing could

have avoided entering into agreements with airliners that economically penalized the company for choosing safety over costs. Boeing could have respected the integrity of the FAA and provided them with full insight into their processes.

But Boeing chose otherwise, and safety was not prioritized when decisions were made. This illustrates the importance of including safety as a salient perspective, as part of the decision-makers mental model, in every decision at safety organizations. Even though the safety implications of a single decision may seem, or even be, trivial, the aggregate sum of single decisions add up and have long-term consequences. If managers do not realize that their decisions are part of a bigger whole, they may be tempted to cut corners. However, if this happens systematically across different departments, and nobody is keeping an overview of how these decisions relate to one another, unexpected consequences could eventually occur and hurt the overall interests of the organization (de Waal et al., 2019). The process, which might rely on the contribution of several departments, is then compromised.

6.2.5 Responsibility for the Other

In addition to believing in a good outcome because the process was followed, managers at both FAA and Boeing blamed the pilots for the accidents. Boeing expected pilots to be the fail-safe for MCAS system flaws, even though one of Boeing's own test pilots in a simulator scenario had failed to respond quickly enough to uncommanded MCAS activation. One Boeing official expressed: "So rightly or wrongly, that was the design criteria, and that's how they're being certified with the – the – the system and the pilot working together" (HTIC, 2020, p. 204). Even though it is problematic that Boeing cut costs at every stage in the process and reduced the number of safety layers to one—the pilots—Boeing had not given the pilots sufficient information about the safety implications of the MCAS system. As a result, pilots, who were the only line of defense left, did not have the information necessary to intervene effectively. If Boeing had been transparent about the safety implications of MCAS, pilots would at least have had a chance to know the risk they were exposed to. Instead, they were put in a position in which they had no choice but to "work together" as the last line of defense with a system they did not know was a ticking death trap.

Løgstrup stated that we in a meeting with another person hold something of their lives in our hands (Rabjerg, 2017). This means we have some degree of power over the other person and

can influence their lives in a positive or negative manner. According to Løgstrup, we ought to act responsibly and use this power to take care of others and help them flourish. It appears that key executives at Boeing lacked this ethical perspective. They designed an aircraft where pilots were supposed to be the only layer of defense, contrary to sound aviation safety practices, and kept pilots in the dark by not sufficiently informing them. Instead of putting pilots in a position in which they could thrive, pilots were put in a position in which they became helpless observers.

The behavior of the FAA shows the same pattern of recklessness, when they in the aftermath of the first crash figured out that new fatal accidents were waiting to happen, but still allowed the 737 Max fleet to keep flying. After the second crash, the FAA also showed irresponsible behavior by being one of the last aviation agencies worldwide to ground the 737 Max fleet. The Chinese were the first, stating that the two accidents had similar characteristics (Lahiri, 2019). The FAA defended their late decision by claiming they were a "data-driven" organization. While the FAA waited on what they considered to be data of acceptable quality, they put thousands of lives at risk, letting their own pride and Boeing's economic interests trump the concern for human lives.

Another discomforting pattern also emerged after the second crash. Most airliners completely relied on their own aviation agencies' recommendations instead of making their own risk assessment. A few airliners, however, did ground their Max fleet voluntarily as a safety precaution (Phys, 2019). One explanation could be that airliners would have been responsible for the economic expenses of customers if they initiated the grounding themselves. A grounding initiated by an aviation agency, on the other hand, is likely considered a force majeure event, relieving the airliners from the economic pressure. Since some airliners have spare capacity at other parts of their aircraft fleet and can more easily make new arrangements for affected passengers, they can afford to prioritize safety. Some airliners, however, do not have this option. This illustrates how short-term concerns about financials could crowd out ethical judgments.

The decision-making at both Boeing and the FAA illustrates that despite their claims of prioritizing safety, safety was never put in the driver's seat when decisions were made. This shows that there is a distinct difference between thinking about safety, talking about safety, and *doing* safety. Aspects such as long-term consequences and concern for others must be salient parts of the decision-maker's mental model and shape the actual decisions that are made. But letting these dimensions shape the decision often has a short-term cost. This cost can feel large,

be large, and might even require courage to take on. While a decision-maker who acts self-interestingly and narrow-mindedly might get an immediate reward in form of a positive number on a balance sheet, a decision-maker who is able to overcome this tendency may never see the positive consequences of their actions. Instead, they receive an immediate penalty in the form of negative numbers and criticism from financially affected stakeholders. Still, even though the potential long-term savings of human lives remain invisible and unappreciated, these savings are both real and of the highest importance.

6.3 Listening

6.3.1 Employees had a different focus

Employees at both Boeing and the FAA expressed many concerns about safety. There were over a hundred discrepancy reports related to the Max simulators, and employees expressed frustration over a tight schedule that they felt led to substandard quality. Employees at one of the Boeing production factories expressed a similar concern over tight schedule pressure that they felt led to rushed work. There were also employees who addressed concerns directly related to the MCAS system.

While managers at these two organizations seem to have been most focused on finding ways to meet their financial objectives, employees seem to have been more attentive to the impact the decisions would have on human beings. The report shows several instances of employees expressing a variety of human-oriented concerns. These concerns ranged from how pilots would be affected, what information they should receive, the effect of production pressure on human error, how the workforce was exhausted, to whether they would put their own families on a Boeing plane. It also seems like safety was a substantially more salient concern for regular employees than it was for managers.

What can explain these differences in focus between managers and employees? One explanation could be that their jobs are framed differently. Engineers, test pilots, factory workers, and technical experts are hired into roles that require attention to quality and safety. Their jobs are directly related to creating, designing, and assessing quality and safety issues. They are further away from the financial pressure and can better understand and see the negative

implications of the decisions their managers make. Thus, they are closer to the real product that their customers will receive, and they can directly experience the negative consequences of schedule pressure and quality issues.

6.3.2 Ineffective listening

Even though their jobs were different, the safety critical information that was required to make sound decisions existed within the organizations. Managers should therefore have been able to tap into the perspectives of their employees and use this knowledge in their decision-making. There are, however, clear indications that managers at Boeing and the FAA did not adequately address the concerns their employees expressed. This is apparent in two ways. First, the managers' decisions did not sufficiently incorporate the concerns and recommendations that were expressed by technical experts. Instead, their recommendations were overruled by management based on cost, schedule, and production concerns. Second, management does not seem to have listened to their employees in such a way that they felt heard.

There are several signs that ineffective listening was a problem at both Boeing and the FAA. One example is the answer the factory supervisor Pierson got when he voiced his concerns over the schedule pressure at the Boeing factory. When he expressed that "In … military operations, if we have these kinds of indications of unstable safety type of things, we would stop" (HTIC, 2020, p. 177), the manager's response had been "The military is not a profit-making organization" (HTIC, 2020, p. 177). This illustrates what Rogers (1959) called listening with an external frame of reference, which is listening from our own subjective perspective without empathizing with the other. The manager rejected Pierson by simply stating his own opinion on the matter based on his own perception (an ineffective listening behavior).

Instead, Rogers (1959) recommended that we should tap into the internal frame of reference of the other person, attempting to see the world as they see it. For example, if the manager had answered something in the lines of "you feel that safety is negatively impacted, and that we should stop our operations so that we can catch up", he would have conveyed an understanding of Pierson's internal frame of reference (an effective listening behavior). If the intent of the manager had been to understand Pierson's concerns, he could have continued the conversation and attempted to grasp how Pierson experienced what was going on. It is important to note that the manager could have conveyed an understanding of Pierson's internal frame of reference

regardless of whether he himself agreed or disagreed with Pierson, and regardless of whether he would act on the information Pierson gave him. Listening in this way would have had two positive outcomes. First, the manager could have gained a better understanding of Pierson's concerns and perhaps used this new understanding to extend his own mental representations of the problem. Second, Pierson would have felt that his views were acknowledged and understood. He would have felt that the reality, as he saw it, was understood by another person. Instead, Pierson eventually left the organization, with feelings of alienation and resentment, because he did not feel that his concerns were being taken seriously.

There are also other statements that show signs of ineffective listening. For example, in a safety survey at the FAA, one employee wrote that "There is no acknowledgement of recommendations made by experts or an explanation about why a different decision was made" (HTIC, 2020, p. 69). A Boeing employee working on the Max simulators expressed: "[T]hey are ploughing forward regardless of the danger, failing to appreciate the implication of Boeing failing to qualify a Boeing device" (HTIC, 2020, p. 160) and: "They are failing to appreciate that a delay would be less costly than the incurred costs" (HTIC, 2020, p. 160).

These examples illustrate that employees did not feel heard. Managers do not seem to have acknowledged the internal frame of reference of these employees and showed them that they understood their concerns. And there also seems to have been a lack of explanations for why the employees' recommendations were not used in the actual decision-making. This seems to have led to feelings of consent, frustration, and demoralization among employees at both Boeing and the FAA. For example, employees at the FAA expressed that "There is no respect for an expert culture that has existed through years of experience" (HTIC, 2020, p. 69), and another expressed that "they don't understand the true risks of the decisions they are making; they are making decisions that they don't have a clue about" (HTIC, 2020, p. 69). There are also several other examples that illustrate employees' negative affect towards managers they did not feel took their concerns seriously.

Not having one's experience validated by others can make us feel disconnected and alienated (Rogers, 1980/1995). If managers within Boeing and the FAA persistently showed a lack of ability to acknowledge the viewpoints their subordinates expressed, and if they consistently failed to convey an accurate understanding of their employees' viewpoints back to them, this can likely explain some of the frustration and consent employees were experiencing. It is likely that the basic psychological needs of these employees were negatively affected by these

ineffective listening behaviors (see Figure 3). The employees saw quality standards not being met, safety issues not being sufficiently addressed, and production pressure leading to errors. They had standards of excellence and a sense of pride in their work. When their managers made decisions that compromised these standards, some employees spoke up, but management was not willing to explore their perspectives. Instead, their concerns were trivialized, and they were forced to implement the decisions of managers who they felt did not truly understand the issues at hand. Hence, they lost their sense of competence since managers overruled their expert opinions. They lost their sense of autonomy because they were forced to do substandard work. And they lost their sense of relatedness as they could no longer see themselves as being part of an organization of the highest integrity.

This failure of effective listening deprived employees of dignity. According to de Colle et al. (2017) it is essential that people get the opportunity to fill their roles with their own humanity—if they are to be alive, present, authentic human beings who feel passion and fulfillment. However, at Boeing and FAA, the complexities of the employees who spoke up were not acknowledged, respected, or nurtured. Instead, they were treated as static parts of an economic machine, as means to a financial outcome.

6.3.3 Lack of self-awareness

Even though employees at both Boeing and FAA expressed concerns about safety issues, managers at both Boeing and FAA claimed they were unaware of many of these issues in the aftermath of the crashes. Whether this is true is impossible to know. Concerns about legal and reputational concerns could of course influence the truthfulness of such statements, but it could also be correct that managers were unaware to some degree.

One explanation that could explain why managers felt they were unaware, could be that their mental models consistently distorted data to fit in with their preconceptions. Data that conflicted with their own goals was distorted or ignored. This could also explain why employees' concerns were not taken into consideration. Managers immediately evaluated incoming data based on their own views of the world and dismissed conflicting data as irrelevant or wrong. Thus, their own narrow-mindedness and lack of ability to take in other perspectives might have led them into a state of unawareness. This means that the available data was accessible right in front of them, but that the mental aspect of their listening was ineffective and reduced their

comprehension of the data (see Figure 3, instrumental effect, which is moderated by the effectiveness of the listening).

According to Rogers (1961/2012), all of us fear change. Understanding someone else requires courage: We might be changed if we dare to tap into the internal frame of reference of someone else. Rogers also emphasized that a lot of our suffering is caused by our inability to properly communicate with ourselves. If we deny ourselves access to parts of our inner lives, we will be unaware of how unconscious thoughts distort our perception. If these managers lacked sufficient self-awareness, they might have been unaware of how their own perception of reality distorted incoming data streams. Thus, their decision-making might have become flawed because their ineffective listening skills did not enable them to access the rich world of valuable data that their technical experts possessed. Consequently, they entered choice situations with severe blind spots.

6.3.4 Psychological safety and human needs

Another explanation could be that managers failed to create a psychological safe climate where employees could speak up. Considering the pressure these managers were under, illustrated by the strong emotions they expressed when their goals were in danger of being jeopardized, employees might have feared that they would become an obstacle to these highly important goals if they were to express themselves openly. Low psychological safety could lead to a reduction in voice behaviors such as disagreeing and giving candid feedback (Newman et al., 2017), and as a result it might be the case that some of the employee concerns were not properly communicated to management. However, as managers in a safety organization, they had a responsibility to become informed by actively creating a climate in which employees could openly express themselves, for example through respectful inquiry or other supporting behaviors.

Based on the committee report, it seems like such a safe climate did not exist. Instead, there are clear indications that employees feared retributions and negative consequences for talking openly. If employees' basic needs for autonomy, competence, and relatedness were thwarted by negative interactions with management, this could have caused employees to feel a controlled type of motivation (Deci & Ryan, 2008), which has been shown to cause avoidant and defensive interaction behaviors (La Guardia & Patrick, 2008). A survey within the FAA

showed that 49 percent of the respondents believed that safety concerns would not be addressed (HTIC, 2020, p. 69), and employees might eventually have stopped expressing concerns because they expected that they would not be listened to.

Thus, it may be that managers were partly unaware, but that this was caused by their own neglect of creating a climate in which employees would feel safe to speak up. Consequently, through ineffective supportive listening behaviors, they got access to less data (see Figure 3). The data they did not get access to could potentially have altered their mental models prior to entering choice situations (see Figure 1) by making other dimensions than the technical and other stakeholders than shareholders become more salient (see Figure 2).

6.4 A holistic view

6.4.1 The system versus the individual

Ultimately, the decision-makers at Boeing and the FAA failed to treat stakeholders with dignity. They seem to have failed to put themselves into the shoes of their employees and get a thorough understanding of their concerns and interests. They seem to have failed to realize the power they had over stakeholders that depended on them. They seem to have failed to listen to their own inner voices and figure out how the salience of financial issues affected their ability to think long-term and holistically. Even though it is easy to blame these managers for recklessness and attribute the accidents to their lack of judgment, other contributing factors should also be considered. Because the pattern of this case is not unique.

For example, to consider some other recent cases, a contributing factor to the KNM Helge Ingstad accident was lack of competent personnel (Johansen et al., 2021). This was caused by a lean manning concept that had been implemented to keep personnel costs as low as possible. While this likely led to some millions in cost savings on the personnel budget, these costs are of course completely insignificant compared to the costs of the accident. First, replacing the ship would cost billions of Norwegian kroner. Second, the accident reduced the Norwegian military's ability to participate in its core role of protecting Norwegian interests. Third, the accident had a real potential for significant loss of human lives. Fourth, the accident has inflicted harm on all the people who were involved in it, who were put in a position in which

they were worse off than they could have been if an investment in their competence and abilities had been prioritized.

Another example is how cost cuts have negatively impacted maintenance routines at Equinor (Holter, 2021), which has increased the risk of accidents that could cause significant harm to ecological interests. The costs that are saved are of course completely insignificant compared to the potential negative consequences such accidents could inflict on the environment and human lives.

These cases seem to share many of the same characteristics: Managers who are put under pressure to deliver financial results, a lack of an effective and independent regulatory authority that keeps organizations accountable, and large organizational size and complexity. These conditions seem to increase the risk of corner cutting and silo thinking, where safety layers slowly are torn apart.

Just as Boeing put pilots in a position in which they were doomed to fail, there are systemic factors that seem to put managers in positions in which they are more prone to making unwise decisions. Systemic factors prime managers into short-sightedness by primarily holding them accountable for financial performance, for example through quarterly financial updates (in contrast: where is the requirement of quarterly safety updates for safety organizations?). In addition, the widespread use of economic incentives schemes may crowd out existential, social, and ecological values, and thereby reduce managers' ability to act holistically (Ims et al., 2014).

Furthermore, the social system influences how we perceive the world around us. Goal-oriented, authority-pleasing behavior is rewarded from early childhood, and through repeated exposure to mass media we acquire materialistic mindsets that cause us to believe that economic wealth is the highway to happiness. We bring these perceptions of the world with us into organizations and fail to realize that our obsession with increasing profits could be the result of the social interactions and environment we have been exposed to. If we fail to question our own perception of the world, we risk becoming a deterministic product of our surroundings. Therefore, when we blame these managers for their wrongdoings, we must not forget that we, through our own values, actions, and focus, have contributed to the social system that has influenced the mental models of the executives we criticize.

6.4.2 Hindsight

Even though it is easy to criticize the decision-making at Boeing and the FAA, it is important to remember that it is easier to see the wrongdoings and how they are connected after an accident has happened. The decisions that led to the two crashes happened over a time-period of at least eight years. Seeing all the decisions put together as a narrative in a single report intensifies the perception that "they should have known better". While the weaknesses of these decisions may seem obvious in the aftermath, the unintended consequences of the decisions were most likely far from obvious at the time they were made.

It is also important to consider the context of the communication excerpts. It is easy to use them to argue for a ruthless business-focus. This might be the correct explanation, but caution is warranted, since a lot of internal communication has not been published, which could have contained signs of another pattern. In addition, managers at Boeing had to find solutions to their business problems, and it is natural that this led to business-oriented discussions. Discussing whether a safety feature really is necessary is a valid conversation to have. Obviously, there is a trade-off somewhere between what is needed and what is obsolete, and finding this trade-off is important for a business in a competitive market.

The communication excerpts also show examples of strong expressions of emotion, such as frustration, annoyance, and consent, sometimes directed at other stakeholders. It is important to note that these communication excerpts can be interpreted in several ways and that this affects the narrative. For example, when one of the managers calls one of the airline customers an idiot for inquiring about simulator training, this could be interpreted as an expression of annoyance that important goals were being jeopardized. However, if this manager genuinely thought that simulator training was unnecessary, that he undoubtedly thought that the 737 Max was of such high quality that these airline customers simply were wasting their money on requesting extra training, the narrative changes from something ruthless to something that appears more empathetic.

We must also remember that the persons behind these statements communicated internally with their co-workers, and that the internal communication never was intended for public release. Strong emotions are a natural part of anyone's work life, as well as life in general. These internal communication excerpts simply show something that is common to all of us: a need for expressing our inner emotions and being met with understanding. Most of us have had more

disturbing thoughts than these examples illustrate. Luckily for us, our thoughts or close conversations with others are not made available for public condemnation. There are, of course, differences between merely thinking something, expressing thoughts to others, and actually deciding things that negatively impact others. Suppressing our inner life is, however, probably not a constructive solution. Instead, by tapping into it, by listening to ourselves without judgment, we might become aware of how our perception of reality is distorted, and, as Rogers (1961/2012) stated, create the possibility for internal change. This might also be the starting point of ethical decision-making.

Chapter 7: Conclusions

7.1 Research question

This thesis has explored the role of listening and mental models for ethical decision-making. Based on a review of the literature, a model on listening was proposed. This model suggests that the effectiveness of a decision-maker's listening affects how much data the decision-maker gets access to and how much of the data the decision-maker will accurately understand. The model postulates that interactions with stakeholders provide opportunities for the decision-maker to modify their own mental model of the world and fill in their own blind spots. This could increase the decision-maker's ability to make a holistic decision that takes into consideration a broad range of stakeholders and multiple dimensions of a problem. The model also proposes that the effectiveness of a decision-maker's listening influences the degree to which a stakeholder is treated with dignity, which implies that effective listening could be important for ethical leadership in general.

Specifically, the listening model proposes that the mental aspect of a decision-maker's listening impacts how accurately the decision-maker will understand what the stakeholder has expressed. The interpersonal aspects of the decision-maker's listening could impact the stakeholder's psychological safety and needs for autonomy, competence, and relatedness, which in turn affects the degree to which the stakeholder is willing to express their interests and concerns openly, thereby influencing how much data the decision-maker gets access to. However, it can also affect whether the stakeholder feels safe in expressing their true selves in the relationship without having to hide behind a mask. The degree to which basic psychological needs are supported could also influence whether the stakeholder feels an autonomous or controlled type of motivation, which has implications for their well-being. Hence, decision-makers should care about effective listening not only because they could gain access to decision-relevant data, but also because it could be a way of treating stakeholders with dignity and as ends in themselves.

The Boeing 737 Max case illustrates how external stressors could prime decision-makers into thinking too narrowly. Short-term financial pressure from powerful stakeholders could reduce the ability of decision-makers to take responsibility for negative externalities that might be inflicted upon other stakeholders in the long run. Feelings of pressure and a consistent focus on

short-term, tangible results could cause decision-makers to consider too few stakeholders and dimensions of the problems they face.

Ineffective listening seems to be one potential contributor to the flawed decision-making at Boeing and the FAA. The data needed to make responsible decisions existed at both organizations, but managers failed to use the data in their decision-making. Two possible explanations for this have been offered in this thesis. First, managers' ineffective listening behaviors seem to have contributed to a psychologically unsafe climate, in which employees did not feel they could openly express themselves. This also appears to have negatively impacted employees' basic psychological needs, creating feelings of consent and frustration. These factors could have reduced employees' willingness to openly share concerns with management in a candid way. Second, the executives' focus on financials could have been such a prominent aspect of their mental models that their ability to listen effectively to their employees suffered. Employee concerns might have been distorted or neglected to fit in with the managers' pre-existing beliefs. As a result, the managers failed to modify their own mental models, fill in their own blind spots, and take a broader set of dimensions and stakeholders into consideration when decisions were made.

In sum, the main findings of this study are as follows:

- The effectiveness of a decision-maker's listening could impact a stakeholder's psychological safety and their basic needs for autonomy, competence, and relatedness as well as the degree to which they feel they can be their true selves in the relationship.
- The effectiveness of a decision-maker's listening could impact how much data the decision-maker gets access to from a stakeholder and how much of that data the decision-maker will accurately understand. This affects the degree to which the decision-maker can fill in their own blind spots and make ethical decisions that take into consideration a broad range of stakeholders and dimensions.
- External stressors, priming, and framing effects could affect which stakeholders and dimensions a decision-maker considers.
- The decision-maker's self-awareness will affect their ability to overcome rigid thinking, extend their own mental models with new perspectives, fill in their own blind spots, and listen effectively to others.

7.2 Implications

Many organizations are becoming increasingly more diverse and specialized. They face challenges that require expertise from a broad range of disciplines. If leaders are to utilize the competencies and perspectives of their workforce, they need to actively engage with the talent pool they have available. Leaders who listen ineffectively will, to some degree, let these resources go untapped as divergences from the leader's pre-existing schemas are likely to be dismissed. Therefore, being able to temporarily suspend judgment and see the world as someone else sees it could be an important ability to have in order to reap the benefits from having a diverse set of perspectives available.

Employees are also increasingly expecting more from their organizations than pay. They expect to do meaningful work and be actively involved. As effective listening is one way of supporting the basic psychological needs of employees, it could be an important contributor to increasing the probability that employees will enjoy working for an organization and that they will feel an autonomous type of motivation. This is positive for both the organization, which might experience increased performance, and the individual, who might feel a higher sense of satisfaction in their work.

New technology and rapid changes in the external environment require organizations to adapt more quickly than before. Many change processes fail, and effective listening is one aspect that leaders should consider when planning and implementing change measures. Employees who do not feel heard could start feeling cynicism toward their organization, reducing organizational performance, individual well-being, and the likelihood of successful change. Leaders who are able to listen effectively to their employees, acquiring an accurate understanding of their interests and concerns, and convey this understanding back to their employees to show them that they indeed have understood their interests and concerns correctly, might be able to achieve more successful change processes.

As a society, we have become more aware of negative externalities that organizations inflict on their surroundings. Understanding and considering the needs and concerns of a broad range of stakeholders require leaders who feel a sense of responsibility beyond their narrow self-interests. If we can listen to ourselves and become aware that we are seeing the world through only one of several available lenses, we might feel an increased sense of empathy and humbleness toward others. By putting ourselves in our stakeholders' shoes, seeing the world as

they do, contemplating John Rawls' veil of ignorance, and realizing that we just as well could have *been* our stakeholders, we can use our power to take their needs into consideration.

However, ethical scandals do repeatedly occur. As faulty judgment is a common and predictable characteristic of human nature, this calls for finding systemic ways of priming decision-makers to consider the long-term interests of a broad set of stakeholders. Shareholders and government authorities must act responsibly by creating conditions that reduce the likelihood that leaders feel pressured to sacrifice ecological, spiritual, and social values for short-term financial performance. Schools and families must act responsibly by encouraging multi-dimensional thinking from a young age, increasing the likelihood that the business leaders of tomorrow have flexible and critical thinking skills as an ingrained part of their being.

As individuals, we must become mindful of the fact that we perceive the world around us through our own mental models. We must question our beliefs, realize that we have blind spots, and be open to exploring the perspectives of others. We should also increase our ability to recognize how external stressors affect us, which could help us counter the tendency of becoming narrowly fixated on issues that appear urgent and salient. Through increased self-awareness, we can become more proactive and flexible in our thinking, which could increase our ability to actively reframe situations, consider multiple viewpoints, and ultimately make wiser decisions.

7.3 Future research

In this thesis, I defined effective listening based on Rogers' listening construct, which consists of several variables (comprehension, attentiveness, and interpersonal aspects). For future research, it could be useful to break down the construct and consider the variables independently.

This thesis explored listening in the context of ethical decision-making. It would also be interesting to research listening in the context of organizational change. Common ways of creating readiness for change include engaging in persuasive communication, providing employees with information about the change, and creating opportunities for participation in the change process (Armenakis & Harris, 2002). The literature on organizational change often focuses on *selling* the change to employees, creating a sense of urgency, and convincing

employees that the change is appropriate and necessary (Armenakis & Harris, 2009). However, resistance to change is common, and many change processes fail.

Therefore, it would be interesting to study the effectiveness of leaders listening when they embark on *selling* the change efforts to their employees. Do leaders acknowledge and convey an understanding of the views their employees express, or do they simply focus on arguing for the benefits of the change? Could change processes be negatively impacted when leaders fail to acknowledge the perspectives of their employees? How is resistance to change affected when employees feel that their manager has correctly conveyed an understanding of the perspectives they have shared? Could this reduce the probability of change cynicism and potentially increase change readiness? Could this increase mutual learning and reduce the likelihood of leaders embarking on change efforts that are likely to fail?

In some cases, painful changes must be implemented. This thesis has proposed that the effectiveness of a decision-maker's listening could impact the basic psychological needs of stakeholders. How are such hurtful change processes affected by the effectiveness of a leader's listening? Could effective listening help employees cope better with change? Could effective listening be a way of maintaining healthy relationships within the organization, even though the change itself is perceived as negative? Such questions, where leaders lead change processes through dialogue, perspective-taking, and perspective-giving instead of manipulative, persuasive monologues, would be fascinating areas for future research.

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