IMPACT OF ORGANIZATIONAL STORYTELLING ON STRATEGIC CHANGE LEADERSHIP

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DECLARATION OF ORIGINALITY

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- this thesis contains no material that has been submitted or accepted for a degree or diploma in any other educational institution;
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ABSTRACT

Impact of Organizational Storytelling

on Strategic Change Leadership

Stories are powerful and effective tools for leaders, especially during organizational change. This dissertation offers several novel insights and approaches to the holistic appreciation of the underlying mechanisms that contribute to the efficacy of storytelling. Few of these approaches have been tested through empirical experiments.

The study of change and leadership in the context of management and organizations has a long and well-established history of research. However, the dynamics of storytelling as a tool for facilitating organizational change remains understudied. This is partly due to the multi-disciplinary nature of the topic, which has traditionally been approached from many fragmented perspectives. This dissertation aims to address this gap by proposing a more comprehensive and unified theory of storytelling, integrating insights from a range of academic disciplines to provide a more holistic understanding of the topic.

Stories and storytelling have been described as possessing a certain enchantment, magic, and charm. This perspective is not without merit, as stories have been observed to captivate audiences and produce remarkable outcomes. From a symbolic standpoint, this effect can be seen as a manifestation of a perceived reality. In light of these findings, leaders are encouraged to consider the strategic use of storytelling in the context of organizational change processes, leveraging its potential to inspire and engage stakeholders.

ÖZET

Örgütsel Hikâye Anlatımının

Stratejik Değişim Liderliğine Etkisi

Özellikle kurumsal değişim süreçlerinde, hikayeler liderler için güçlü ve etkili araçlardır. Bu tez, hikaye anlatımının etkinliğini sağlayan alt mekanizmaların bütünsel anlaşılmasına dair birçok yenilikçi yaklaşım sunar. Bu yaklaşımların birkaçı empirik deneylerle test edilmiştir.

Araştırma, değişim ve liderlik teorileri, kavramları ile hikaye anlatımının rolünün incelenmesine odaklanır.

Yönetim ve organizasyonlar bağlamında değişim ve liderlik konuları uzun ve iyi tanımlanmış bir araştırma geçmişine sahiptir. Ancak, hikaye anlatımı, kurumsal değişimi kolaylaştıran bir araç olarak, henüz yeterince araştırılmamış bir konudur. Bu, konunun çok disiplinli doğasından ve geleneksel olarak konunun pek çok fragmente bakış açısından ele alınmış olmasından kaynaklanmaktadır. Bu tez, bu boşluğu doldurmak amacıyla, hikaye anlatımı konusunun daha holistik bir şekilde anlaşılması için birçok akademik disiplinden kazanılan fikirleri birleştiren, daha kapsamlı ve bütüncül bir teori önerir.

Zaman içinde, hikayeler ve hikaye anlatma, büyülü, büyüleyici ve şaşırtıcı olarak tanımlanmıştır. Bu bakış açısı, hikayelerin dinleyicileri büyülediği ve harika sonuçları ortaya çıkardığı nedeniyle, yanlış değildir. Sembolik açıdan, bu etki, algılanan bir gerçekliğin bir ifadesi olarak görülebilir. Bu bulgular ışığında, bu tez, paydaşlarına ilham vermek ve onların motivasyonlarını arttırmak için liderlere hikaye anlatımının kurumsal değişim süreçlerinde stratejik olarak kullanılmasını tavsiye eder.

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ABBREVIATIONS

AI	Artificial Intelligence
AMT	Amazon Mechanical Turk
API	Application Programming Interface
AWS	Amazon Web Services
CEO	Chief Executive Officer
CI	Confidence Interval
HIT	Human Intelligence Task
HTML	Hyper Text Markup Language
JSON	JavaScript Object Notation
MBA	Master Business Administration
ML	Machine Learning
NLP	Natural Language Processing
PII	Personally Identifiable Information
SCSC	Story Context Symbolic Congruence
SEM	Standard Error of the Mean
SSML	Speech Synthesis Markup Language
MD	Mean Difference
TMT	Top Management Team
TTS	Text To Speech
URL	Uniform Resource Locator
VUCA	Volatility Uncertainty Complexity Ambiguity

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CHAPTER 1

INTRODUCTION

When someone mentions relentless quests, daunting challenges, and battles to be fought, can we really be sure that they are referring to fairy tales, or are they talking about organizational life? Do you think it would be too hard to find scary dragons (to be slain), wicked witches (to be defeated), big bad wolfs, and giants (to be fought) in organizations? At this point, most people can be seen nodding in agreement as their mind wanders off into thoughts, looking for the magic phrase "once upon a time" on the page...

For centuries, stories, fairy tales, and narratives have always helped us humans navigate reality and survive in a world full of ambiguities and dangers (Kets de Vries, 2016). It would be foolish to exclude organizations from this generalization because there are significant similarities between events that happen in the realm of stories and what happens in organizational life.

While it sounds a bit like magic, stories actually help us understand who we are by easing and simplifying the processes around making sense of our experiences and happenings around us. When leaders communicate through stories, it not only helps us with learning how to deal with challenges but also suggests solutions to problems by illustrating the consequences of certain behavior.

Especially in times of change, this simplification is crucial for us so that we can develop mental models, which in return would help us cope with ambiguity and anticipate the future.

1.1 Background

This thesis tries to explain why storytelling is a very powerful leadership tool, especially during times of change.

The main theoretic discussion is supported by various theories and arguments from a number of different academic fields, including linguistics, anthropology, folklore, psychology, media studies, sociology, social psychology, marketing, advertising, psychoanalysis, and neuroscience. In that sense, this thesis can be seen as a multi-disciplinary work. Figure 1 visually represents the multi-disciplinary nature of this thesis by placing different academic fields into close proximity for synthesis with storytelling and explaining phenomena from different perspectives.



Figure 1. Nexus of theories from different academic fields

This multi-disciplinary work includes introducing theories and arguments into the domain of management and organizations from those different fields and

explaining known phenomena from different perspectives to make new and novel connections across disciplines.

In other words, taking a few more steps towards a unified theory of storytelling by combining findings from different academic fields and achieving a nexus of different theories would be the main contribution of this thesis.

1.2 Purpose of the research

Several high-level purposes of the research can be identified. One of them would be bridging the practice and the theory by contributing to increased knowledge regarding the role of storytelling in leadership. The second would be providing practical tips for improving the practice of storytelling in organizations based on the results obtained from the experiments conducted. These practical tips would be very useful specifically for senior management and especially while they are dealing with change initiatives.

It can be argued that in today's organizations, one of the biggest challenges is to instill in employees the motivation, passion, and attitudes that would drive success during times of change.

In this thesis, an effort is made to establish theoretical connections and linkages between the utilization of storytelling in organizational settings and the promotion of motivation, passion, and positive attitudes required for successful change initiatives. To further investigate these proposals and hypotheses, a series of experimental studies were conducted.

The results of these studies reveal a number of intriguing findings, and the discussions in this thesis also highlight the practical managerial implications that can

be gleaned from the research. Specifically, it is suggested that the insights gained from this research can inform the actions and strategies of leaders and senior management teams, providing them with practical tools for immediate implementation in their organizational contexts.

1.3 Summary of chapters

There are eight chapters in the thesis. For additional clarity, These eight chapters can be grouped into two main parts.

The first main part is the theoretical discussion and literature review that tries to bring together different theories and arguments from a number of different academic fields. This section attempts to add a few missing pieces of the puzzle, to the existing body of knowledge, by showing different aspects of the same phenomenon and making new connections across disciplines. Surprisingly, while doing so, I believe this section also finds and highlights more unexplored gaps by putting together different theories side by side and looking at them from a proximal perspective.

The second part of this thesis consists of several experiments that were conducted to test (only) a few of these theories and arguments. Keeping the scope of the experiments limited was necessary to narrow the scope of the thesis and make it more manageable.

With that regard, here are the main chapters of the thesis: *Chapter 1* introduces the topic and shows the bigger picture. *Chapter 2* discusses the theoretical background used throughout the thesis. *Chapter 3* summarizes the literature review and provides a theoretical discussion. *Chapter 4* extends the literature review and

provides definitions of narratives. *Chapter 5* lays out the conceptual model of the thesis and defines the hypotheses that were tested out. *Chapter 6* discusses the research design and methodology of the experiments. *Chapter 7* presents various data analyses and the results of the experiments. *Chapter 8* discusses the results of the experiments in detail, highlights the key takeaways, and provides the managerial implications. *Appendixes* provide additional context and information that can be referenced when required.

CHAPTER 2

THEORETICAL BACKGROUND

2.1 Introduction

Before defining and explaining the constructs and theories from across disciplines, it is crucial to discuss and clarify the details of the theoretical background that this dissertation depends on. When it comes to the topic of change, leadership, and storytelling, the perspective we define phenomenon influences all the definitions. That is why these explanations about why we chose to inspect these theories and constructs from the symbolic organizational theory perspective are very appropriate.

The following sections explain what the symbolic perspective is and why that approach is more suitable than the classic and rational approach.

2.2 The overall choice of ontology and epistemology

Before proceeding further with the literature review, the explanation of the overall choice of ontology and epistemology of this dissertation would be beneficial.

The main lens that was used in this dissertation is the symbolic perspective. Only with the assumptions and approaches available to the symbolic perspective, it is possible to blend the different theories of change, leadership, affective commitment, and storytelling in one pot.

Besides, it has been argued that organizational and management studies are still overly rational (March, 2006), but we have come to believe the research has been well advanced (and perhaps a bit saturated as well) within the rationality perspective. However, given the fact that we still have many unanswered questions and we need many more answers, perhaps we should be looking for answers elsewhere. Our hope

is that the symbolic perspective gives us new research opportunities and many new novel answers.

The following section will explain the details of the symbolic perspective.

2.3 The symbolic perspective

The main philosophy behind the symbolic perspective can be summarized with the assumption that if subjective beliefs affect behavior just as objective reality does, then "social facts" are just as real as objective facts (Hatch, 2018).

One of the first scholars to hint at this novel way of thinking was American sociologist William Isaac Thomas, who, back in 1928, asserted that if we define situations as real, then they are surely real in their consequences (Thomas et al., 1966).

He came up with this conclusion when he was trying to explain the behavioral patterns of a warden in Dannemora prison.

Under the symbolic perspective lens, the most useful theories to explain the dynamics of change leadership from a storytelling perspective would be the enactment theory (Weick & Bougon, 1986) and social construction of reality theory (Thomas et al., 1966).

In their book, German sociologists Peter Berger and Thomas Luckmann presented that the social world is negotiated, organized, and constructed by our interpretations of objects, words, actions, and events. All of these are communicated through symbols. The authors suggested that this socially constructed reality symbolism creates and maintains social order (Thomas et al., 1966). This theory certainly contrasts the definitions of an objective reality.

Weick, later on, combined Berger's and Luckmann's ideas into the cognitive process called "reification". (Weick, 1995) In his terms, reification meant making something real. He stated that organizations are products of a "collective search for meaning" by which experience is ordered. He stated that such an ordering occurs through the enactment of beliefs about what is real. Thus, sense-making is about creating the "truth" by "organizing experience" in ways that "produce understanding" rather than discovering what the truth is (Weick, 1995).

Given that the stories are metaphoric reflections of the real-world event, using the symbolic perspective makes total sense to examine the phenomenon. Especially for the topic of storytelling, when being used to explain topics around leadership, and change, a similar approach to Thomas (1966) could be taken with the narrative construction of reality theory (Bruner, 1991).

It is a known fact that some scholars would approach these alternative perspectives with a critical eye, perhaps suggesting that they are too irrational or too subjective. However, we would argue that the world of academia and organizational studies need more of the less pragmatic literature, ideas, and perspectives to be more open-minded so that the questions that have been remaining unanswered for a long time and the explanations that have been hidden or undiscovered over the decades can be found.

2.4 Challenging the foundational perspectives

The connotations and implications of the word "management" have long been a source of contemplation for us. In the rational sense, the word management implied "control" and all other things that came along with control. We would agree with Gill

(2002) when he suggested that in change management, "management is necessary but not sufficient" (Gill, 2002). This reasoning constitutes our motivation to examine change and change management with "leadership" theories with a sprinkle of symbolic perspective (and thus storytelling) rather than with a pure management perspective.

Another foundational perspective to be argued is that "change" is neither an outcome of "managerial adaptation" nor of environmental selection, but rather is a co-evolutionary outcome of strategic intentionality and environmental imperatives (Lewin & Volberda, 1999). In other words, there is very little that can be achieved only by managing or trying to manage the change, so the presence of strategic leadership becomes essential for effective results.

Positioning the change process externally (on an organizational level) is another foundational perspective that needs to be challenged. The change process is not an external process that is imposed on the organization.

At the root of every change initiative, we can find fundamental questions about our own understanding of who we are. In other words, change is successful when we are able to change the understanding of who we are. Since we derive our identities from the accumulated ideas, images, and associations, which make up the broader social and cultural contexts of our lives, the change process should be seen as a very personal process of repositioning. Stories are interpreted at this personal level, thus, are very effective in the repositioning efforts.

Finally, looking at the narrative research from a post-classical perspective, the term "cognitive narratology" can be defined as the "mind-relevant aspects of

storytelling" (Herman, 2007; Herman, Phelan, Rabinowitz, Richardson, & Warhol, 2012).

However, the cognitivist approach is not the only approach that can be used to look at the theories. The discursivist approach (coming from the discursive psychology field) (Edwards & Potter, 1992; Harré & Gillett, 1994) might yield fruitful results, especially in the narrative design of the stories that will be used in the experiments.

The next chapter, the literature review, will explain the details of the various theories that were used throughout the dissertation. For further discussion on the categorization of leadership theories and how this discussion can be considered challenging the foundational perspectives, please refer to Appendix B.

CHAPTER 3

LITERATURE REVIEW

This section aims to summarize a few key concepts and theories from across different fields that would be supportive of the general hypotheses in this dissertation.

The literature review chapter was five distinct parts. The first part outlines the findings from management-related fields, mostly leadership theories. The second part summarizes the findings from the storytelling-related fields. The third part contains theories from psychology, and the fourth part contains some theories from neuroscience.

3.1 Introduction

Rather than only resolving the gaps in the literature by making new connections between different fields, our additional aim is to create brand new gaps by putting different literature together in a proximal perspective so that future researchers can fill them in.

3.2 Relevant leadership theories

This section presents a short review of the relevant leadership theories that were identified in the literature. Most of these theories are used to support or explain the hypotheses, which can be found in the following chapters.

3.2.1 Change leadership

In the 1980s, there were few specific change-oriented behaviors included in questionnaires to measure charismatic and transformational leadership; however,

leading change was still not explicitly recognized as a distinct meta-category. (Yukl, 2012) In the last decade, researchers in Sweden and the US (Ekvall & Arvonen, 1991; Yukl, Gordon, & Taber, 2002) eventually found evidence for the construct validity of a leading-change meta-category (Yukl, 2012).

Since change leadership is a relatively new construct in the organization literature, the definitions might be prone to cause some trouble. It is observed that, similar to many other soft constructs, there is not a hundred percent agreement on the description either. Based on this, change leadership was conceptualized as a part of (a subset of) strategic leadership. In our own terms, we would like to visualize this as nested Venn diagrams. In the following pages, we will be presenting supporting evidence from leadership literature for this categorization. Figure 2 shows the nested Venn diagram of change leadership as a subset of strategic leadership.

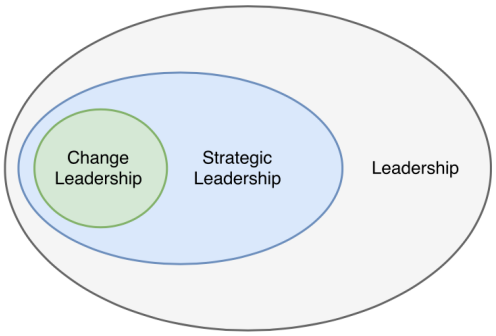


Figure 2. Change leadership as a subset of strategic leadership

3.2.2 Strategic leadership

To make a smoother transition to one of the important constructs, change leadership, we find it useful to start the definition with strategic leadership. Note that this is the part where we believe the naming of the construct is a bit misleading.

In its essence, strategic leadership theory, being a member of the non-supervisory type theory (Type II, see Appendix B for the discussion), aims to show how to create meaning and purpose for the organization (House & Aditya, 1997).

Another, more comprehensive definition of strategic leadership comes from Boal, where he boldly states that strategic leadership connects the past, the present, and the future of the organization. While doing so, it reaffirms the organizations' core values and corporate identity to establish continuity and integrity (Boal & Hooijberg, 2000).

This part of his definition is remarkably similar to stories and storytelling, as stories also connect our past, the present, and the future and tell us about our core values and identities.

Another striking similarity between strategic leadership and storytelling is that they both aim to create meaning and purpose for the organization. They both help us make sense of the environment by providing a vision and a road map for the organization, especially in turbulent times (Boal & Hooijberg, 2000).

3.2.3 From strategic leadership to change leadership

One of the definitions that define change leadership (also known as change-oriented leadership) inside strategic leadership is suggested by Boal and Schultz, where they state that for any significant change to emerge, strategic leaders push organizations to the 'edge of chaos' and out of statis. In order to do so, authors suggest that such leaders should provide a balance between the inertia of Weberian-style bureaucracy

and anarchy such that this state of balance will result in the ordered and fluid responsiveness of the innovative and creative organization (Boal & Schultz, 2007).

In parallel with Boal and Schultz (2007) definition above, when organizations operate at the edge of chaos, they would have a variety of distinct alternative responses with which to explore new opportunities (Boal & Schultz, 2007).

So while transitioning from the definitions of strategic leadership into change leadership, eventually, we can observe a natural convergence in the meaning of several definitions. Such a convergence occurs at the functional level of the conceptualization. Change leadership promises to solve the most common two problems that a change (management) has.

Those challenges are: (1) making sure that people in the organization adapt to change and (2) that leaders envisage where the organization is currently placed in the market and where it should be in the future (Heifetz & Laurie, 1997). This constitutes as another well-acclaimed definition of change leadership.

Another definition of change leadership is the process of 'developing a vision of the future, crafting strategies to bring that vision into reality and ensuring that everybody in the organization is mobilizing their energies towards the same goals' (Hooper & Potter, 2011).

The authors, Hooper and Potter, also name this process 'emotional alignment'. We are motivated and inclined to present this alternative naming as well, since the naming itself implies extra information about the process (that is emotional), and this extra information about emotions supports my model that involves storytelling. We will be elaborating more on this connection in the subsequent sections.

Another interesting, however slightly different, definition of change leadership comes from Herold, Fedor, Caldwell, and Liu (2008) where they define change leadership as the 'behavior that targets at the specific change consists of visioning, enlisting, empowering, monitoring, and helping with individual adaptation' (Herold et al., 2008). We believe the words to note in this definition are 'visioning' and 'individual adaptation' as this will also tie this concept to storytelling.

A few years after than Herold et al.'s definition, one scholar in Herold's team, Liu, extended the above definition by including that there are two factors (dimensions) in change leadership that are (a) leaders' change selling behavior which consists of actions that attempt to promote the change during the unfreezing stage that also make it clear why the change is necessary and (b) leaders' change implementing behavior which consists of actions to push a change forward and consolidate success throughout the implementation (Liu, 2009).

Up to this point, you might have realized that the unit of analysis in most of these definitions (all except Herold and Liu) was not the individual but perhaps the organization or some kind of process. However, while we are on our way to transitioning from the definitions of strategic leadership to change leadership, the directions are both ways. We have previously mentioned that these types of theories, namely Type III, encapsulate both smaller and larger units of analysis. For the comparison and further discussion, please refer to Appendix B.

The last definition of change leadership that will be included comes from Yukl, who approaches the definition of change leadership from a more personal/individual point of view. Yukl (2012) calls his construct "strategic change leadership"; however, this is not much different from our construct of interest due to

the fact that we have initially defined change leadership as a subset of strategic leadership, and thus it inherits from these previous definitions.

Yukl's (2012) definition of strategic change leadership draws a clear picture of change-oriented leaders who can "articulate a vision, encourage innovative thinking, express optimism, develop motivation and commitment to organizational change and new strategies, and instil confidence that the strategic vision is attainable" (Yukl, 2012).

In his detailed definition, those change-oriented leaders encourage innovative approaches to problem-solving, facilitate processes that assist their followers to absorb new knowledge, and to think "outside of the box" (Yukl, 2012).

An important aspect of these change-oriented leaders is that they communicate "why" change is necessary, so as to preempt resistance and potential pitfalls during change processes (Yukl, 2012).

Table 1 shows Yukl's hierarchical taxonomy of change leadership behaviors. Originally, the table had four meta-categories and their component behaviors; however, since others (task-oriented, relations-oriented, external) might be out of scope for this dissertation, we decided to include only change-oriented behaviors in the following table.

Table 1. Yukl's Hierarchical Taxonomy of Change Leadership Behaviors

Change-oriented leadership behaviors
Advocating change
Envisioning change
Encouraging innovation
Facilitating collective learning

In the transition from strategic leadership to change leadership, we can extend the discussion about strategic change leadership. Graetz (2000) identifies two main roles, one being "instrumental" and other being "charismatic". Important dimensions of the instrumental role would be to personally communicate the future direction of the organization and inspire employees for the shared vision (Graetz, 2000).

In this communication, by making sure the vision (or the goal) of the company is clear, well understood, and perceived as "emotionally compelling", the leader can guarantee the "momentum and enthusiasm" for the change initiative is not diminished over time (Graetz, 2000).

3.2.4 Flexible leadership theory

Flexible leadership theory is the last theory that was reviewed in the leadership literature review section. Similar to change leadership, it is also an integrative strategic leadership theory, and many scholars believe it bridges leadership and management literature.

I believe the importance of flexible leadership theory for the rest of the dissertation comes from the fact that it incorporates leading change as a distinct meta-category of effective leadership in the model.

Flexible leadership theory, mostly built on the work of Yukl and colleagues (Yukl, 2008; Yukl & Lepsinger, 2004) explains how a leader can influence the financial performance of an organization by "adapting to the external environment, improving efficiency, and strengthening human capital". Flexible leadership theory provides important insights into the "role of encouraging and facilitating change in

organizations" by incorporating leading change as a distinct meta-category of effective leadership in its model (Yukl, 2008, 2012).

The change-oriented aspect of flexible leadership theory is compatible with and partly overlaps with dyadic-leadership theories such as transformational leadership (Yukl, 2008).

Flexible leadership theory explains the influence of leaders on organizational processes and strategies instead of examining the motivation and perception of subordinates. With this approach, the theory differs from dyadic-leadership theories and thus, it emphasizes the CEO's role in leading organizational change (Yukl, 2008; Yukl & Mahsud, 2010). This certainly falls under the definition of Type III leadership theories. Please refer to Appendix B for more details.

3.3 Relevant storytelling theories

We are particularly interested in storytelling due to the fact that during the last few decades, researchers established a connection between shared storytelling experiences and the larger organizational reality (Boje, 1991; Boyce, 1996). Being a big fan of the symbolic perspective, we believe a significant part of organizational reality is formed by storytelling.

To begin the review of storytelling, it is crucial to realize that there are many definitions for stories, narratives, and organizational storytelling.

In the organizational context, while Brown and Duguid (1991) define stories as "the soft repositories of knowledge", (Brown & Duguid, 1991) on the other hand, Berry (2001) defines stories as the "fundamental way through which we understand the world". (Berry, 2001) In organizations, Boje described storytelling as "the

preferred sense-making currency of human relationships among internal and external stakeholders" (Boje, 1991).

While all these definitions are very valuable to get us started with a deeper understanding of the subject, more important than these definitions above, are the functions of organizational stories and storytelling.

In the next section, these findings will be presented. It is worth noting that these functions mostly answer "how" questions regarding the effectiveness of storytelling. Those "how" questions in subsequent sections will be bridged by a literature review of theories answering "why" questions. And similarly, regarding the functions of storytelling, several different authors have different opinions on the topic too.

3.3.1 Functions of storytelling in organizations

With a careful examination of the information presented by several different authors, it was possible to find/extract eight different functions of stories and storytelling in organizations.

As a good start, Brown and Duguid (1991) suggest that by virtue of their narrative structure, stories: (1) tend to sort information into coherent patterns (such as the appropriate sequence of events or the causal order of organizational phenomena), (2) make history available and help organizations learn from their past and (3) capture culture and informal learning (Brown & Duguid, 1991).

In addition to these three functions, Boal and Schultz (2007) suggest that stories: (4) give organizational members the chance to make sense of events by elaborating on past stories or constructing new ones, (5) make outsiders feel like

insiders and impart tacit knowledge and its emotional components (6) help link the past to the present and the present to the future such that this helps employees to see continuity in the face of change and make the radical seem more doable (Boal & Schultz, 2007).

Last but definitely not least, Berry (2001) asserts that (7) when we understand stories of organizations, we partially understand the reasons behind visible behavior. He claims that the exchange of the stories (8) allows participants to develop a new collective story which itself becomes a social learning system (Berry, 2001).

3.3.2 Functions of storytelling that empower change leadership

According to a comprehensive review of organizational storytelling by Boyce (1996), the following functions of organizational storytelling were identified. Some of these functions are similar to the ones that have identified above but some of them differ slightly (Boyce, 1996).

- expressing the organizational experience of members or clients
- confirming the shared experiences and shared meaning of organizational members and groups within the organization
- orienting and socializing new organizational members
- *amending and altering the organizational reality*
- *developing, sharpening and renewing the sense of purpose held by organizational members*
- *preparing a group (or groups) for planning, implementing plans and decision making in line with shared purposes*

- *co-creating vision and strategy*

It is proposed that the last four items marked with italic text are especially useful in change leadership, and that is how storytelling can enhance change leadership to have better positive attitudes and commitment towards change.

In the context of change and change leadership, the organizational vision can be seen as a descriptive stories and it is argued that they have the potential to provide the sense of meaning and motivation to achieve shared commitment for change (Levin, 2000).

3.3.3 Narrative theory and narrative paradigm

The foundations of storytelling come down to Walter Fisher's narrative theory and narrative paradigm. Fisher describes this theory as a paradigm because it implies a philosophical view of human communication (Fisher, 1985).

According to Fisher (1985), the narrative paradigm presents a "philosophy of reason, value, and action", provides a "logic" for assessing stories, and also explores "how we endorse or accept stories as the basis for decisions and actions" (Fisher, 1985). Endorsing stories for the basis of decisions and actions part of this definition bridges the narrative paradigm and storytelling to leadership theories and, eventually, organizational change.

If we are to limit our scope of the topic to change and change leadership, those decisions and actions that Fisher talks about can be related to organizational change. This "exploration" or "journey of exploration" (in our own terms) would also show how change can be based on the philosophy of reason and the value it brings to the organization.

While these are very important, perhaps the most important aspect of the narrative paradigm that supports the discussion in this thesis would be that it recognizes the capacity of people to create new stories that better account for their lives (Fisher, 1985). Put in other words, this capacity is the potential for change. We would propose that this aspect of the paradigm also directly connects the topic of change and storytelling.

3.3.4 Strategic storytelling

Given the influence of narratives on the topics of change, it should be possible to talk about "strategic storytelling" (in our own terms). The other few key topics in this dissertation will revolve around the fact that stories can be used as a strategic tool.

It has been found that by using stories instead of argument-based messages, it is possible to reduce the generation of negative thoughts (counterarguing) (Krakow, Yale, Jensen, Carcioppolo, & Ratcliff, 2018).

Krause et al. (2020) suggest that stories might reduce counterarguments because they bias our processing away from negative thoughts and they draw our attention away from the processing of facts. Authors argue that they eventually become "powerful persuasive devices" (Krause & Rucker, 2020).

The concept of strategic storytelling can be taken a few steps forwards with Snowden's (2016) definition of "purposeful story" where he argues that in the deliberate attempt to change (and later reinforce) the organizational culture; stories that are constructed using anecdotal material, archetypes and organizational values would be effective (Snowden, 2000).

Snowden's definition connects the concept of strategic storytelling to the concept of story-context symbolic congruence (defined in subsequent sections).

Finally, in their empirical research, Busse et al. (2019) wanted to answer whether (and if so, how much) the morphology of fairy tales matches to the structure of change processes. (Busse, Dewald, & Schreiner, 2019) Using qualitative approaches, they discovered strong support for the assumption that the individual's need for simplifying complex reality is very useful in the context of change management (Busse et al., 2019). This also proves that stories can be used as a strategic tool in the context of change.

3.3.5 Storytelling and passion

Along with storytelling, the topic of passion has been of high interest in the change leadership context (Nordström, Sirén, Thorgren, & Wincent, 2016). It is proposed that the leaders' passion will explain why storytelling works effectively in change leadership.

Authors have found out that the nature of the leader's harmonious passion can moderate (strengthen) the change leadership, thus the company performance (Sirén, Patel, & Wincent, 2016).

When leaders are passionate about the change (given they are initially aware of their own passion), and they rely on their passion to communicate the change with a story, due to findings explained in the discursive psychology section, it would be possible to create a positive attitude towards the change.

3.3.6 Storytelling and organizational culture

While looking at organizational storytelling, we cannot continue without examining the organizational culture. When examined in a longer time window and within a broader sense, it can be suggested that storytelling eventually becomes a tool for expressing, shaping and realizing organizational culture (Martin, Feldman, Hatch, & Sitkin, 1983).

Boyce (1996) argues that story and storytelling research could be making an intentional contribution to creating and changing organizational culture however, little of this work has been done to date in the story and storytelling research (Boyce, 1996).

A very interesting construct that fills in the gap between organizational storytelling and culture is 'storied spaces'.

An analogy between complexity theory, complex adaptive systems, and humans were made, and it turns out storied spaces equivalent of organizations turns out to be the organizational culture (Baskin, 2008). Table 2 shows the list of storied spaces and their equivalent in the adaptive behavior.

Table 2. The List of Baskin's Storied Spaces

Storied space	*Adaptive behavior*	*Narrative*
Small group / family	Dynamics	How we act together
Organization / community	Culture	How we do things around here
Market / profession	Discourse	How we perform specific tasks
Nation	Culture	How we behave together to survive
Religion / philosophy / science	Episteme	How we know

Baskin (2008) argues that before change, this adaptive behavior (culture for the organizations) would be stable but over time when it is not able to adapt to

changes anymore (called the senescence phase) it would have to change the behavior (culture) to survive. That would be the transition phase, where a new stable phase would be achieved over time (Baskin, 2008). Stories and storytelling would be very useful tools for leaders in this vicious circle of adaptive behavior transitions.

For these reasons, it is suggested that organizational culture should be incorporated into the discussion of storytelling. Please refer to the re-mythologizing, organizational learning, and unlearning section for the extended discussion on organizational culture and storytelling.

3.3.7 Storytelling and re-mythologizing

As mentioned in the introduction section, since we are looking at things from a symbolic lens, we should extend our discussion to symbolism as well.

Re-mythologizing is a process used in organizations to "interpret and understand the organizational symbology, bring it to consciousness, and enable organizational renewal". (McWhinney & Batista, 1988) It is argued that re-mythologizing can revitalize the organizational culture and facilitate organizational renewal (McWhinney & Batista, 1988).

McWhinney called his work "re-mythologizing" a form of narrative, and it is highlighted here in this section because of its focus on organizational renewal. This is relevant since renewal can be seen as another form of organizational change.

Direct connections to organizational unlearning can be drawn here. Additionally, unlearning and re-mythologizing concepts would also apply in personal level. Boje (2001) talks about the concept of "antenarrative", which means the stories that people tell themselves continuously about their lives to make sense of the

happenings. He argues that these stories are dynamic and they are constantly changing (Boje, 2001). This means, people are constantly changing and re-writing their stories about themselves and their lives.

3.3.8 Storytelling and unlearning

Some scholars have associated organizational learning with storytelling. (Taylor, Fisher, & Dufresne, 2002) Due to the restructuring of broad norms and belief systems that are required in change processes, organizational learning could be considered one of the key things that can partially determine the direction and outcome of the change initiative (Fiol & Lyles, 1985).

However, an alternative proposition would be that the change initiatives require organizations not just to learn but also to unlearn. Unlearning means rethinking how and why some decisions are made, and some certain activities are undertaken.

In this process, one specific kind of story might be the organizational life-story schema. Besides all the definitions and functions of studies, scholars have recently encountered a subset of organizational life story schema in organizational storytelling.

Elaborating further on this topic, Bluck and Habermas (2000) propose the presence of several structural forms that operate in the development of a shared life-story schema, which is a mental representation of major events and links (Bluck & Habermas, 2000). In other words, they propose how the stories are constructed by putting together the events of the past in a coherent way.

Authors have identified four types of coherence that are necessary for creating a coherent life story. There are (1) temporal coherence, (2) cultural concept of biography, (3) thematic coherence, and (4) causal coherence (Bluck & Habermas, 2000).

When a more permanent cultural change is aimed in the organization, using these coherence types, it is possible to take disconnected series of events from the organization to re-write organizational life story. This would be the unlearning part of the change process.

3.3.9 Storytelling and emotions

3.3.9.1 Emotional component of knowledge

Stories successfully embody the emotional component of knowledge, and that is the reason why we believe they would have a positive effect on the affective commitment to change.

With a novel perspective, the emotional component of storytelling can be considered as another form of organizational consciousness, where people carry positive emotions about the direction the organization is heading towards and how they can help individually in this process. For this reason, it was hypothesized that storytelling with the emotional components were influencing the affective commitment to change.

It has been argued that rational arguments are insufficient to accomplish change; an emotional element is also needed to convince people at their level of tacit understanding (Sole & Wilson, 2002). With their emotional element, stories open up a new level of communication and thus can be effective in achieving this.

Mahoney (2017) suggests that due to their affective nature, stories, and storytelling can be used by leadership to translate emotions into action and social change when they are used in culturally relevant ways (Mahoney, 2017).

3.3.9.2 The appeal of the message

Metaphors also create emotional appeals, and stories are all about metaphors (Fox & Amichai-Hamburger, 2001).

The topic of emotional vs. rational appeal of the message was initially suggested by a member of the dissertation committee, Hayat Kabasakal, and it turned out to be one of the most interesting outcomes of the research when it was examined from the perspective of the story-context symbolic congruence.

The emotional appeal of the message is one of the fundamental parts of change communication (Amis & Aissaoui, 2013; Bayraktar & Kabasakal, 2022). The emotional appeal can also be seen as closely related to emotional engagement, a term from the psychology domain that is defined as a motivational state that reflects how intensely and or persistently people emotionally invest themselves into something, i.e., their roles or job (Kahn, 1990). For this reason, in the scope of this thesis, they will be used together.

It is believed (and proposed in hypotheses) that the appeal of the message and the engagement it creates links nicely with story-context symbolic congruence. In the final experiment (experiment 4), support has been found that story-context symbolic congruence changes the emotional appeal of the message, thus emotional engagement.

3.3.9.3 Storytelling and enchantment

Merriam-Webster's Dictionary defines the word enchantment as "the feeling of being attracted by something interesting" or a "quality that attracts and holds your attention by being interesting" (Mish, 2004).

While it can also symbolically mean "magic spell", in the scope of this thesis, it is suggested that we should be more interested in the first definition of it. (Although, after reading this thesis, one might consider that those two definitions can be considered as one.)

It has been suggested that storytelling in organizations can encourage "enchantment" within the organization (Boje & Baskin, 2011). I believe organizational storytelling causes enchantment in such a way that it actively promotes change and encourages people to take action. The process of enchantment will work over the process of leadership "envisioning", which is one of the key core components of charismatic leadership (Choi, 2006). The motivational effects of envisioning come from the feeling of "being attracted" to the vision of the leader, thus influencing employees need for achievement. We believe this construct also connects the change leadership definitions and storytelling functions in a natural way. Enchantment also explains the fundamental reason why the motivational effects of storytelling are so strong, especially in the context of change. These are discussed in detail when proposing the hypotheses around affective commitment to change in the next section.

3.3.10 Storytelling and typology of attitudes toward change

It would be useful to examine the typology of attitudes toward change in the context of storytelling. This topology would massively help to narrow and limit the scope of the change construct used in this thesis. This is extremely useful since it would facilitate to clearly and precisely define what is meant by change.

According to this topology, at the first level, the reaction component of attitudes would be categorized into three categories (Oreg, Vakola, & Armenakis, 2011).

These would be "cognitive reactions", "affective reactions" and "behavioral reactions". This dissertation would only be concerned with the affective reactions of the followers.

Then, to be able to position change recipients' attitudes correctly, we could apply the "four theoretical lenses representing four dualities" framework (Bouckenooghe, 2010). According to this framework, the scope of change introduced in the thesis would be summarized in Table 3 below.

Table 3. Bouckenooghe's Four Dualities

Theoretical lens	*Item chosen*
Nature of change	Top-down driven planned change, change that has an episodic and revolutionary character
Level of change	Conceptual level is collective, level of analysis is individual
Positive/negative view on change	Positive focus: emphasizes the positive reasons for change and the potential created by change
Research method	attitude toward change as a dependent variable (i.e., outcome)

In addition to these, the discussion of Herold et al (2008) suggests that in the context of affective commitment to change would be a better focus as it is most likely to be influenced by leadership and empirically linked to change and transformational leadership (Herold et al., 2008).

The topics around affective commitment to change are discussed in the following literature review section.

3.4 Relevant change theories

Several key change related theories are discussed in the following literature review section. These theories could be considered as the basis of the change construct that is defined in the thesis.

3.4.1 Storytelling and commitment to organizational change

When the top management communicates the change, the communication itself becomes a powerful tool that helps to gain employees' commitment and builds the consensus among the organization for the required change (Graetz, 2000).

In their three-component model, Herscovitch and Meyer (2002) define affective commitment (to change) as a psychological state (or a mindset) of desire, which increases the likelihood that an employee will support the change (Herscovitch & Meyer, 2002).

In practice, this might mean that employees who are affectively committed to change will probably perform the assigned tasks to the best of their abilities, their attendance to work will be high, and they might even do extra tasks to help out with things (Herscovitch & Meyer, 2002).

3.4.2 Storytelling and readiness for organizational change

As a multidimensional construct, readiness for organizational change can be defined as the combinations of the beliefs, attitudes, and intentions (Amis & Aissaoui, 2013) that a) employees are capable of implementing the change, b) the change is appropriate for the organization, c) the leaders (the management) are committed to the change, and d) the change is beneficial for the employees. (Holt, Armenakis, Feild, & Harris, 2007)

Cunningham et al. (2002) identified several measures for the readiness for change construct (Cunningham et al., 2002). These still remain great alternatives for future research.

Readiness for organizational change was one of the main constructs initially placed in the conceptual model of this thesis. The details about the development of the model can be found in Appendix B. For this reason, a short review of this construct was necessary.

3.4.3 Storytelling and openness to organizational change

Openness to change can be defined as the extent to which employees are prepared to accept change and hold positive and optimistic views towards the change (Wanberg & Banas, 2000).

Openness for change was also one of the main constructs initially placed in the conceptual model. The details about the development of the model can be found in Appendix B. For this reason, again, a brief review of this construct was necessary.

3.5 Relevant neuroscience theories

In the laboratory experiments regarding oxytocin, neuroscientist Paul J. Zak discovered that the human brain is highly attracted to story styles where the story shares a "dramatic arc" in which a character struggles, eventually finds unknown abilities, and uses these to triumph over adversity (Zak, 2014). This type of story is exactly the type mentioned by Joseph Campbell.

Paul's recent scientific work also supports these findings. For example, in experiments, while trying to "hack" the human oxytocin system to motivate people to engage in cooperative behaviors, Paul and his team found that character (hero) driven stories consistently cause oxytocin synthesis (Zak, 2015). These results clearly outline how stories change our attitudes, beliefs, and behaviors.

In addition to these, other neuroscience research reports that our human brain is naturally pre-programmed to receive and retrieve human experience (organizing, retaining, and accessing information) within a structure of a story (Caine, Caine, McClintic, & Klimek, 2009).

When we hear stories, the neural activity in our brains increases up to fivefold (Snow, Lazauskas, et al., 2018) and neural coupling occurs between the storyteller and the listeners (which have been tested with fMRI scans) when "story comprehension" takes place (Stephens, Silbert, & Hasson, 2010). This means successful communication has taken place, information has been conveyed and most importantly story has connected the listeners to the storyteller.

3.5.1 Storytelling and neurochemistry

We were fortunate enough to listen to a talk about storytelling and neurochemicals by David JP Phillips. He was talking about how different neurochemicals can be triggered by storytelling to achieve the desired effect.

His talk, "The magical science of storytelling" (Phillips, 2017) he was outlining the following neurochemicals and their effects as the key findings of recent neurological research. Table 4 summarizes his findings.

Table 4. Neurochemicals and Their Effects

Neurochemical	*Effects*	*How to increase with story?*
Dopamine	Increased focus, increased attention, increased motivation, remember in a better way	Build suspense, launch a cliffhanger
Oxytocin	Become more generous, trust more, bond more, feel more humane	Create empathy
Endorphins	Become creative, relaxed, focused	Make people laugh

The classic dramatic arc and the brain

While researching Dr. Zak's findings, we came across the classic dramatic arc, a term founded by By German theorist Gustav Freytag many years ago.

Freytag found out that even the simplest narrative, if highly engaging, follows the classic dramatic arc. The arc has sub-sections of rising action, climax, and falling action (denouement) (Freytag, 1894). Figure 3 shows the mapping from idea to output.

Similarly, he argued that stories that fail to follow the arc, no matter how happy or pleasant they may be, elicit little if any emotional (or chemical, see below) response.

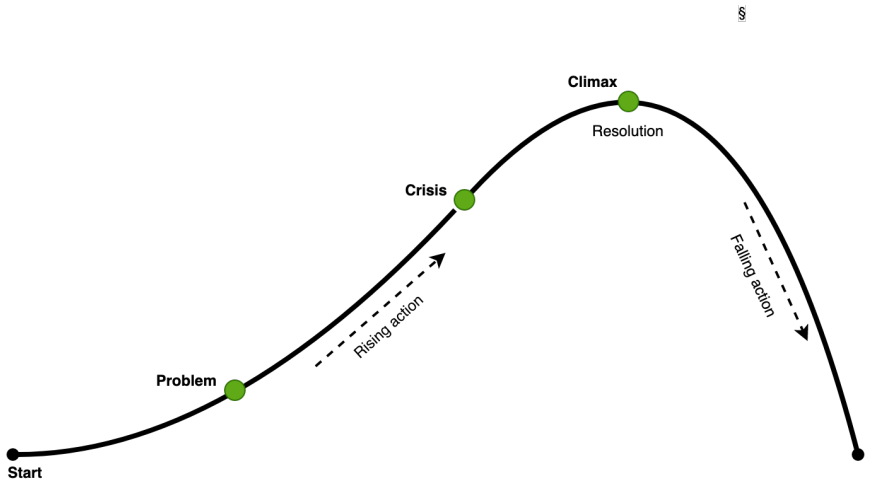


Figure 3. Mapping the story

And now, with the help of Dr. Zak's research, we know that the classic dramatic arc does evoke powerful empathic responses associated with specific neurochemicals, cortisol and oxytocin, to be specific. Those brain responses can be directly translated into concrete actions and behaviors.

3.5.2 Storytelling and epigenetics

The topic of epigenetics offers a new way to understand the effectiveness of the stories.

For the scope of this thesis, the topic of epigenetics has been researched to assess how it enhances our understanding of the effectiveness of stories. Although it has been observed that some authors approach it as if it were kind of a magical word (and that may still apply for this thesis); the scientific part of the topic proves that it actually not a science buzzword; it is a very real field.

Epigenetics is a mechanism for regulating gene activity, independent of DNA sequence, that determines which genes are turned on or off. (Riddihough & Zahn,

2010) Epigenetics refers to all the factors that control how and when each gene is expressed (Ptashne, 2013).

In the context of this research, especially the symbolic perspective lens, the fascinating fact about epigenetics is that it enables us to identify many parallels with the ways that would explain why the stories are so powerful and how they really change our realities. These neuroscientific explanations tie the topic of storytelling back to enactment theory (Weick & Bougon, 1986) and the social construction of reality theory (Thomas et al., 1966) in a novel way.

Our perception of our environment creates the neuro-hormonal chemicals in the brain that are carried by our bloodstream throughout our body. It is these neuro-hormonal chemicals that tell our genes to switch on and off. This can be considered as the biological mechanism of how stories change our realities.

Thus, driven by our perception of the environment and the expression of our DNA, our behavior changes accordingly. The process is a continuous cycle of two-way change, DNA expression as designed which changes our perception of the environment, and our environment changing our perception which changes our DNA.

This two-way process can be viewed as how stories would be effective tools during organizational change. This would hold true both on a personal level (human) and on an organizational level. When the level of analysis is raised to the organizational level, using the organizational DNA construct might be more appropriate.

Organizational DNA is composed of the mindsets, behaviors, and processes that guide daily operations (Honold & Silverman, 2002). Organizational DNA expression translates the organization's intentions into reality.

It has been argued that in an organization when stories are repeated over and over, they eventually become part of the organization's DNA.(Govindarajan & Trimble, 2005; Zak, 2014)

Changing the organization's DNA (into one that provides a competitive advantage) is probably a long-term process, and it requires a lot of effort. However, we can be certain that it would require changing the stories that are told in the organization to change organization's DNA to have more permanent cultural effects.

Part of these efforts would be the organizational unlearning. See the section above for more details.

3.5.3 Storytelling and emotional recognition

The final topic reviewed from the field of neuroscience would be the topic of emotional recognition. The topic recently has gained interest in the artificial intelligence research too. Understanding emotional recognition can enhance our understanding of the underlying dynamics that make stories effective. With the help of neuro-imaging data, we have a better understanding of the cognitive architecture of emotional recognition. A big part of emotional recognition is the understanding of emotions.

Understanding of emotions can be defined as the organization and classification of information around discrete emotion categories by detecting a broad array of cues (Spunt & Adolphs, 2019).

As well as understanding the emotions of others, it is equally important to understand our own emotions. In the topic of emotion understanding, making causal attributions is hard (Spunt & Adolphs, 2019) but if someone finds a piece of

information to be "emotionally engaging", it is an indicator that they can identify specific emotions and they have a high level of emotional self-awareness.

The topic of emotional recognition was also studied by organizations and management scholars Rubin, Munz, and Bommer (2005) in their Academy of Management paper. Authors suggest that part of emotional recognition is the ability to accurately understand ("decode" in authors' terms) others' expressions of emotions when communicated through non-verbal channels (Rubin et al., 2005) (i.e., voice, for the experiments of this thesis).

Emotional recognition was one of the variables used in the experiments.

3.6 Relevant psychology theories

Several supporting theories also come from the field of psychology.

3.6.1 Storytelling and apophenia

Another concept that directly ties the concept of sense-making and stories is apophenia, which comes from the field of biology of belief and psychology (Cook, 2012).

Stories fulfill the human search for apophenia, the fundamental (and biological) human need and tendency to see patterns and structure in the world and perceive meaningful connections between unrelated events (Fyfe, Williams, Mason, & Pickup, 2008).

"Let me tell you a story" are six very powerful words that start our apophenia process. People in organizations also need to see patterns and structure, especially in times of change; thus, fulfilling that need is one of the most human things that can be done.

Apophenia is a cognitive process and has its roots in human biology. Evolutionary psychologists believe that creating linkages between events (things) helps with our survival; thus, through evolution, it has become part of what we are (Cook, 2012).

Patterns are ubiquitous in the world. All people look for them to create a comforting sense of order in the midst of disorder (Buetow, 2019).

It would be proposed that the apophenia cognitive process, also knowns as patternicity, explains one of the root reasons why the stories are effective on us humans. These reasons mainly converge on the fact that stories fundamentally help us establish the patterns and linkages (about things) that we strive to have.

3.6.2 Storytelling and (social) information processing

Based on social information processing theory, it has been found that it is easier to facilitate recall of the information if it is structured in certain ways. (Taylor & Crocker, 1981) This also applies to developing statements, attitudes and thus behaviors (Salancik & Pfeffer, 1978).

Szulanski (1996), while arguing about knowledge transfer in organizations, defines the term "stickiness" as difficulty in transferring information (Szulanski, 1996). On the contrary, an alternative definition of "sticky information" could be made as the piece of information that is retained or recalled for longer periods of time, so that they "stick" to the person's mind.

Following the second definition, perhaps from an evolutionary biology perspective of human cognition, in the very early days of humanity, before the invention of writing, one of the few ways of making a piece of information more

"permanent" time-wise or more "sticky" was to transfer it using stories. For this reason, our information processing abilities around stories and storytelling might have evolved very well compared to other forms.

3.6.3 Storytelling and heterogeneous groups

Harvard Professor and author of "Changing Minds", Howard Gardner, suggests that leaders who communicate with homogeneous groups can effectively use theories and conceptual frameworks to get their point across. The key point in Gardner's statement is the "communicating with those inside those homogeneous groups" part (Gardner, 2006).

As soon as the leader is dealing with a heterogeneous group (she could be communicating with a large organization, a country, or an army, etc.), getting her point across using theories and frameworks won't work effectively to have everybody understand what she is saying.

Gardner's analysis suggests that stories are much more effective. Their effectiveness comes from the fact that stories are told in the universal language, the "lingua franca", and that everybody from the ages three or four understands them very well (Gardner, 2006). For this reason, Gardner implies that storytelling is one of the most important tools in leaders' toolkit, due to their universality.

3.6.4 Storytelling and confirmation bias

When leaders communicate predominantly rational and argument-based, they are highly likely to be triggering confirmation bias in the listeners.

Confirmation bias can be defined as the human tendency to take existing beliefs or expectations (including hypotheses) and interpret them in certain ways that

confirm them (Nickerson, 1998). In other words, whenever a leader tries to convince their followers to change their minds with a sophisticated rationale, confirmation bias might be triggered.

For this reason, it is suggested that the leaders' communication be a good mixture of stories and arguments so that the listeners have an opportunity to gain a new perspective and shift their position without telling them what to think. Only after that having this shift, the rational/sophisticated argument can be effective.

This bias is rooted in our biology as well. When somebody tries to convince us, our brain unconsciously sets up a guard by notifying the endocrine system (Demeester, 2010). This makes us skeptical, and we often start judging. On the other hand, when we hear a story, it bypasses the neocortex (section of the brain that commands higher functions) (Demeester, 2010; LeDoux, 1998) and directly enters into the areas (the amygdala, insular-cortex, and the periaqueductal gray) that are responsible from feelings and emotions (Esslen, Pascual-Marqui, Hell, Kochi, & Lehmann, 2004; LeDoux, 1998).

In any mid to big-size organization, we expect to have a heterogeneous group of people who, in the change processes, will need to gain new perspectives and understanding of the proposed change.

3.7 Other relevant theories

3.7.1 Storytelling and interpersonal (leader) trust

In the most general terms, trust can be defined as the level of confidence a given individual has in another's competence (Nyhan & Marlowe Jr, 1997). It has been suggested that leaders' communication practices directly affect followers'

interpersonal trust in the leader (Joseph & Winston, 2005). As a construct, trust has many dimensions (Sparks, 2000), but this dissertation focuses on interpersonal leader trust.

The basis of these arguments comes from the fact that trust in leadership can be conceptualized as an "emergent state" (Burke, Sims, Lazzara, & Salas, 2007) where the emergent states may be defined as dynamically occurring cognitive, motivational, or affective states (Marks, Mathieu, & Zaccaro, 2001). Authors have suggested that these states vary as a function of inputs, contextual factors, and processes (Marks et al., 2001). Since emergent states are dynamic in their nature; they have the potential to occur very quickly (Coppola, Hiltz, & Rotter, 2004).

In the context of strategic change leadership communication (see below for details) and storytelling, the input of the "emergent state" of the interpersonal leader trust would be the change communication with storytelling, and the contextual factors would be the current situation and proposed change initiatives and how well the story-context symbolic congruence fit those.

Since stories bypass the rational mind and go straight to the emotional mind, we believe they would be very effective in establishing the perception of congruence between leaders' "espoused and enacted" (Joseph & Winston, 2005) values and leader integrity (Yukl & Gardner, 2019), which have been suggested as a key factors in establishing interpersonal leader trust (Colquitt, Scott, & LePine, 2007; Joseph & Winston, 2005).

Finally, some authors suggest that trust has connections with the motivational effects of goal-setting (Latham & Yukl, 1975), where a dimension of goal-settings construct, the goal clarity, influences affective commitment (Baron & Kenny, 1986).

The interpersonal leader trust construct will be used in the conceptual model.

3.7.2 Storytelling and leadership communication

The (perceived) leadership communication construct can be defined as leaders' interpersonal communicative behaviors that are typically used to communicate with their followers to pursue their everyday tasks (Schneider, Maier, Lovrekovic, & Retzbach, 2015).

Part of leadership communication includes change communication. During change initiatives, leaders (usually senior management) communicate strategic information (Allen, Jimmieson, Bordia, & Irmer, 2007), and this would help with reducing the uncertainty around change (Bordia, Hobman, Jones, Gallois, & Callan, 2004) and increase followers' readiness for change (Amis & Aissaoui, 2013) and commitment to change (Herscovitch & Meyer, 2002).

Combining the two constructs, strategic change leadership and change communication, it would be possible to talk about the strategic change leadership communication construct.

Strategic change leadership communication forms the basis of the conceptual model, as it is the underlying assumption that draws boundaries around the context of the experiments. Thus it is one of the constructs that limit the scope of this dissertation.

The purpose of strategic change leadership communication is to build consensus among the employees to create a sense of purpose and connectedness to trigger their commitment and need for achievement towards the change initiative.

3.7.3 Storytelling and organizational equality

It has been proposed that in storytelling leadership, due to the perception that communication takes place "face-to-face", the typical hierarchical relationship and differences of power between a leader and a follower greatly diminish (Auvinen, Aaltio, & Blomqvist, 2013), and this creates a sense of organizational equality (Weick & Browning, 1986).

Especially in the context of change and strategic change leadership, this sense of equality would be a critical factor in the success of the change initiative.

Rather than employees feeling like they are trapped between hierarchical levels of management, they would feel like they are part of the same team; they share the common organizational reality (Auvinen et al., 2013) and that they are all in this together.

CHAPTER 4

LITERATURE REVIEW EXTENSIONS

4.1 Definition and structure of a story

Organizational stories, fairy tales, and narratives will be used interchangeably. This usage is based on the detailed literature review and definitions of these terms in this section. While they all have their specific differences, and some scholars believe that organizational stories are the antithesis of fairy tales (Baruch, 2009), they converge to the same concept for the bits that this dissertation is concerned. The phylogenetics of evolutionary storytelling also shows parallels to this usage (Da Silva & Tehrani, 2016; Jenner, 2019).

In the previous sections, we have extensively talked about storytelling, but we should expand our understanding of the story definition as well. This section aims to answer what exactly a story is (and what is not) using several different approaches and frameworks from the literature.

At first glance, the question 'what is a story' could be pretty trivial; however, one of the most striking questions that were asked during the initial thesis proposal presentation was to define what constitutes a story in a clear way.

Attempting to draw boundaries around the definition of a story was something that has been researched extensively. The research yielded several very satisfying answers, including Vladimir Propp's narrative theory (Propp, 1968). Despite the variety of definitions, however, it was decided to keep only two of the main approaches/frameworks identified. Additionally, other sources of information were gathered independently to act as extensions to those two frameworks.

These two approaches are Jennifer Aaker's framework and Campbell's framework.

4.2 Jennifer Aaker's framework

Jennifer Aaker and Victoria Chang, from Stanford Graduate School of Business, have a modern, simple but powerful framework that explains what the stories are all about.

In their "How to tell a story case study", they formalize that:

$story = [S_1/D] + [C/O_1] + [S_2/O_2]$

where S_1 is the situation, D is the desire, C is the complication, O_1 is the obstacle, S_2 is the solution, and O_2 is the outcome. (Chang & Aaker, 2009)

In the same case study document, getting inspired by Andy Goodman, Aaker argues that while picking up stories to tell, the following list of criteria should be taken into consideration and made sure to be present in the story (Chang & Aaker, 2009; Goodman, 2010).

- Clear protagonist
- An emotional hook
- Tension or surprise
- Relevant or interesting things
- Clear meaning or 'aha' moment
- Applicability in future

Using behavioral research, Aaker shows how stories are more meaningful, more memorable, impactful and much more personal than statistics alone (Jennifer, 2016).

All the stories that are used in this dissertation satisfy the criteria above.

4.3 Joseph Campbell's framework

Coming from the field of mythology, Joseph Campbell studied cultures throughout history and all over the world. He found out that all stories were fundamentally the same story (Campbell, 1949). He named this common underlying structure the "monomyth". This structure is more commonly referred to as the "Hero's Journey".

Campbell's monomyth was developed upon Carl Jung's idea of archetypes and German anthropologist Adolf Bastian's idea that myths (from all over the world) are built from the same elementary ideas.

Jung believed archetypes to be the building blocks not only of the unconscious mind but of a collective unconscious. (Jung, 2014) German anthropologist Adolf Bastian, on the other hand, was to first to suggest that myths from all over the world are built from the same elementary ideas (Köpping, 1983).

4.3.1 The hero's journey (Monomyth)

According to Joseph Campbell's framework, the following is the breakdown of the common plot in the story and can be summarized as the following equation:

$$story = departure + initiation(transformation) + return$$

There are three main parts: A) the hero's departure phase, B) the hero's initiation phase and C) the hero's return phase. Each main part has its own sub-parts.

4.3.2 Departure phase

We are introduced to the hero and he/she begins his/her journey. Events usually happen in the following order.

1. *"The Call to Adventure":*

   The first notice that the change is on the way.

2. *"Refusal of the Call":*

   Tendency (a sense of duty or obligation, fear, insecurity, inadequacy, etc.) that holds the hero in his/her current circumstance.

3. *"Supernatural Aid":*

   The hero commits to the quest, and his/her guide or helper appears.

4. *"The Crossing of the First Threshold":*

   The hero enters into the field of adventure. Leaves the known limits of his/her world.

5. *"The Belly of the Whale":*

   This is the final event that acts as a separation from the hero's previously experienced world and his/her self. This is his/her lowest point, but it is actually the point when the hero is between or transitioning between worlds and selves.

   (Campbell, 1949)

4.3.3 Initiation phase

In this section, the hero faces a series of challenges while on the journey. Again, the events usually happen in the following order.

1. *"The road of trials":*

Tests, tasks, or challenges that the hero must undergo to begin the transformation. Often he/she fails one or more of these tests.

2. *"The meeting with the goddess":*

   The hero begins to see himself/herself as merging with another person, thing or idea. May take place entirely within the person.

3. *"Woman as the temptress":*

   At one level, temptations may lead the hero to abandon or stray from his/her quest.

4. *"Atonement with the father":*

   The hero confronts and is initiated by whatever holds the ultimate power in his/her life. This is the center point of his/her journey. All the previous steps taken were to move into this place. Similarly, all the next steps that will be taken would be to move out from this point.

5. *"Apotheosis":*

   This is a god-like state, and the hero is in heaven and beyond all conflict.

6. *"The ultimate boon":*

   The ultimate achievement of the goal of the hero's quest.

   (Campbell, 1949)

4.3.4 Return phase

The hero's journey is a *cycle* that includes a return. This may not always be reached.

1. *"Refusal of the return":*

   The hero wants to stay in the realm where he or she has achieved perfection.

2. *"The magic flight":*

   Sometimes it becomes necessary that the hero escapes with the boon, especially if the boon is guarded by the gods.

3. *"Rescue from without":*

   The hero also needs powerful guides and rescuers to bring him/her back to everyday life.

4. *"The crossing of the return threshold":*

   Retaining the wisdom gained on the quest is the only way that hero can return back. This wisdom can then be shared.

5. *"Master of the two worlds":*

   The hero has become comfortable (and competent) in both the inner and outer worlds.

6. *"Freedom to live":*

   Thanks to mastery gained from the quest, the hero does not fear death anymore. This is precisely the freedom to live. This is also referred to as "living in the moment". The hero neither anticipates the future nor regrets the past.

(Campbell, 1949)

It is also possible to observe these three main phases in all the stories that are used in this dissertation.

Since this monomyth is the structure of all stories, it has been argued that it is the reason why people who don't even speak the same language can enjoy the same stories.

A similar view has also been supported by organizational scientists studying organizational culture. Despite the fact that many authors argue organizational stories serve as vehicles for claims of uniqueness, Martin et al. (1983) found that they are in fact, not unique at all (Martin, Feldman, Hatch, & Sitkin, 1983).

Tying all this back to the topic of change, it has been proposed that Campbell's hero's journey has many parallels to Kurt Lewin's three-step change framework (unfreeze, change, freeze) (Busse, 2020).

4.4 Extensions of the definitions

Going back to the organizations' domain, as an extension to the story definitions above, it was found out that Morgan and Dennehy's (1997) components of an effective story are worth mentioning (Morgan & Dennehy, 1997). Those are:

i. *The setting:* a description of the time, place, characters, and context. (This is necessary so that the audience can imagine and feel the settings.)

ii. *Build up:* a sequence of events that warns the listener that something. Usually, some type of conflict is about to happen. (This functions to create suspense, interest, and attention.)

iii. *Crisis:* the climax or high point of the story. (This is to introduce a turning point in the story.)

iv. *Learning:* points out what the central character(s) learned. (This is the lesson of the story.)

v. *Change:* how change ensues in the character(s) behaviors, awareness, and abilities. (This is to point out the lesson of the story.)

It is also possible to observe these five components in all the stories that are used in this dissertation.

4.5 Types of organizational stories

Martin et al. (1983) argue that organizational stories are not unique (Martin et al., 1983) and there seem be several patterns that form common types of organizational stories. Table 5 summarizes these story types.

Table 5. The Types of Organizational Stories

Story types	*Used in experiments*
The rule-breaking story	No
The big-boss human story	No
The little person rise to the top story	No
The will I get fired story	No
The will the organization help me story	No
The will the boss react to mistakes story	No
The how will the organization deal with obstacles story	Yes

It can be confirmed that the stories that are used in this dissertation all belong to the "how will the organization deal with obstacles" story type.

4.6 Equational synthesis definition

If we were to synthesize the definitions of stories that are mentioned above, it is possible to come up with a basis that includes a situation (1). On top of that,

pre-defined patterns (2) occur. Adding certain narrative styles (structure) to these two elements (situation and patterns) eventually creates the story.

However, the story would be plain and boring if it didn't trigger any emotions. Therefore, the emotional aspect is one of the most important parts of the story. They have more weight than the situation and patterns.

$$story = [(S_1 * P) + E^3]/S_2$$

In this equation, S_1 is the situation, P is the patterns, E is the emotions, and S_2 is the structure.

It must be noted that all of the equations presented in this chapter are not meant to be used as mathematical equations. They are just meant to be used as a basis for the discussion and visualization of the concepts.

4.7 Additional resources and constructs

4.7.1 The story-context (symbolic) congruence

Just like in every aspect of our lives, in organizations too, employees experience, conceptualize and communicate their work using symbols and metaphors.

Stories carry metaphors and symbols. When the stories are told, these symbols also get communicated across, thus their values and underlying meanings.

It would be hypothesized that the "symbol conveying capacity" (Sinclair, 2005) of stories, thus how these symbols are absorbed and interpreted by the listeners would be affected by choice of the story depending on the context.

The new "story-context (symbolic) congruence" variable/construct represents the perception of symbolic congruency (fit) between the *context* (the current settings/circumstances or state things, when the story was being told) versus the

contents of the story itself. The degree of congruence represents the fit of story's subtext that comes from the symbolic elements to the context that is story is told for. The symbolic fit between context and story would affect the impact and effectiveness of the story on the listeners.

The variable and the statements have been formulated for the purpose of this dissertation. It was initially used as a manipulation check, to verify the stories are congruent or not (with the case study that was presented to participants of the experiment). You can read more about this in the methodology section.

It is measured with a seven-point Likert scale (1 = strongly disagree, 7 = strongly agree).

There were several inspirations by several different authors and their work while we were developing this new variable. I borrowed the general form of the construct from the ideas and inspirations by Abosag's work (2020) (Abosag, Ramadan, Baker, & Jin, 2020).

The scale development was inspired by Morhart (2015) and Misra (1990). However, this inspiration was rather weak compared to others (Misra & Beatty, 1990; Morhart, Malär, Guèvremont, Girardin, & Grohmann, 2015).

The final inspiration was Aygören's Ph.D. thesis, where he had defined an identity and ideology fit variable (Aygören, 2013).

For future uses, the keyword "case study" (as used in the experiments) can be interchanged for "context of the situation" or an equivalent phrase that explains the current settings/circumstances or state of things. Table 6 summarizes the statements used for the variable.

Table 6. The Measures of the Story-Context Symbolic Congruence

Statement	*Scale*
The story is a good choice for the case study.	Likert
The case study made more sense with the story.	Likert
The challenges told in the story match the ones in the case study.	Likert
The challenges in the case study need similar resolutions to the story.	Likert

It was decided that the "story-context symbolic congruence" name is a good name choice for this new variable. To shine more light on its history of formation, we would like to mention the initial name of the variable.

Initially, there were alternative names for this variable. One other strong candidate was: "symbolically pertinent storytelling", where pertinent means that it is appropriate for the situation in a way that it is relevant and related to the current topic. An alternative name to this variable was "context-content congruence" where the content is the story, and the context is the situation. It was agreed the former was too general, and the first one sounded a bit too restricted; thus, it was confirmed to proceed with story-context (symbolic) congruence as the variable name.

The supporting theories, including the initial inspiration, around this variable come from the advertising and marketing context. One of those is the brand congruence theory.

When defining the theory of brand congruence, Abosag (2020) states that it consists of the favorable attitudes towards the brands that match consumers' self-concept and this can determine consumers' satisfaction (Abosag et al., 2020).

Other authors also found out that consumers feel more comfortable with the brands that are congruent with their actual or desired self concept (Grubb & Grathwohl, 1967; Sirgy & Su, 2000).

Once these theories were the source of initial inspiration, we looked into the development and validation of the scale we were going to use to measure the perceived story-context symbolic congruence. The work of Morhart (2015) and Misra (1990) was examined who had done a similar approach for the brand authenticity and brand congruence (Misra & Beatty, 1990; Morhart et al., 2015).

As an analogy, if strategic (change) leadership is a knife that shapes the organizational reality, stories that are symbolically congruent would be the tool that sharpens the knife, in return, increasing the effectiveness of the strategic leadership.

4.7.2 Other resources

Appendix C section includes suggestions for non-academic books. These additional resources include many practical tips for stories and storytelling.

CHAPTER 5

MODEL AND HYPOTHESES

5.1 Introduction

This section explains the details of the conceptual model that forms the basis of all the experiments executed.

The model summarizes and visually represents the purpose of the study and the hypotheses that are tested.

5.2 The conceptual model

The final version of the conceptual model (applicable for experiment 4) is presented in the following image in Figure 4.

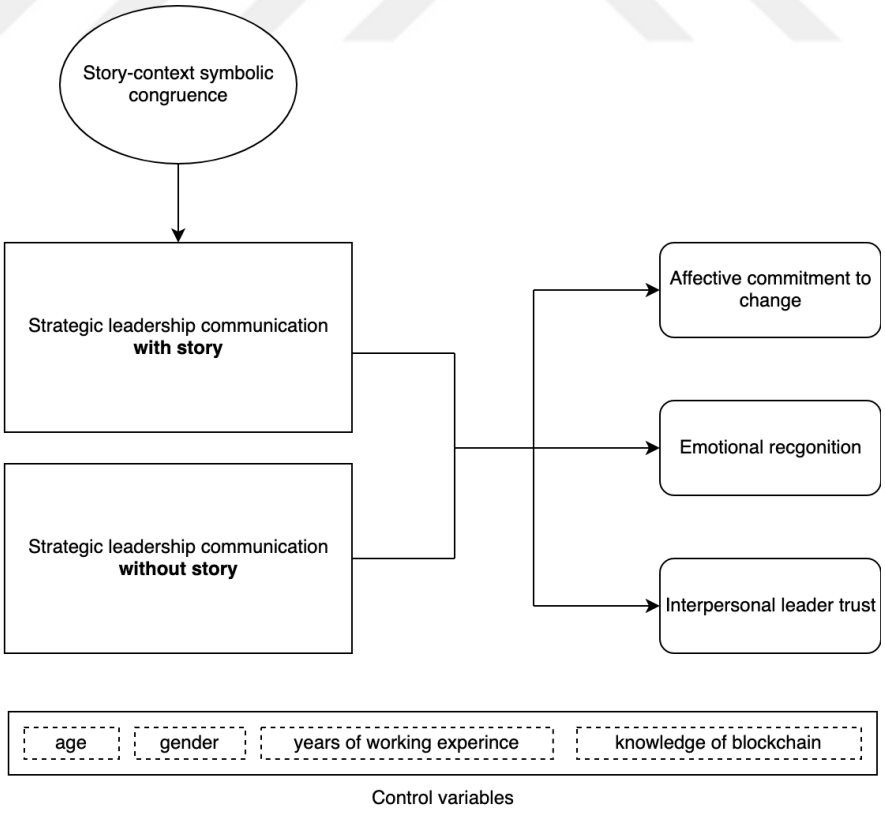


Figure 4. Proposed conceptual model

This model attempts to suggest possible explanations for the observed effects of stories and storytelling within the context of strategic change leadership communication. During the strategic change communication, the leader can choose to use stories or not. These two states constitute the entry point to the model. If the leader decides to use stories, they may vary in their story-context symbolic congruence level. In return, followers' affective commitment to change, emotional recognition that includes understanding of emotional appeal (engagement), and interpersonal leadership trust constructs may differ among the followers based on the manipulation achieved by using storytelling or not. Please refer to the literature review section for a detailed description of these constructs.

Age, gender, years of working experience, and prior knowledge of blockchain technologies (since the case study presented is about the adoption of blockchain technologies) are the control variables that are used to test the hypotheses.

For details on the evolution of the model and alternative research options, please refer to Appendix B.

Due to time constraints proposed conceptual model was not tested in experiment 4, instead a simplified model was tested. Figure 5 shows the tested conceptual model.

5.3 Overview of the hypotheses

In line with the literature review, research questions, and objectives; hypotheses that are used throughout all the experiments and surveys are presented in the following list.

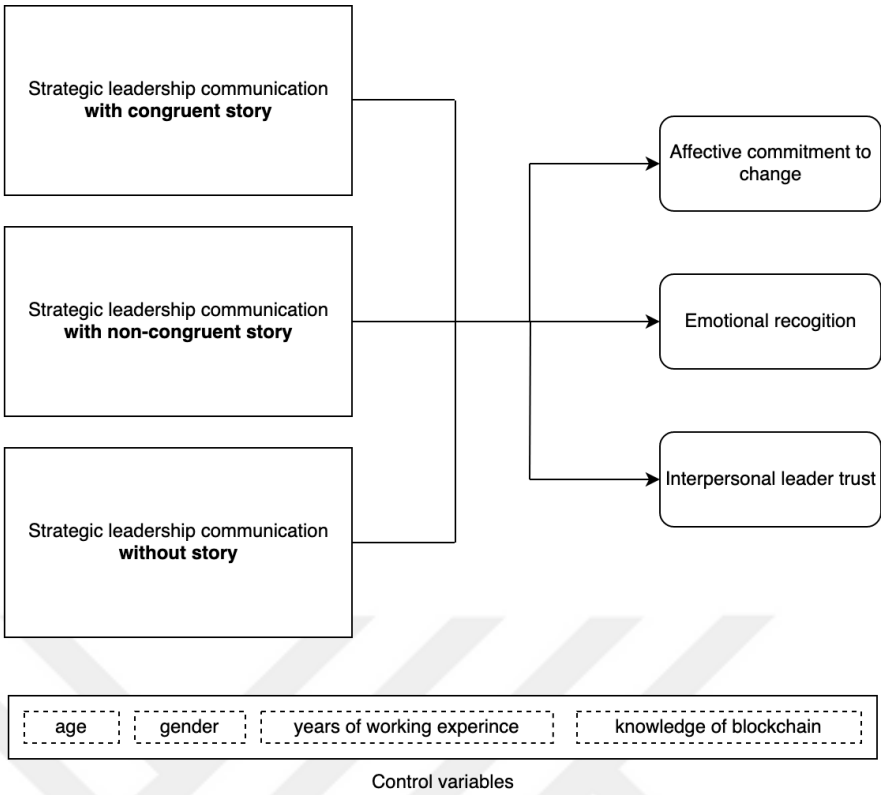


Figure 5. Tested conceptual model

5.3.1 Hypotheses for experiments 1, 2 and 3

- *Hypothesis 1.a (H1.a):* Affective commitment to change construct results will be significantly higher for the group that listens to the story (EG2) than the group that does not listen to the story.

- *Hypothesis 1.b (H1.b):* Prior knowledge of blockchain technologies will not be correlated with affective commitment to change. Affective commitment to change construct results will not differ between the varying levels of blockchain knowledge.

- *Hypothesis 1.c (H1.c):* Age, gender, or years of working experience will not be correlated with affective commitment to change. Affective commitment to

change construct results will not differ between the varying levels of age, years of working experience or groups of gender.

5.3.2 Hypotheses for to story-context symbolic congruence study

- *Hypothesis 2.a (H2.a):* The majority of participants who were given the congruent story will agree that the story is congruent with the case study.
- *Hypothesis 2.b (H2.b):* The majority of participants who were given the non-congruent story will agree that the story is not congruent with the case study.
- *Hypothesis 2.c (H2.c):* Age, gender, or years of working experience will not be correlated with the agreement on the classification of congruence. The classification of story-context symbolic congruence will not differ between the varying levels of age, years of working experience, or groups of gender.

5.3.3 Hypotheses for experiment 4

- *Hypothesis 3.a (H3.a):* Affective commitment to change construct results will be highest for the group that listens to the congruent story (EG1) than all other groups.
- *Hypothesis 3.b (H3.b):* Affective commitment to change construct results will be lowest for the group that does not listen to any story (CG) compared to all other groups.
- *Hypothesis 3.c (H3.c):* Affective commitment to change construct results for the group that listens to the non-congruent story (EG2) will be between the results of the group that listens to the congruent story (EG1) and the group that does not listen to any story (CG).

- *Hypothesis 4.a (H4.a):* Affective commitment to change construct results will be significantly higher for the group that listens to the congruent story (EG1) than the group that listens to the non-congruent story (EG2).

- *Hypothesis 4.b (H4.b):* Affective commitment to change construct results will be significantly higher for the group that listens to the congruent story (EG1) than the group that does not listen to any story (CG).

- *Hypothesis 4.c (H4.c):* Affective commitment to change construct results will not be significantly higher for the group that listens to the non-congruent story (EG2) than the group that does not listen to any story (CG). It is expected that the results will be similar.

- *Hypothesis 5.a (H5.a):* Emotional appeal (and understanding) related construct results will be highest for the group that listens to the congruent story (EG1) than all other groups.

- *Hypothesis 5.b (H5.b):* Emotional appeal (and understanding) related construct results will be lowest for the group that does not listen to any story (CG) compared to all other groups.

- *Hypothesis 5.c (H5.c):* Emotional appeal (and understanding) related construct results for the group that listens to the non-congruent story (EG2) will be between the results of the group that listens to the congruent story (EG1) and the group that does not listen to any story (CG).

- *Hypothesis 6.a (H6.a):* Emotional appeal (and understanding) related construct results will be significantly higher for the group that listens to the congruent

story (EG1) than the group the group that listens to the non-congruent story (EG2).

- *Hypothesis 6.b (H6.b):* Emotional appeal (and understanding) related construct results will be significantly higher for the group that listens to the congruent story (EG1) than the group that does not listen to any story (CG).

- *Hypothesis 6.c (H6.c):* Emotional appeal (and understanding) related construct results will not be significantly higher for the group that listens to the non-congruent story (EG2) than the group that does not listen to any story (CG). It is expected that the results will be similar.

- *Hypothesis 7.a (H7.a):* Interpersonal leader trust related construct results will be highest for the group that listens to the congruent story (EG1) than all other groups.

- *Hypothesis 7.b (H7.b):* Interpersonal leader trust related construct results will be lowest for the group that does not listen to any story (CG) compared to all other groups.

- *Hypothesis 7.c (H7.c):* Interpersonal leader trust related construct results for the group that listens to the non-congruent story (EG2) will be between the results of the group that listens to symbolically congruent story (EG1) and the group that does not listen to any story (CG).

- *Hypothesis 8.a (H8.a):* Interpersonal leader trust related construct results will be significantly higher for the group that listens to the symbolically congruent story (EG1) than the group that listens to the non-congruent story (EG2).

- *Hypothesis 8.b (H8.b):* Interpersonal leader trust related construct results will be significantly higher for the group that listens to the symbolically congruent story (EG1) than the group that does not listen to any story (CG).

- *Hypothesis 8.c (H8.c):* Interpersonal leader trust related construct results will not be significantly higher for the group that listens to the non-congruent story (EG2) than the group that does not listen to any story (CG). It is expected that the results will be similar.

- *Hypothesis 9.a (H9.a):* Prior knowledge of blockchain technologies will not be correlated with affective commitment to change for any of the groups. Affective commitment to change related construct results will not differ between the varying levels of blockchain knowledge.

- *Hypothesis 9.b (H9.b):* Age, gender or years of working experience will not be correlated with affective commitment to change for any of the groups. Affective commitment to change construct results will not differ between the varying levels of age, years of working experience or groups of gender.

- *Hypothesis 9.c (H9.c):* Prior knowledge of blockchain technologies will not be correlated with emotions (and understanding) related construct results for any of the groups. Emotional recognition related construct results will not differ between the varying levels of blockchain knowledge.

- *Hypothesis 9.d (H9.d):* Age, gender or years of working experience will not be correlated with emotions (and understanding) related construct results for any of the groups. Emotional recognition related construct results will not differ

between the varying levels of age, years of working experience or groups of gender.

- *Hypothesis 9.e (H9.e):* Prior knowledge of blockchain technologies will not be correlated with trust related construct results for any of the groups.
  Interpersonal leader trust related construct results will not differ between the varying levels of blockchain knowledge.

- *Hypothesis 9.f (H9.f):* Age, gender or years of working experience will not be correlated with trust related construct results for any of the groups.
  Interpersonal leader trust related construct results will not differ between the varying levels of age, years of working experience.

5.3.4 Hypothesized relationships

In their definition, Herscovitch and Meyer (2002) argue that the psychological state or mindset of an employee determines the level of commitment to change (Herscovitch & Meyer, 2002) and since this state influenced by affect, it is expected that the affective commitment to change construct will be influenced by the emotional appeal of the story. However, without precisely understanding of the emotions, organizing and classifying them around discrete emotion categories (Spunt & Adolphs, 2019) the affect might not produce this desired effect. Since the symbolic congruence of the story help with the understanding, H3.a predicts that the group listening to the congruent story (EG1) will have the highest results, H3.b predicts that the group not listening to any story (CG) will have the lowest results, and H3.c predicts that the group listening to the non-congruent story (EG2) will have results between the other two groups. H4.a predicts that the EG1 group will have

significantly higher results than the EG2 group, H4.b predicts that the EG1 group will have significantly higher results than the CG group, and H4.c predicts that the EG2 group will not have significantly higher results than the CG group.

Similarly, based the same reasoning above, since the level of symbolic congruence will differ among the groups, it is expected that the level of emotional understanding and recognition will differ because the employees' ability to understand and decode emotions (Rubin, Munz, & Bommer, 2005) will be influenced by the congruence. This means H5.a predicts that the EG1 group will have the highest results, H5.b predicts that the CG group will have the lowest results, and H5.c predicts that the EG2 group will have results between the other two groups. H6.a predicts that the EG1 group will have significantly higher results than the EG2 group, H6.b predicts that the EG1 group will have significantly higher results than the CG group, and H6.c predicts that the EG2 group will not have significantly higher results than the CG group.

Finally, the same would apply for the interpersonal leader trust construct, based on similar arguments. Since trust (in leadership) can be conceptualized as a dynamically occurring "emergent state" (Burke, Sims, Lazzara, & Salas, 2007) and this state can again be categorized as an affective state (Marks, Mathieu, & Zaccaro, 2001), it is expected that the level of interpersonal leader trust will be influenced by the affective appeal of the story, which is again influenced by the symbolic congruence. This means H7.a predicts that the EG1 group will have the highest results, H7.b predicts that the CG group will have the lowest results, and H7.c predicts that the EG2 group will have results between the other two groups. H8.a predicts that the EG1 group will have significantly higher results than the EG2 group,

H8.b predicts that the EG1 group will have significantly higher results than the CG group, and H8.c predicts that the EG2 group will not have significantly higher results than the CG group.

To symbolically mimic the nexus of theories from different fields approach that was used in the literature review chapter, in the experimental part of the thesis, the constructs for the conceptual model have been deliberately chosen from different fields. With that regard, affective commitment to change construct comes from the field of management and change literature, the emotional recognition construct comes from the field of neuroscience and management and partially from artificial intelligence and finally, the interpersonal leader trust construct comes from the field of psychology and organizational studies.

Last but not least, it has been argued that is important to include the control variables and manipulation checks parts of the hypotheses. This is especially important for experimental design studies. Manipulation checks, despite the fact that the majority of experiments do not generally report them in social science disciplines, are a way of ensuring that an experiment actually has been conducted and that the IV has been effectively manipulated (Sansone, Morf, & Panter, 2003).

CHAPTER 6

RESEARCH DESIGN AND METHODOLOGY

6.1 Introduction

This section presents the general research design and methodology in detail.

In separate sections, we will discuss how the experiments were designed and executed, specifically how the random assignment and random selection were made and how the whole process was monitored. Detailed explanations of how we tried to control for several factors and what the manipulation was will be presented.

Four individual experiments were conducted throughout the research. Each experiment was built on the previous one with an extended effort to minimize the error and bias and explain more phenomena. For this reason, presenting a common and general research design and methodology is possible.

The common manipulation among all the experiments was the presence (or lack) of leaders' use of storytelling in the context of strategic change leadership. In the final experiment, a new manipulation was added. This new manipulation was about the fit between the story and the context.

All the things that were not purposefully manipulated among the experimental groups were aimed to be kept the same. While this was possible with a few things (details in Appendix B), it was not possible 100% with a few things. However, most of the required control was present; thus, we can still categorize this research as experimental.

The details of each experiment will be provided in the following sub-sections. Figure 6 shows a summary of the common experimental setup for the experiments.

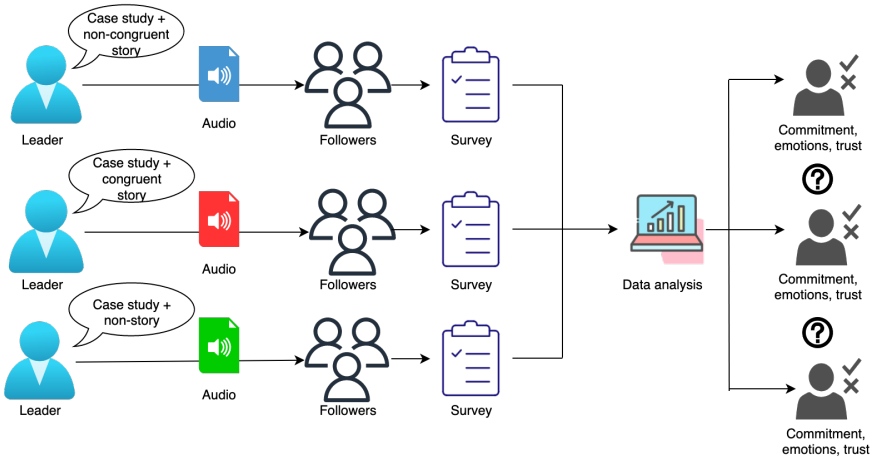


Figure 6. Summary of the common experimental setup

6.2 Research objectives

The main research objectives of this dissertation can be summarized as follows:

i. To determine the employees' level of affective commitment to change after the leader's communication of strategic vision using storytelling with a symbolically congruent story.

ii. To determine the employees' level of affective commitment to change after the leader's communication of strategic vision using storytelling with a symbolically incongruent story.

iii. To determine the employees' level of affective commitment to change after the leader's communication of strategic vision without using storytelling.

iv. To determine the employees' level of leadership trust after the leader's communication of strategic vision using storytelling with a symbolically congruent story.

v. To determine the employees' level of leadership trust after the leader's communication of strategic vision using storytelling with a symbolically incongruent story.

vi. To determine the employees' level of leadership trust after the leader's communication of strategic vision without using storytelling.

vii. To determine the employees' level of understanding of emotions and emotional appeal (engagement) of the message after the leader's communication of strategic vision using storytelling, with a symbolically congruent story.

viii. To determine the employees' level of understanding of emotions and emotional appeal (engagement) of the message after the leader's communication of strategic vision using storytelling, with a symbolically incongruent story.

ix. To determine the employees' level of understanding of emotions and emotional appeal (engagement) of the message after the leader's communication of strategic vision without using storytelling.

6.3 Sampling and data collection

There were several novel approaches (methodologies) employed for data collection in this thesis. Figure 7 visually summarizes the data collection process for the the experiments. Details of the technical infrastructure setup and data collection for each experiment will be provided in the following sub-sections.

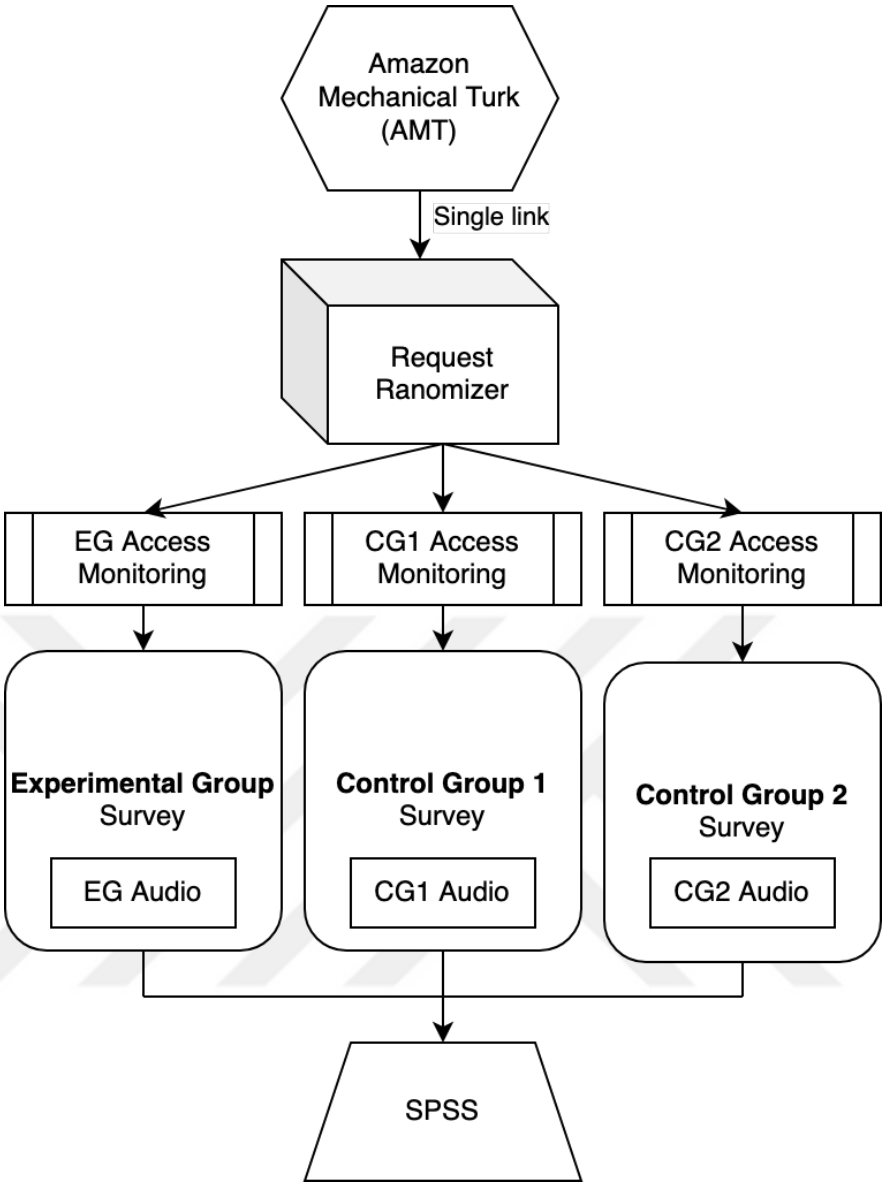


Figure 7. Data collection infrastructure summary

6.4 Narrative design and preparation

This thesis also proposes novel approaches in terms of narrative design and preparation. In the following paragraphs, we will discuss the details of the narrative design and preparation.

These novel approaches can be used in research that needs narratives or stories to be told, i.e., in future research that needs to be conducted in the field of organizational storytelling. While there are better ways of producing narratives (see

limitations section), the approach we have taken in this thesis is a good starting point that is also cost-effective and requires considerably less time and effort.

Since the stories were in English (to have a wider international reach), it was desired to have a narrative that sounded like a native English speech. We needed to hire a voice actor and record the stories. However, this was not an option for us. It would be too costly, and we were making changes to the story all the time. We needed a way to produce the stories in a cost-effective way. For these reasons, It was decided to synthesize the stories (narratives) using text-to-speech processing.

In the second and third experiments, SSML was used with text-to-speech technology to make the stories sound more natural than standard TTS. With SSML, it was possible to control the speed of the speech, the pitch of the voice, and the volume of the voice. Adding expressions and pauses to the speech also helped to make the stories sound more natural.

Even with SSML (and that is much work), we were not fully satisfied with the results, but it was decided that they were good enough for the purpose of the experiment. We kept on looking for better ways to produce the narratives.

For the final experiment (experiment four), it was decided to synthesize the narratives with the help of AI (artificial intelligence). Since AI understands the context in the text, it knows what the characters are actually saying; it would mean we would not have to tag each of the texts with SSML, and it would produce a better-sounding speech. We had the option to interfere and make changes to the speech if we wanted to, but it would do most of the job by itself. Figure 8 shows how the web-based AI tool (Murf AI) works that I used to synthesize the speech for the final experiment.

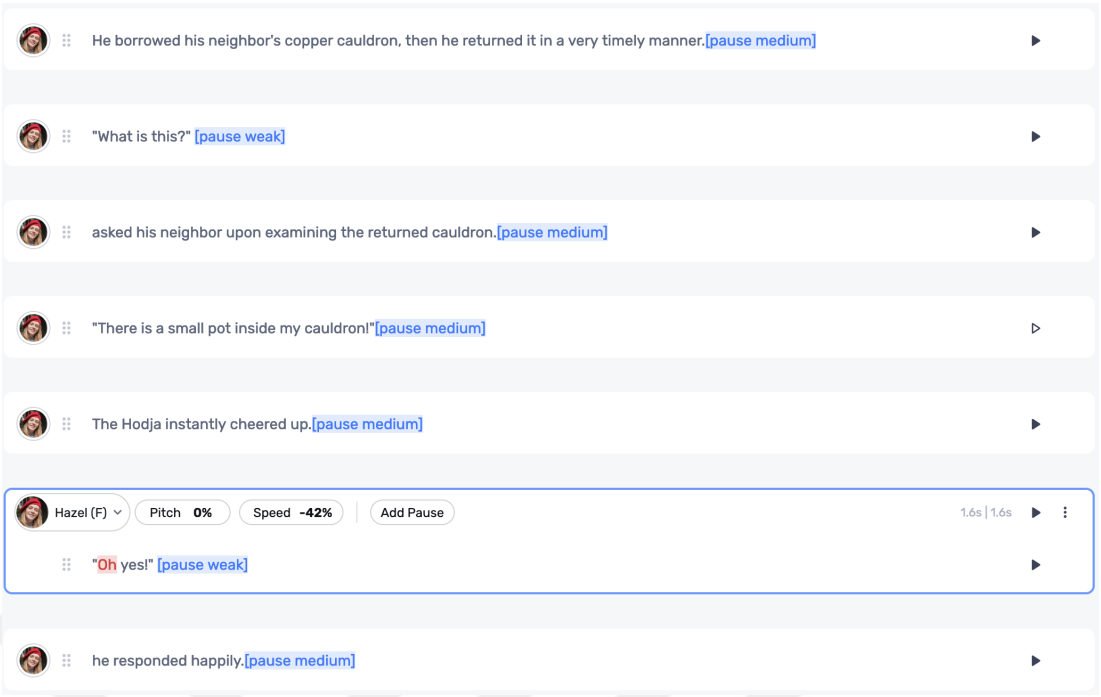


Figure 8. AI tool overview

With Murf AI, it is possible to do everything that we were able to do with SSML, including changing the speed, the pitch, and the volume of the speech, even the accent or age of the speaker. We could also add pauses and expressions to the speech. Figure 9 shows how the AI tool renders the speech with an emphasis on the words that are emphasized in the text.

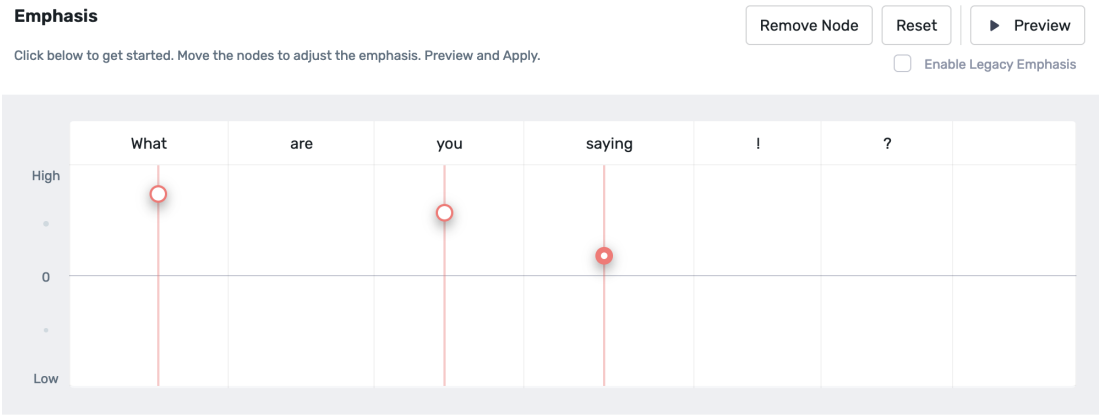


Figure 9. AI rendering emphasis

It is worth noting that in the first experiment, TTS was not used. I read the speech out loud and recorded it. Since the first experiment's participants were just friends and family, we did not have to worry about the quality of the speech. That experiment was also the only one executed in Turkish, my native language. Thus I believed that I was qualified to read the speech out loud.

In the final experiment, there were three groups. Each group had a different narrative, but some parts of these narratives would be the same. Figure 10 shows how the parts of the audio were organized.

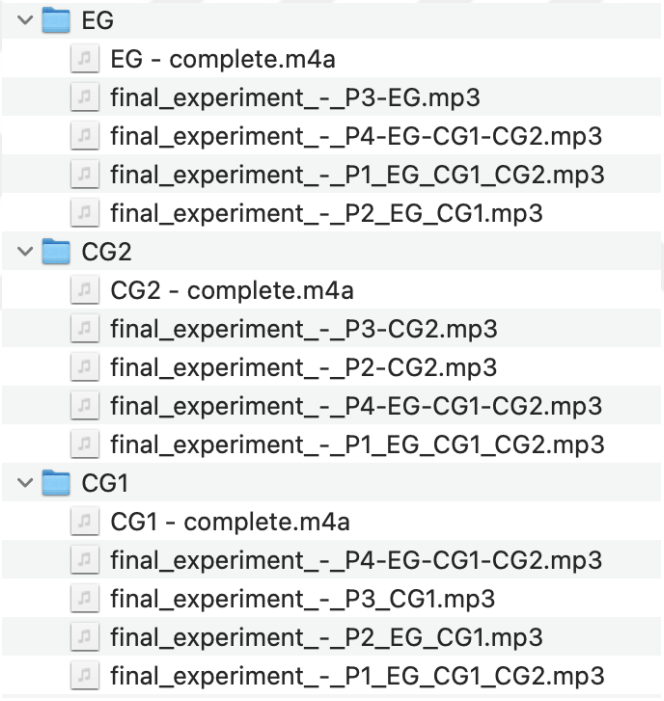


Figure 10. Parts of narrative audio

Instead of repeating ourselves, we synthesized the parts that were the same for a given group only once. The parts that were different for a given group were also synthesized for each group separately. Finally, they were all put together to form the final narrative.

6.5 Survey design and preparation

Since this was an experiment, we needed to make sure that the participants were not aware of the purpose of the experiment. We also needed to make sure that the participants were not aware of the manipulation that was going to be done.

For this reason, they were told that they were providing their opinions and feedback about a business case study. Figure 11 shows how the survey was worded to make sure that the participants were not aware of the purpose of the experiment.

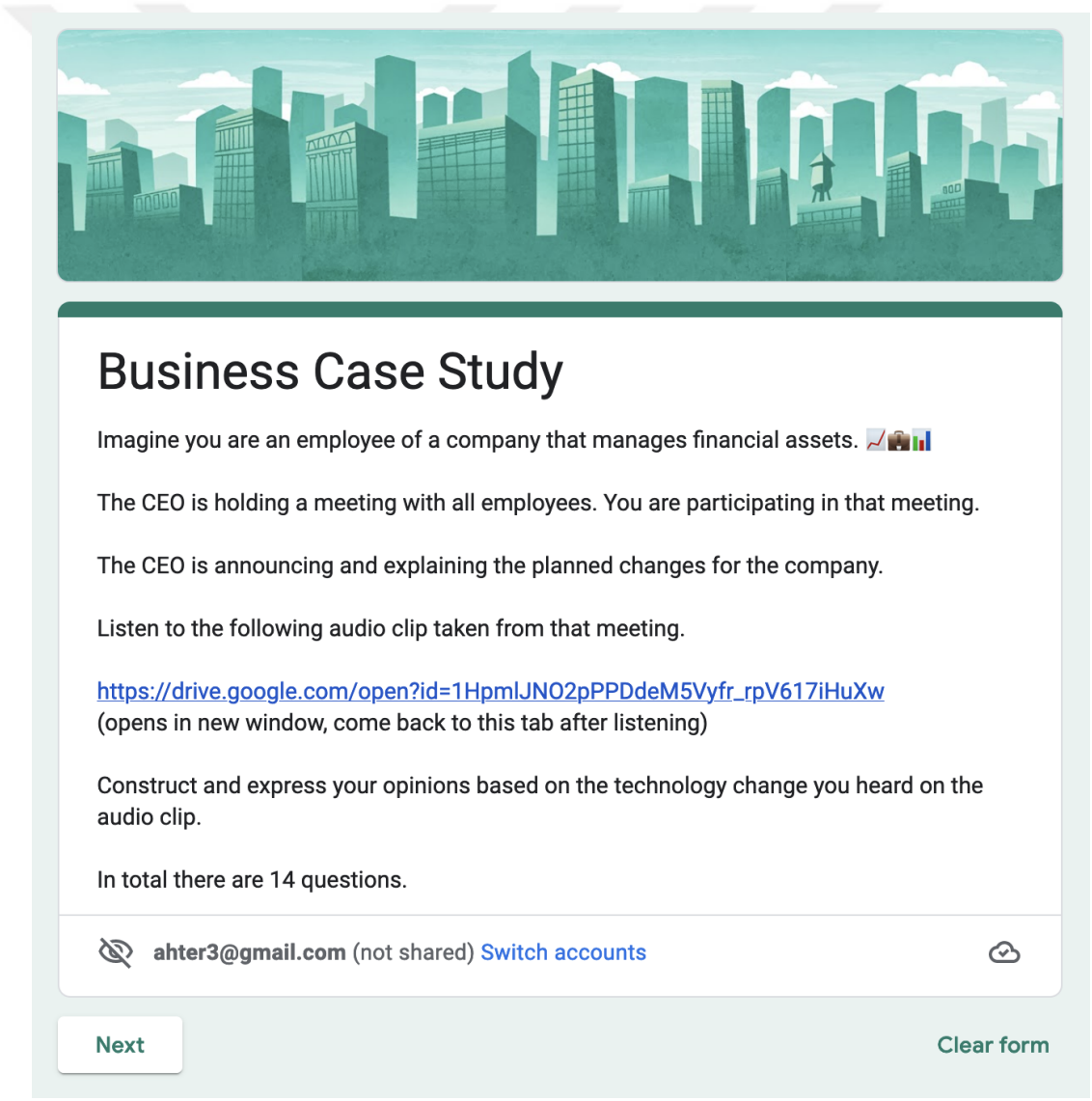


Figure 11. How survey looks

The data was collected online. This brought some challenges along with it.

One of the challenges was multiple responses. It was a requirement to make sure the participants would only be able to answer the survey once. If a participant were to submit more than once, not only would that mean that participant would be cheating the system, but also it meant that we would be getting biased data.

To solve this multiple responses problem and make it harder for people who have the intention to cheat (since their participation is monitored), the Amazon Mechanical Turk platform's core features were used alongside some further security measures. Using Google forms, thanks to a clever setting in the form, it was possible to make sure that the participants were not able to answer the survey more than once. Figure 12 shows how the survey was set up to limit the participants to one response. Enforcing a single response limit was possible without getting any PII (Personally Identifiable Information) from the participants.

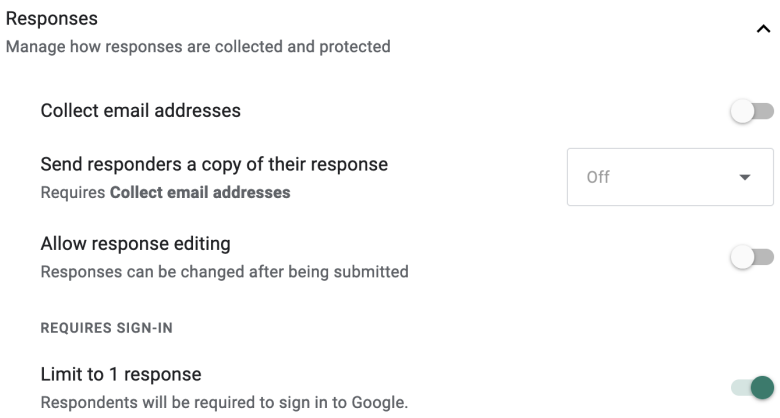


Figure 12. Limit to one response

Once the audio files for each group were synthesized, they were uploaded to Google Drive and made public. This meant that anyone who had the audio links

could listen to these recordings and no permission granting was required for access. Finally, links to the audio files were placed inside the survey. Figure 13 shows how the audio files were shared with the participants. Files names were chosen not to leak any group name information. This way, the participants would not be able to tell which group they were in.

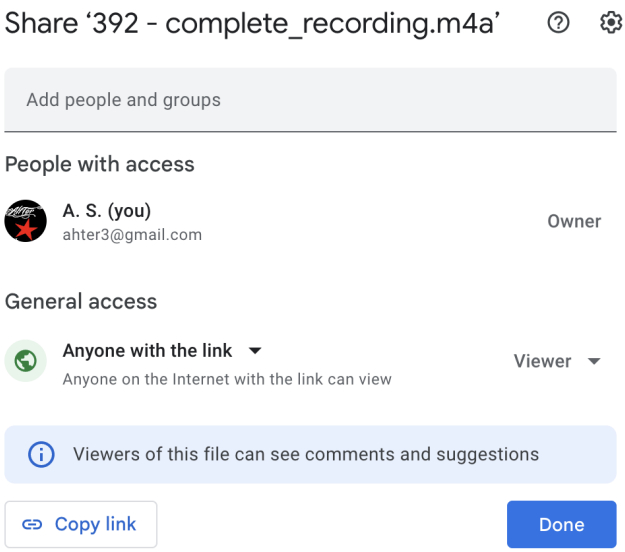


Figure 13. Share audio with public

6.6 Data cleanup and preparation

There were no missing values in the data, as all the questions were made required. Having no missing values made the data-cleaning process easier.

The outliers check was done by looking at the distribution of the data. There was only one outlier in the data set, suggested by exploratory SPSS outlier analysis. That was removed from the data.

The only manual cleanup that was done was the invalidation of the participants who did not pay attention to the question instructions.

There was a dummy question that was designed to check for the attention of the participants. The participants were asked to rate 6 for the dummy question. The participants who did not pay attention to the question instructions and did not rate 6 for the dummy question were invalided. Figure 14 shows the dummy question.

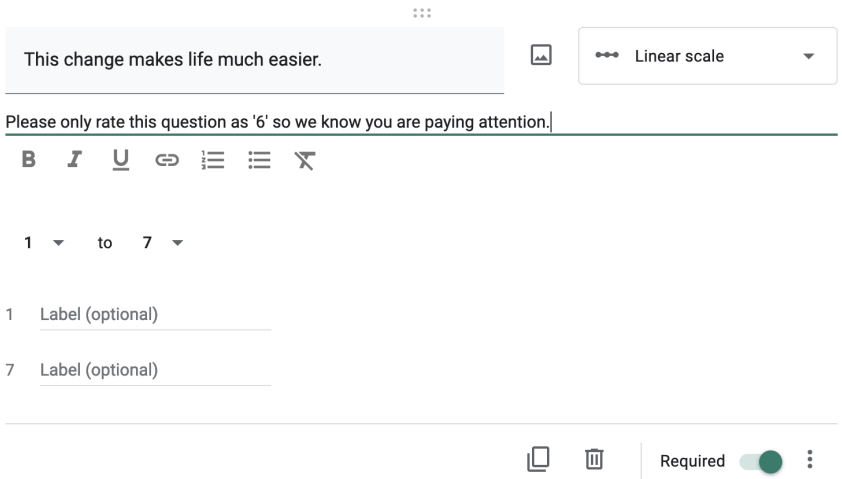


Figure 14. The dummy question

Once those responses were invalided, they were auto-replaced with the new participants, thanks to the system features offered by Amazon Mechanical Turk.

For the final check, we were willing to invalidate the responses of the participants who did not have at least one year of working experience. However, no such invalidation was required as there were no participants who responded with 0 years of working experience. The minimum working experience in the data was two years.

Some normality assessments were conducted using SPSS. No problems were found in the data and the distribution of the data was as expected.

There were some reverse-coded questions in the survey. They were making the analysis harder. For this reason, using SPSS, these were re-coded to make them

consistent with the rest of the data. Figure 15 shows how the reverse-coded items were re-coded.

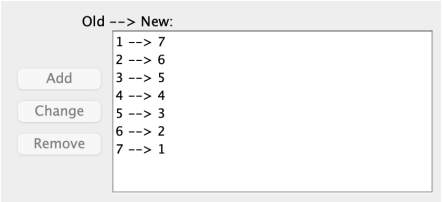


Figure 15. Reverse coding items

6.7 Method

A fictional case study that embodies a strategic change situation was written. Refer to the Appendix A for the details of the case study. The subject of the case study was the adoption of blockchain technologies. It contained persuasive and logical examples and supported by actual facts. For long periods of time, it was thought adoption of blockchain technologies as a topic was an good choice. Choosing a trendy and up-to-date (as of early 2018) subject for the case study reflected real challenges that some of the real companies were facing at the time.

Fast forward to 2023, it can be argued that the topic has actually retained its popularity over the years, and many similar dilemmas are in the current agendas of TMTs (top management teams) of the financial sector.

After the case was written, the search for a story that would symbolize the main points and lessons started. Judith Liberman was consulted for her suggestions regarding the choice of the story.

The story she suggested was found in an old book. It was edited heavily and rewritten to fit the context of the case study. For details, please refer to Appendix A.

While researching alternative research methodologies, we stumbled upon two studies by Joanne Martin and Melanie E. Powers. Before they are explained in detail, it would be beneficial to note how they were used as inspiration for this dissertation's methodology.

It was decided that a similar approach would be used as part of this dissertation's methodology. Of course, we were aware that we would have to modify the experiments in a way that would fit the conceptual model.

In their study, Martin and Powers (1983) aimed to prove that storytelling will improve employee commitment to organizational philosophies. They tried to reveal the power of stories concerning employee commitment and trust. With this regard, they argued that stories would be more persuasive or effective in producing this commitment than other forms of information (Joanne, 1982; Martin & Powers, 1983).

Studies included Stanford MBA students as subjects. In the first study, the students were provided with an organizational philosophy statement. Then they were divided into three groups. The first group's subjects were given a story, and the second group's subjects were provided only with statistical data. In the third group, subjects were given both the data and the story.

The hypothesis of the study was that the story by itself would have the greatest impact, followed by the story + data combination and then the data-only information. The results revealed the hypothesis to be true (Martin & Powers, 1983).

In the second study, the participants were provided with a company policy statement that promised it would avoid mass layoffs in the face of company economic difficulties by requesting that employees concede to a 10 percent cut in pay instead.

Again, the participants were divided into three similar groups, and the information was presented in a similar way. The results were the same (Martin & Powers, 1983).

In these studies, however, the stories were not told, but they were read by participants. We thought that was a big limitation of that study. Listening to a story is a totally different experience than reading a story. When the story is told, it becomes more personal and, thus, more effective and powerful.

In this thesis, it is proposed that this significant limitation could be improved with certain design differences in the research.

6.8 Structure of the narratives

When examined from a high-level perspective, the narratives had three sections. The first section was the introduction of the case study. The second section was the narrative manipulation. The third section was the closing of the case study. The introduction and closing sections were the same for all the stories. The narrative manipulation section was different for each group. Table 7 shows the high-level structure of the stories.

Table 7. The High-Level Structure of Narratives

High-level structure of narrative	*Variation*
Case study introduction section	Same for all
Narrative manipulation	Varies for each group
Case study closing section	Same for all

When examined from a closer perspective for further details, it can be seen that the narratives had six distinct sections. The first section was the introduction of the case study. The second section was the facts of the case study. The third section

was the narrative manipulation in-transition. This was required to make a smoother introduction. The fourth section was the actual narrative manipulation content. The fifth section was the narrative manipulation out-transition. Similarly, this was required to make a smoother closing of the actual narrative manipulation section. The sixth section was the closing of the case study. The introduction, facts, and closing sections were the same for all the narratives. The narrative manipulation in-transition, content, and out-transition sections were different based on the group(s). Table 8 shows the low-level structure of the stories.

Table 8. The Low-Level Structure of Narratives

Low-level structure of narrative	*Variation*
Case study introduction	Same for all
Case study facts	Same for all
Narrative manipulation in-transition	Varies for each group
Narrative manipulation content	Varies for each group
Narrative manipulation out-transition	Varies for each group
Case study closing	Same for all

The narrative manipulation was a story for experimental group one and two. The control group was provided facts and figures. Table 9 shows the details of the narrative manipulation.

Table 9. The Narrative Manipulation Details

Narrative manipulation	*Variation*
Experimental group(s)	Story
Control group (CG)	Facts and figures

6.9 Experiment design fundamentals

Table 10 shows the groups for experiment 4.

Table 10. The Groups of Participants in the Final Experiment

Group	*Story-context congruence*
Experimental group 1	High fit
Experimental group 2	Low fit
Control group	Not applicable

Experimental group one and two were not given the same story. Experimental group one was given a story that was congruent with the case study. Experimental group two was given a story that was not congruent with the case study. The control group was not given a story thus the story-context congruence is not applicable for the control group.

For details and to see other very valuable and valid design options that might have yielded different results, but were not used in the experimental design (and thus are perfect candidates for future research), please refer to Appendix B.

6.10 The design details of experiments 3, 2 and 1

In experiments 1, 2 and 3 the participants were only divided into two groups: the experimental group (EG) and the control group (CG).

The experimental group was given a story (later defined as symbolically congruent story), and the control group was given a non-story. In these initial experiments, the story was congruent with the case study. Table 11 summarizes the groups in experiments 1, 2 and 3.

Table 11. The Groups of the First Three Experiments

Group	*Abbreviation*	*Context*
Experimental Group	EG2	Congruent story
Control Group	CG	Non-story

6.11 The design details of experiment 4

Unlike the previous experiments, the final experiment had three groups. You can read about the reasoning for this decision in the following section.

The participants were divided into three groups: two experimental groups (EG1 and EG2) and the control group (CG).

These groups were little different from the previous experiments. In other words, the definition of the previous EG changed, and split into two, based on what was being manipulated.

This was the first time the non-congruent story was introduced.

- The first experimental group (EG1) was given a 'congruent story'.
- The second experimental group (EG2) was given a 'non-congruent story'.
- The control group (CG) was given a 'non-story'.

In all previous experiments (1, 2 and 3), the relation between *EG1* (then EG) and *CG* was measured. For this reason, initially, we were reluctant to include CG in the final experiment. The reasoning was based on the fact that EG1/CG relation was already examined in previous experiments, and looking at the differences between EG2 and EG1 would be satisfactory for experiment 4.

However, after several methodological consultations, it was advised that it would be beneficial to include the CG once again in the experimental mix.

Their reasoning behind that recommendation was that if CG were included once again, the results would be able to tell us how all three groups would compare to each other, and that insight would be a critical output. Without re-measuring the results between a congruent story and non-story while (at the same time) measuring the results between a non-congruent and congruent story, we would not be able to place (order) these groups relative to each other based on the results we would obtain. Based on this explanation, Table 12 summarizes the groups in the final experiment that includes story-context symbolic congruence.

Table 12. The Groups of the Final Experiment

Group	*Abbreviation*	*Content*
Experimental Group	EG2	Non-congruent story
Control Group 1	EG1	Congruent story
Control Group 2	CG	Non-story

6.11.1 SSML tags vs. artificial intelligence

For the final experiment, the narratives were stripped of the SSML tags as it was decided to use AI to generate the narratives. AI is trained to be aware of the context of the text so that it can produce speech and intonations accordingly.

This context awareness is achieved with several different NLP (Natural Language Processing) approaches that use semantic analysis behind the scenes when performing machine learning (ML) on the text. This gives the AI the insights it requires to understand the literal meaning of words in the text.

Natural language processing (NLP) is a sub-branch of artificial intelligence (AI) (in the field of computer science and computational linguistics) that makes it possible for computers to understand human language.

The complete summary comparison of the differences between the experiments and the reasoning behind each change can be found in Appendix B.

6.11.2 Decoding the experiment groups

The final experiment had three groups, the experimental group 2 (EG2) and the two control groups (EG1 and CG), and all the participants were randomly assigned to one of the three groups. Participants were not aware this was an experiment or the type of group they were assigned to. However, to design things visually on the form, we, as researches had to be aware of which group the participants were assigned to. Thus we had to know which survey form mapped to which group. We could not use descriptive file names for the forms, as that would give away the group assignment. So we had to use discreet emojis to mark the forms.

There were three business-related emojis (as this was a business case study) in the description section of the form. Those three emojis were present in all three forms but in different order. Furthermore, those did not really have any meaning or potential to influence the results. They were just there to mark the forms, and participants were not aware of the meaning of those emojis. They could not also have seen other group's forms to realize that the order of these discreet emojis were different. The order of the emojis only conveyed information (about the group assignment) to us.

The same thing had to be done for the URLs of these forms. Since it is not possible to use emojis in the URLs (yet), I had to use the emoji codes into integers.

We assigned a different integer (digit) to each emoji. In other words, when the emojis were decoded, they formed three-digit numbers. The emoji with an upward trend graph mapped to number 9, the emoji with a briefcase mapped to number 2, and the emoji with a bar graph mapped to number 3.

The emoji codes (numbers) were present in the URLs of the forms but in a different order. We used bit.ly URL shortener to shorten the URLs, and while using their service, we were also able to track the number of users on the URLs. We used that as a monitoring tool to verify that the assignment was truly random.

These three-digit numbers were also used to name the audio files that would be given to different groups. Figure 16 shows the complete audio recordings with three-digit codes.

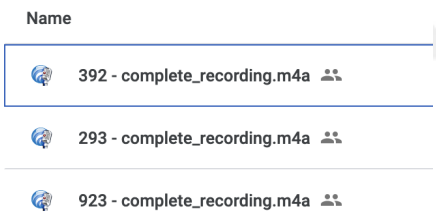


Figure 16. Complete audio recordings with three-digit codes

Table 13 summarizes the details of the survey preparation.

Table 13. The Details of the Survey Preparation

Group	*Narrative*	*Emoji identifier*	*Decoded emoji*	*AMT validation*	*Audio code*
EG2	Cauldron story	📈 💼 📊	923	X-6673	9981
EG1	Tiger story	💼 📈 📊	293	Y-6673	9982
CG	Non-story	📊 📈 💼	392	Z-6673	9983

Since the link name was disguised under the topic of the case study and the link description featured no clue about stories (or "change" or any other dependent variables used in the story), bias was kept to the minimum.

6.11.3 Online survey setup

The online survey was the final destination of routing. Google forms were used to set up the online survey. There were three identical surveys for the three groups of the experiment. The only difference was the audio file.

6.11.3.1 Affective commitment to change variable questions

Table 14 below shows the questions used to measure the affective commitment to change construct.

Table 14. Affective Commitment to Change Variable Questions

Question	*Reverse C.*
I believe in the value of this change.	No
This change is a good strategy for this organization.	No
I think that management is making a mistake by introducing this change.	Yes
This change serves an important purpose.	No
Things would be better without this change.	Yes
This change is not necessary.	Yes

(Herscovitch & Meyer, 2002)

Affective commitment to change is a construct that comes from the change literature.

6.11.3.2 Emotional recognition variable questions

Emotional recognition has been in the focus of brain science, marketing (advertising) and management literature. Table 15 shows the questions used to measure the emotional recognition construct.

Table 15. Emotional Recognition Variable Questions

Question	*Reverse C.*
I found the CEO's presentation to be emotionally engaging.	No
I understand the CEO's emotions.	No

(Kent, 2011; Mills & Robson, 2019; Rubin, Munz, & Bommer, 2005)

Emotional recognition is a composite construct and has two dimensions, emotional engagement and emotional understanding.

The emotional engagement dimension is the one that targets the self-concept. The emotional understanding dimension is the one that targets the other-concept. The self-concept is a theory from the field of psychology (Epstein, 1973). For details, see the literature review section.

6.11.3.3 Interpersonal (leader) trust variable questions

Table 16 shows the questions used to measure the interpersonal leader trust construct.

Table 16. Interpersonal Leader Trust Variable Questions

Question	*Reverse C.*
I have confidence in the motivations of the CEO.	No
I have an understanding of how we would like to achieve our goals.	No

(Adams, Waldherr, & Sartori, 2008; Schneider, Maier, Lovrekovic, & Retzbach, 2015)

One dimension of the interpersonal leader trust construct comes from the perceived leadership communication, and other from trust in leaders scale.

6.11.4 Infrastructure setup

The infrastructure setup included writing code, deploying code to servers, and making sure that the experiment output data from Amazon Mechanical Turk could be collected. The details of that setup will be outlined below.

The introduction point for the experiments was set up in Amazon Mechanical Turk. AMT offers an on-demand workforce to execute several tasks. In this case, 'the task' is listening to the case study that was written (both for the experimental and control group) and answering the questions afterward related to what they heard. ATM offers the option to choose premium workers. These workers have high ratings, so you can be more sure that they will do the task (answer the questions) properly to keep their high approval rating. You pay for each participant's response. Figure 17 shows the worker requirements that were set for the experiment.

One of the main technical challenges was to randomly assign participants into three different groups without their knowledge. Since AMT is not really designed for such purposes, it is not able to do the random assigning of the participants. We had to create our own solutions for this.

To be able to automate that, a custom web service was coded that can do the assignment as the requirement.

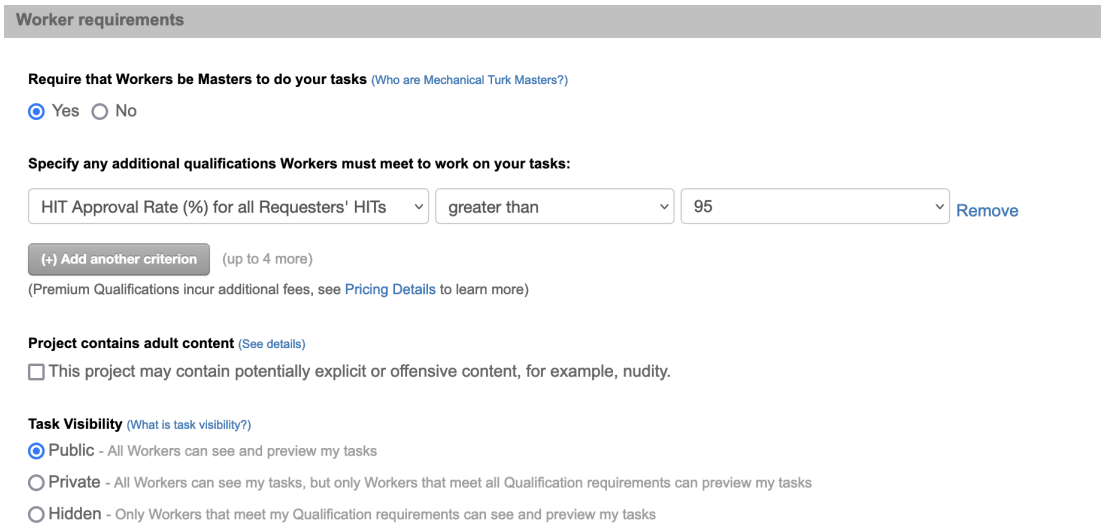


Figure 17. AMT worker requirements

The idea was that the participants would click a single common link (business-case-study.herokuapp.com), and the custom website would work its logic and redirect the participant randomly to the questionnaire of the experimental group 2 or the control group. It is worth noting here that there are actually three different forms (that is, three different URLs) where the questions asked are the same, but the audio that participants have to listen to before answering is different.

We, as the researcher(s), know which form is EG1, CG, or EG2, but participants do not know that. They are not even aware of the purpose of the study. They think they are just giving personal opinions about a subject. They have no idea what is being tested. Figure 18 below outlines the flow of the processes for experiments 2 and 3. Please refer to Figure 7 to compare it with experiment 4.

At the core of the custom website was a view function that would either redirect the user to the control group URL or the experimental group 2 URL. The website was coded in Python (Django).

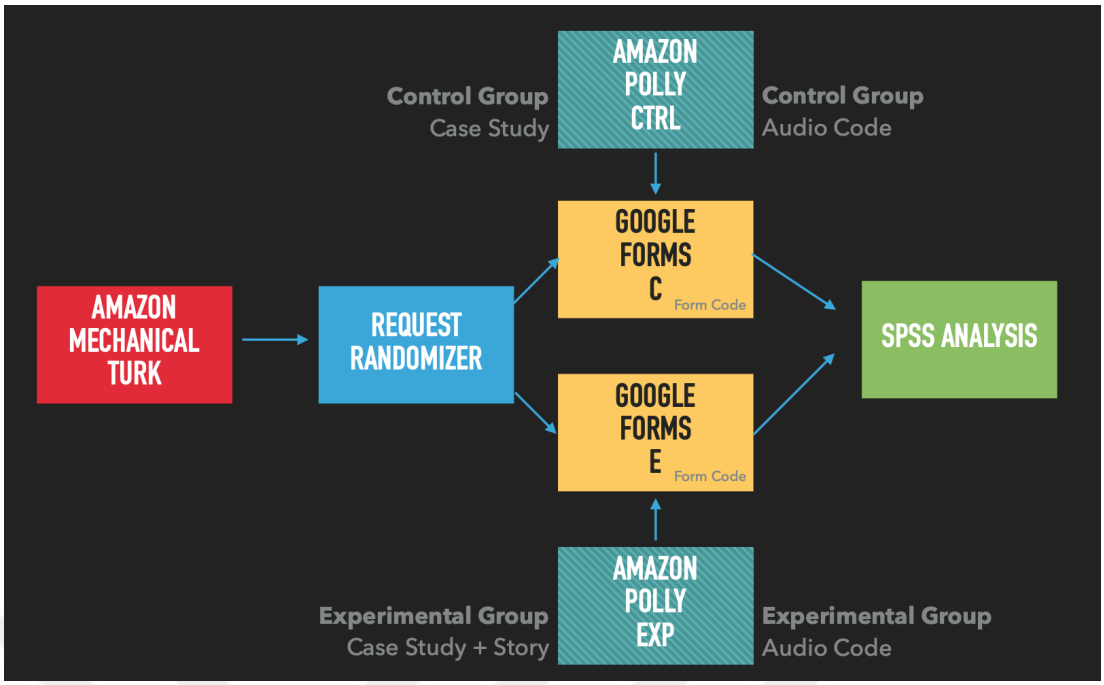


Figure 18. Automating the data collection process for experiments 2 and 3

For easier and fast deployments, we have used a Heroku for the deployment provider. Heroku is also a cost-effective alternative to most other hosting/deployment solutions. This is fairly true as long as the services receive less than usual traffic.

Before landing on the survey, the request would go through an access monitoring and tracking service.

Also, for security purposes, a double verification code mechanism was implemented. The first code (four-digit number) was embedded into the audio file narrative. This was at the very end of the case study, so we had to ensure (assume) they listened to the whole audio before answering the questions. To verify this was the case, we included that code as a question in the survey. If the code were not correct, the form submission would be restricted; thus, the participant would not be able to see the AMT verification code on the next page. This would be a dead end for the participant.

The second verification code (a different four-digit number) was displayed when the participant would successfully submit the survey. They would then take that code and paste it into the box in Amazon Mechanical Turk so that they could provide the required proof that she completed the task. Their payment would depend on that code.

The unfortunate fact about both verification codes was that they were static and were not generated on a user basis. If someone wanted to cheat the system by opening another AMT account and filling in the survey, that would be possible 33 percent of the time (as they would randomly assigned to to either EG2 and EG1, and CG) given that they use the same email address. This cheating scenario was guarded against by getting premium participants that have a good score/history/ratings (it takes time to build that reputation). Lastly, we believe cheating should not occur as we are able to invalidate the submission as AMT has the participant's IP addresses. These could be checked and correlated with the access monitoring service that was used. When the submission is invalidated, participants' payment would be declined, and more importantly, their AMT reputation (thus the potential to have more work) would be at risk.

6.12 How experiments 1, 2, 3, and 4 differ

Tables have been compiled explaining how each experiment was different from the others by underlying reasons and explaining why such changes were introduced.

6.12.1 Setting up the differentiation criteria

The reason different experiments were set up throughout the dissertation satisfies different purposes. Most of these changes were suggested by the progress committee.

The reason for these suggestions mostly serves the purposes of making the experiment results more meaningful, explaining further phenomena, and measuring what is intended to be measured in the best way possible.

In the most general way, the changes that were introduced can be categorized into eight main areas. These are:

- The participants
- Sample size
- Language of the experiment
- Duration of the experiment
- The narration of the story (narrator)
- Duration of the story
- Time difference between the experimental and control group
- Congruency factor (the symbolic fit between the story and the case)
- Context awareness of the narrative (SSML tags vs. AI)
- British vs. American English

6.12.2 Comparing experiments: the participant types

This only changed after experiment # 1. Only in experiment # 1, the participants were family and friends. After that experiment, professional (paid) respondents with high ratings were used from Amazon Mechanical Turk. Table 17 summarizes this change.

Table 17. The Comparison of Participant Types

Experiment	*Participants*
Experiment # 1	Friends and family
Experiment # 2	Professional (paid) respondents with high ratings
Experiment # 3	Professional (paid) respondents with high ratings
Experiment # 4	Professional (paid) respondents with high ratings

6.12.3 Comparing experiments: the sample size

This factor also mainly changed after experiment # 1. For the rest of the experiments, we tried to keep it consistent with around 100 participants. Unfortunately, for the second experiment, we executed the same experiment twice (on AMT) by mistake. This resulted in a sample size of 200 participants.

The budget considerations were crucial in this regard. The aim of increasing the sample size was to keep the statistics more meaningful since we believe that the sample size of 100 is just enough to make a strong claim. If we had a better (and non-personal) budget, we would have increased the sample size to 300 or more. Table 18 lists the approximate number of participants in each experiment.

Table 18. The Comparison of the Sample Size

Experiment	*Sample size*
Experiment # 1	8
Experiment # 2	~ 200
Experiment # 3	~ 70
Experiment # 4	~ 100

6.12.4 Comparing experiments: the language of the experiment

Language was one of the factors that changed after experiment 1. As Amazon Mechanical Turk had a diverse set of respondents, the English language had to be used. This also increased the generalizability of the results.

The original case study and the story were in English. For the first experiment, a Turkish translation was used for the study, and the case study was translated into Turkish. However, in studies like this, translations create extra complexity. Thus going forward, after experiment 1, all the experiments were conducted in English. All the written materials (instructions, questions, forms, etc.) were also in English. Table 19 highlights this change.

Table 19. The Comparison of the Languages

Experiment	*Language of the experiment*
Experiment # 1	Turkish
Experiment # 2	English
Experiment # 3	English
Experiment # 4	English

Also, it is worth mentioning that the case study was corrected grammatically in each English iteration.

6.12.5 Comparing experiments: duration of the experiment

This first experiment showed us that the study was long. After that, there has been a constant effort to make it shorter in each iteration. This reduction was achieved both by shortening the story and the case study. Table 20 lists changes as a summary.

Table 20. The Comparison of the Total Experiment Durations

Experiment	*Duration of the experiment*
Experiment # 1	Very long
Experiment # 2	Long
Experiment # 3	Medium
Experiment # 4	Medium

6.12.6 Comparing experiments: narration type

To have more controlled narration and expressiveness of the voice, AWS Polly was used. This applied to the second and the third experiment. We have also tried to improve the expressiveness of AWS Polly in each experiment with different voice dynamics and colors.

In the final experiment, AI was used to generate the narration. The aim was to generate a more natural-sounding narration, as the AI is context aware (knows the meaning of the words and the context of the story) and thus can pronounce the words in a more context-aware way. Table 21 show how this factor changed over time in each experiment.

Table 21. The Comparison of the Narration Type

Experiment	*Narration*
Experiment # 1	Myself, native (TR)
Experiment # 2	AWS Polly, native (GB)
Experiment # 3	AWS Polly, native (GB)
Experiment # 4	Murphy AI, native (GB)

6.12.7 Comparing experiments: duration of the story

In line with the total duration of the study factor, the story also got shorter in each iteration. Parts that could be omitted without affecting the flow of the story were taken out. Table 22 summarizes this change.

Table 22. The Comparison of the Duration of the Story

Experiment	*Duration of the story*
Experiment # 1	Long
Experiment # 2	Long
Experiment # 3	Medium
Experiment # 4	Medium

6.12.8 Comparing experiments: time difference between the groups

Again in line with the total duration of the study factor and the duration of the story in the experiments factor, the time delta between the experimental group 2 and control group was brought down in each iteration of the experiment. The main reason for this was to make everything more consistent and the same between those two groups.

Also, the story section was about 10 minutes, whereas the facts and figures section was about 2 minutes. This is a long time difference. Table 23 outlines this continuous effort.

Table 23. The Comparison of Time Delta Between Groups

Experiment	*Time difference between the experimental and control group*
Experiment # 1	Long
Experiment # 2	Medium
Experiment # 3	Short
Experiment # 4	Short

We were careful not to omit any symbolically important part of the story when doing the pruning. we also tried to include some visual descriptions of the surroundings so that the vision that arises in the minds of the listeners can paint a vivid picture and capture their imaginations.

6.12.9 Comparing experiments: congruency factor

This factor was more evident toward the end of the research. It is also one of the key findings of the research.

Retrospectively looking, it makes a lot of sense now. This factor is the symbolic link that is formed between the situation/case in the case study vs. the story. All studies used a very well-fitting story to the situation.

The last experiment (experiment 4) chose a non-congruent story that did not fit the case, and we expected to see irrelevant results there. See the hypotheses section for more details. Note that some of these hypotheses were not supported by the data.

While this created some methodological complexities in the data analysis, the results will be very valuable in enhancing our understanding of this new construct. Table 24 shows us the change in the congruency factor.

Table 24. The Comparison of the Symbolic Fit

Experiment	*Congruency factor*
Experiment # 1	Very congruent
Experiment # 2	Very congruent
Experiment # 3	Very congruent
Experiment # 4	Varying congruence

6.12.10 American vs. British English

We wanted to convert all the spellings into American equivalents. The British spelling and the British pronunciation might be limiting factors. Table 25 shows spellings used.

Table 25. The Comparison of the Spellings Used

Experiment	*English spelling*
Experiment # 1	N/A
Experiment # 2	British English
Experiment # 3	British English
Experiment # 4	American English

6.13 The summary of the changes

You can see the complete summary comparison of the differences between the experiments and the reasoning behind each change in the following sections. Table 26 shows the summary of the changes.

Table 26. The Summary of All Key Comparisons

Exp.	*Part.*	*Sam.*	*Lan.*	*Narr.*	*Cong.*	*Story*	*Delta*	*Spl.*
E#1	A	8	TR	C	High	Long	Long	N/A
E#2	B	200	GB	D	High	Long	Med	GB
E#3	B	60	GB	D	High	Med	Short	GB
E#4	B	100	GB	E	Vary	Med	Short	US

Legend

- A: Friends and family
- B: Professional (paid) respondents with high ratings

- D: AWS Polly, native (GB)
- E: Murphy AI, native (GB)

6.14 Discussion

We have enjoyed the difficulties of the experimental research design and the challenges of the infrastructure setup. These have transformed boring and repetitive methodological tasks into something more interesting and challenging for me. Furthermore, the use of technology to solve problems has been our personal preference. It is great to see that our technical skills do apply to the research design and methodology.

There are a few things that could have been better. One of them is the sample size, and the other one is the data collection and analysis process.

The sample size for experiment 4 was 102 and this was satisfactory. Online sample size calculators (Smith, 2022) were used to ensure we had enough participants for the experiments. The required confidence level was chosen (as 95 percent with the Z-Score of 1.96) and margin of error (the confidence interval) was chosen (as 10 percent) with the population size of 8 billion (very large number, symbolically representing the number of people on planet earth, as storytelling applies to every human on earth).

Professors from the department of management were also consulted about the appropriateness of these sample sizes. Their confirmation was received. Still, with a better budget, numbers could have been a bit higher, and we would be more confident that results applied to bigger populations, preferably with a smaller margin of error.

The final thing that could be improved is building an automated data pipeline to collect the data, process it, and analyze it continuously (and automatically). This would save a lot of time and effort. Imagine submitting the survey for completion, and when all respondents have finished answering the questions, without any intervention from the researcher, the results and the tables for all the required analyses are automatically get populated.

It should be noted that this pipeline setup also requires a certain level of expertise in computer science and data science fields. An automated data pipeline approach is proposed as an improvement for future work if many other experiments are to be conducted.

6.15 Conclusion

This section concludes the research design and methodology chapter. We have explained the details of the experiments we have conducted and the infrastructure we have set up to collect the data. We have also discussed the challenges we have faced and the solutions we have implemented to overcome them.

The research design is quite novel in terms of methodology. The key highlights can be summarized. Without any particular order, we believe: (a) the randomized assignment of participants to various groups in an online survey, (b) verifications, and checks to prevent participants from cheating, (c) tweaks for the AMT worker settings to have high-quality (better rated) participants, and (d) the use of artificial intelligence (previously SSML) from generating the audio files with text-to-speech processing would the key highlights of the research design.

Figure 19 shows an example of the verification check that is the AMT worker's view after submitting the survey. They would see the verification code that they would have to paste into the AMT interface to get paid.

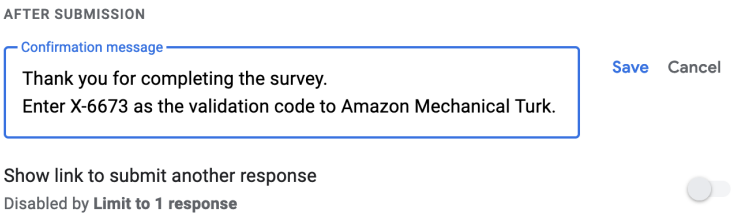


Figure 19. After submission code verification check

CHAPTER 7

DATA ANALYSES AND HYPOTHESES TESTING

7.1 Introduction

For the data obtained from the experiments, as a first step, for data summarization purposes, we ran exploratory factor analysis (EFA).

For the experiments, we have run a MANOVA analysis assuming that the dependent variables are correlated. MANOVA gives us a better overall understanding while simultaneously determining the distinctions and interactions between the dependent variables and the independent variable.

On top of the MANOVA results, we run separate ANOVA analyses for each of the dependent variables for all the groups in the experiment. (For experiment 4, that is EG2, EG1, CG, for the rest of the experiments, that is EG2, CG.)

Finally, we executed detailed t-tests to highlight subtle differences among pairs of groups. While they are natural reflections of the ANOVA results, we believe the t-tests give us an excellent level of detail when comparing the means of the variables with a lot more focus; thus, we found them most valuable.

For experiment 4, as much as we would like to do it, statistically, we cannot treat the story-context symbolic congruence variable as a "co-variate" as it was not measured with that purpose. In other words, it was not measured as a continuous variable with the proposed scale. Therefore, we cannot run ANCOVA or MANCOVA analysis on the data. This could be something that can be looked into further in future research.

7.2 Results for SCSC survey

These are the results of the story-context symbolic congruence (SCSC) survey, which measured the story-context symbolic congruence variable.

SCSC survey was a *manipulation check* to see if the participants agreed about which story was symbolically congruent and which story was not. We wanted to have manipulated control over the symbolic congruence of the story-context.

When comparing the two stories (see Appendix B for the details of the story choices), it is also worth noting that there were more false positives in the cauldron story than in the tiger story. This means people can create connections and construct meaning even in a non-congruent story. We believe this is explained by apophenia. Fyfe et al. (2008) have also conducted apophenia experiments using stories and they also got similar results (Fyfe, Williams, Mason, & Pickup, 2008). The details of apophenia can be found in the literature review section. Table 27 shows the results for the tiger story which was congruent.

Table 27. Story-Context Symbolic Congruence Survey - Tiger Story

Categorization of the story	*Frequency*	*Percent*	*Valid Percent*	*Cumulative Percent*
Congruent	18	90	90	90
Not congruent	2	10	10	100
Total	20	100	100	

Summary of these results is that there's 90% agreement that congruent story is congruent vs. there is 75% agreement that non-congruent story is not congruent. Table 28 shows the results for the cauldron story.

When we check the numbers above, we can see that *Hypothesis 2.a (H2.a)* and *Hypothesis 2.b (H2.b)* are *supported*. The results show that the participants were

Table 28. Story-Context Symbolic Congruence Survey - Cauldron Story

Categorization of the story	*Frequency*	*Percent*	*Valid Percent*	*Cumulative Percent*
Congruent	5	25	25	25
Not congruent	15	75	75	100
Total	20	100	100	

in agreement that the tiger story was symbolically congruent with the context and the cauldron story was not.

Upon checking if any of the control variables had any effect on the story-context symbolic congruence by running *t-tests*, we found that there were no significant differences between the survey participants for both stories. All the *F values* were very close to 0 and all the *significance* values were very close to 1. This means that *Hypothesis 2.c (H2.c)* is also *supported*.

We believe the tendency (urge) that people would rather make symbolic connections in their brains to make sense of the story even when it was not symbolically congruent with the context could be one of the significant findings of this research. The best theoretical explanation for this behavior is apophenia. The details of apophenia can be found in the literature review section.

Since the story-context symbolic congruence variable was not measured with the proposed scale (see Table 6), we could not run analyses such as confirmatory factor analysis, discriminant validity, and reliability.

The form that it was measured the variable was categorical, i.e., just a confirmation of an agreement (in yes/no format); thus, it is not possible talk about the dimensions of the story-context symbolic congruence construct either. Using the proposed scale and having the variable as a moderator is something that should certainly be looked into in future research.

7.3 Results for experiment 4

The results for experiment 4 were the most interesting results of the whole study. These exciting results were thanks to the inclusion of the story-context symbolic congruence, emotional appeal (engagement), and trust constructs. That is why the results for this experiment are presented in the most detailed way and included before the results for the other experiments.

In the following sections, some descriptive statistics and the results of the statistical tests listed above can be found. Also, detailed discussions of the outcomes can be found in the next chapter, alongside the conclusions that can be drawn from these results.

7.3.1 Summary of the data

Participants had an average age of 42.63 years (43.06, 41.44, 43.64 for EG2, EG1, and CG, respectively), ranging from 25 to 70 years. They had an average of 18.08 years (16.87, 18.02, 19.45 for EG2, EG1, and CG, respectively) of total work experience, ranging from 2 to 53 years. They possessed an average level (not skewed towards high or low) of blockchain knowledge, with a value of 3.53 (out of 7). Table 29 shows the descriptive statistics for the control variables.

Table 29. Experiment 4 - Descriptives for Control Variables

Control Var.	*N*	*Min.*	*Max.*	*Mean*	*Std. Dev.*
Your age?	102	25	70	42.6373	10.3587
Years of working experience?	102	2	53	18.0882	10.95364
What's your level of knowledge about blockchain technologies?	95	1	7	3.5368	1.58323

7.3.2 Exploratory factor analysis (EFA)

The *principal component analysis* extraction method and *Direct Oblimin* rotation were used for the *EFA*. *Direct Oblimin* rotation is a rotation method that is used for *oblique rotation*. It is used when the factors are correlated, and we believe they are in this case.

When we check the *KMO and Bartlett's test*, we can see that the *KMO value* is above the recommended value of 0.5 (Hair, Black, Babin, & Anderson, 2013), and *Bartlett's test* is significant. These values indicate that the data is suitable for factor analysis. Table 30 shows the results of the KMO and Bartlett's test.

Table 30. Experiment 4 - KMO and Bartlett's Test

Kaiser-Meyer-Olkin measure of sampling adequacy		0.907
Bartlett's test of sphericity	*Approx. chi-square*	830.455
	df	45
	Sig.	0

When checking the commonalities, we can see that the values are above the recommended value of 0.5. These values again confirm that the data is suitable for factor analysis. Table 31 shows the commonalities.

When we check the correlation matrix, we see that the correlation values are above the recommended value of 0.3.

Some of the correlations are above the recommended value of 0.7. This means that the data is suitable for factor analysis. Slight multicollinearity is present

Table 31. Experiment 4 - Commonalities

Item	*Initial*	*Extraction*
I believe in the value of this change.	1	0.775
This change is a good strategy for this organization.	1	0.771
(R) I think that management is making a mistake by introducing this change.	1	0.824
This change serves an important purpose.	1	0.792
(R) Things would be better without this change.	1	0.803
(R) This change is not necessary.	1	0.788
I have confidence in the motivations of the CEO.	1	0.802
I found the CEO's presentation to be emotionally engaging.	1	0.786
I have an understanding of how we (as this company) would like to achieve our goals.	1	0.6
I understand the CEO's emotions.	1	0.772

in the data, but it is not a problem because the factor analysis is robust to multicollinearity. Table 32 shows the correlation matrix.

Table 32. Experiment 4 - Correlation Matrix

		Q1	*Q2*	*Q3*	*Q4*	*Q5*	*Q6*	*Q7*	*Q8*	*Q9*	*Q10*
Cor.	Q1	1	0.831	0.537	0.81	0.439	0.568	0.741	0.671	0.542	0.628
	Q2	0.831	1	0.575	0.773	0.45	0.553	0.739	0.656	0.524	0.666
	Q3	0.537	0.575	1	0.614	0.742	0.734	0.466	0.351	0.279	0.315
	Q4	0.81	0.773	0.614	1	0.54	0.654	0.756	0.634	0.486	0.615
	Q5	0.439	0.45	0.742	0.54	1	0.714	0.364	0.32	0.179	0.3
	Q6	0.568	0.553	0.734	0.654	0.714	1	0.522	0.435	0.296	0.432
	Q7	0.741	0.739	0.466	0.756	0.364	0.522	1	0.789	0.547	0.736
	Q8	0.671	0.656	0.351	0.634	0.32	0.435	0.789	1	0.6	0.783
	Q9	0.542	0.524	0.279	0.486	0.179	0.296	0.547	0.6	1	0.623
	Q10	0.628	0.666	0.315	0.615	0.3	0.432	0.736	0.783	0.623	1
Sig.	Q1		0	0	0	0	0	0	0	0	0
	Q2	0		0	0	0	0	0	0	0	0
	Q3	0	0		0	0	0	0	0	0.002	0.001
	Q4	0	0	0		0	0	0	0	0	0
	Q5	0	0	0	0		0	0	0.001	0.036	0.001
	Q6	0	0	0	0	0		0	0	0.001	0
	Q7	0	0	0	0	0	0		0	0	0
	Q8	0	0	0	0	0.001	0	0		0	0
	Q9	0	0	0.002	0	0.036	0.001	0	0		0
	Q10	0	0	0.001	0	0.001	0	0	0	0	

The small sample size might have affected the results of the factor analysis for these correlations. The effect of the sample size is something that should be looked into in future research. It is a known fact that factor analysis is a subjective process, and the results can vary depending on the sample size.

Finally, when we check the scree plot, we can see that the *scree plot* shows a clear break after the third component. This suggests that the data can be explained by three factors.

EFA provided insights about the dimensionality among the variables, and it was concluded that variables were found to be factorable.

7.3.3 Reliability checks

Checking the internal consistency of the scales, we can see that *Cronbach's alpha* values are above the recommended value of 0.7 (Hair et al., 2013). This means that the scales are reliable.

The overall composite value for *Cronbach's alpha* is 0.924, which is above the recommended value of 0.7. These values tell us that we have an excellent internal consistency of the scales. Table 33 shows the *Cronbach's alpha* results.

Table 33. Experiment 4 - Cronbach's Alpha Results

Construct	*Cronbach's Alpha*	*N of Items*
Affective C.T.C.	0.906	6
Emotional Recognition	0.861	2
Interpersonal L. Trust	0.698	2

When we check the internal consistency of the scales individually, we can see that for affective commitment to change (0.906), and emotions (0.861) construct,

Cronbach's alpha values are above the recommended value of 0.7. For the trust construct (0.698), the value is just on the threshold of being acceptable. Based on these results, it can be concluded that the scales are also reliable individually.

7.3.4 MANOVA

When we check the descriptives, we can see that means among the groups are different. That is why we can continue with the MANOVA analysis.

However, without going forward, we check *Box's test* of equality of covariance matrices and *Levene's test* of equality of error variances. Both of them are significant, which means that the assumption of homogeneity of covariance matrices is violated. This is a problem because the MANOVA test is based on the assumption of homogeneity of covariance matrices. However, we can still continue with the analyses because the MANOVA test is robust to violations of the assumption of homogeneity of covariance matrices. Table 34 shows the results of *Box's test of equality of covariance matrices*.

Table 34. Experiment 4 - MANOVA - Box's M

Box's M	224.383
F	1.742
df1	110
df2	25173.244
Sig.	0.000

As the next step, *Levene's test of equality of error variances* was checked and no problems were found.

Next, when we check the multivariate tests, we can see that *Wilks' lambda* is significant, which means that there is a significant difference between the groups. The

Pillai's trace and the *Hotelling-Lawley trace* also confirm this result. Table 35 shows the results of *Multivariate tests*.

Table 35. Experiment 4 - MANOVA - Multivariate Tests

Effect		*Value*	*F*	*H. df*	*Err. df*	*Sig.*	η_p^2	δ
Intercept	Pillai's Trace	0.971	298.385b	10	90	0	0.971	2983.848
	Wilks' Lambda	0.029	298.385b	10	90	0	0.971	2983.848
	Hotelling's Trace	33.154	298.385b	10	90	0	0.971	2983.848
	Roy's Largest Root	33.154	298.385b	10	90	0	0.971	2983.848
GroupCat	Pillai's Trace	0.411	2.352	20	182	0.002	0.205	47.049
	Wilks' Lambda	0.613	2.491b	20	180	0.001	0.217	49.821
	Hotelling's Trace	0.591	2.628	20	178	0	0.228	52.567
	Roy's Largest Root	0.514	4.674c	10	91	0	0.339	46.745

The tests of between-subjects effects tell us that effect sizes are in a good range. In the results of the *Between-subjects effects*, we can see that all the values are all close to one, except for a few of the *reverse-coded items*. These effect sizes are also confirmed by the post hoc multiple comparisons.

Finally, the *post hoc multiple comparisons* show that there are mostly significant differences between the groups. This shows us that most of the results align with what we expected. Only a few (but critical ones) are not. These will be discussed in the next chapter.

7.3.5 ANOVA

As outlined by the MANOVA results, there are significant differences between the groups. That is why we can continue with the ANOVA analysis.

ANOVA results show us that there are significant differences between the groups in terms of affective commitment to change with p-value of 0.000, emotional recognition with 0.001, and interpersonal leader trust with 0.004. Between groups F values are 0.8 for affective commitment to change, 0.33 for emotional recognition, and 0.88 for interpersonal leader trust. Details of the item based ANOVA results are shown in the following tables.

Affective commitment to change

Table 36 shows the results of the ANOVA analysis for the affective commitment to change.

Emotional recognition

Table 37 shows the results of the ANOVA analysis for the emotional recognition (appeal, engagement and understanding).

Interpersonal leader trust

Table 38 shows the results of the ANOVA analysis for the interpersonal leader trust.

7.3.6 Independent samples t-tests

T-test (independent test samples) analyses were executed to see if there were any significant differences between the groups with the following *null hypothesis* (H_0) and *alternative hypothesis* (H_1).

- H_0: $\mu 1 = \mu 2$

("the two population means are equal")

- H_1: $\mu 1 \neq \mu 2$

("the two population means are not equal")

We have three groups, so executing *t-tests*, all the combinations should be checked. The combinations are

- *EG2* vs. *EG1*
- *EG2* vs. *CG*
- *EG1* vs. *CG*

In *Levene's Test*, for dependent variables, it was mostly observed that all significance values were greater than 0.05 (variance being the *homogeneous* case); thus, "the *equal variances assumed*" values were used to draw conclusions. When this was not the case, it was explicitly stated in the following sections.

For the significance values, since are interested in both directions (ie. with the possibly of one group scoring less than the other when opposite was expected), we used a *two-tailed* test, thus two tailed significance levels are reported. The significance level was set to 0.05 and 95% confidence intervals (upper and lower) were provided in the tables below.

For experiment 4, the experimental group 2 (EG2) was given the non-congruent story. That was the cauldron story. Experimental group 1 (EG1) was given the congruent story. That was the tiger story. Control group (CG) was not given any story. They were given facts and figures. Manipulation checks for the stories were made. Please check the previous sections for more details.

7.3.6.1 Differences between EG2/EG1

We wanted to check if there were any significant differences between participants regarding the composite constructs of affective commitment to change, emotions and trust related variables between the *EG2* and *EG1* groups. We used a *t-test* to check for any differences between the EG2 and EG1 group means. Table 39 shows the results of the t-test.

Results show no significant differences in affective commitment to change related questions between the EG2 and EG1 groups. When we check the significance of the difference in means, we see that the *p-value* is *0.528* (two tailed), and it is greater than 0.05, which means that we cannot reject the null hypothesis. The same pattern applies to the trust construct, with *p-value* of *0.109*, and the emotions construct, with *p-value* of *0.094*.

Although the p-values for emotions and trust related construct are lower than the p-value for affective commitment to change construct, and thus the difference between the means is bigger, the statistical difference is still not significant.

This means hypotheses *Hypothesis 4.a (H4.a)*, *Hypothesis 6.a (H6.a)*, and *Hypothesis 8.a (H8.a)*, are *not supported*.

This insignificance was not expected. Please refer to the discussion section for alternative explanations why this was the case.

When we run the same analysis for individual items, we start to see some significant differences in some constructs. For the individual items of "I have an understanding of how we would like to achieve our goals" and "I understand the CEO's emotions", when we check the significance of the difference in means, we see that the *p-value* is *0.048* for understanding of achievement of the goals and the

p-value is *0.021* for the understanding of emotions of the CEO. Since both values are lower than 0.05, we can reject the null hypothesis. This means that there are significant differences between the EG2 and EG1 groups, when the level of analysis changes to individual items.

Taking this finding a few steps ahead, there's clearly a common pattern of "understanding" between these two individual items. It means participants clearly understand achievement of the goals of the company, and they understand the emotions of the CEO significantly better when a *symbolically congruent story* is used. Perhaps the items should have been grouped into a construct about understanding and that would be significantly different for the experimental group 2 versus all the control groups.

At this level of analysis, taking into the understanding related construct, we cannot clearly assert whether it is the understating of emotions that help understanding of how goals would be achieved, or vice versa, or both acting independently. We can only conclude that the "understanding" related construct that has the dimensions of "understanding of emotions" and "understanding of achievement of the goals" would be significantly different between the EG2 and EG1 groups.

This finding is fascinating. The effect of using a *symbolically congruent story* and thus followers' understanding and internalizing the change might be the most important outcomes that this final study has taught us about use of stories.

When we look at other insignificant items, we can see that there are few more conclusions can be drawn from them. We can see that identifying piece of communication as emotionally appealing or engaging is a process independent from

understanding the emotions encapsulated within it. In other words, a piece of communication could be seen as emotionally appealing or engaging without the understanding of the what exact emotions it conveys and why that emotion is conveyed in the first place.

This is also a very interesting and exciting finding. When we compare this with the affective commitment related construct, we can see using any story, symbolically congruent or not, is perceived as emotionally appealing and engaging and thus this perception is sufficient to create the affective commitment to change. In other words, affective commitment to change will be there when any (congruent or not) will be used in the communication. This will be discussed in the managerial implications section of the discussion chapter.

The perception of trustworthiness also follows a similar pattern. More research is required to understand the exact nature of this finding. Moreover, future studies can be designed to test the hypothesis that once the emotion is understood, followers can truly internalize how the organization will achieve its goals and how this internalization changes their affective commitment to change. These exciting findings will be detailed in the discussion chapter.

Finally, when the means are checked, we can see that the affective commitment to change construct has a mean of *5.5909* for EG2, and *5.7456* for EG1. The trust construct has a mean of *5.3788* for EG2, and *5.7895* for EG1. The emotions construct has a mean of *5.2273* for EG2, and *5.7500* for EG1.

This means that the EG2 group has a lower mean for affective commitment to change construct, trust construct and emotions construct, compared to the EG1 group; thus, hypotheses *Hypothesis 3.c (H3.c)*, *Hypothesis 5.c (H5.c):* and, *Hypothesis 7.c*

(H7.c): are *partially* supported. Other analyses are needed to fully support them and the following sections will provide those.

7.3.6.2 Differences between EG2/CG

As a next step, we wanted to check if there were any significant differences between participants regarding the composite constructs of affective commitment to change, emotions and trust related variables between the *EG2* and *CG* groups. Again *t-test* analysis was used to check for any differences between the EG2 and CG group means. Table 40 shows the results of the t-test.

Results show significant differences in affective commitment to change related questions between the EG2 and CG groups. When we check the significance of the difference in means, we see that the *p-value* is *0.001* (two tailed), and it is lower than 0.05, which means that we can reject the null hypothesis.

This means hypothesis *Hypothesis 4.c (H4.c)* is *not supported*. While unexpected, this finding confirms the results that was obtained when comparing the same construct for EG2 and EG1. The implication of this finding is that use of any story, symbolically congruent or not, is sufficient to create affective commitment to change. Since the CG group didn't listen to any story, their affective commitment to change is significantly lower than the EG2 group. This is explained both by emotional appeal and apophenia and will be discussed in detail in the discussions chapter.

The same pattern applies to the emotions construct, with *p-value* of *0.049*. However, the two tailed *p-value* for the trust construct is *0.076*, which means that we cannot reject the null hypothesis.

Given the results for the two tailed significance levels which examine the effects in two directions, positive and negative, we can conclude that *Hypothesis 6.c (H6.c)* is *not supported* and *Hypothesis 8.c (H8.c)* is *supported*.

The implication of this finding is that the use of any story, symbolically congruent or not, is sufficient to create and trigger emotions. Since the CG group didn't listen to any story, their emotions related construct are significantly lower than the EG2 group. This is explained both by emotional appeal and apophenia and will be discussed in detail in the discussions chapter.

If we take the level of analysis to the individual items (Bergkvist & Rossiter, 2007; Fuchs & Diamantopoulos, 2009), for the constructs that changed their significance level based on one-tailed or two-tailed significance, we can see that clearly see that it is only the emotional appeal and engagement item that shows a significance difference with a two-tailed *p-value* of *0.014*. This implies; introducing any story, even if symbolically incongruent, makes the communication emotionally appealing and engaging but that does not make any difference whether emotions are understood or not. As shown in the previous analysis, to have an understanding of emotions, the story needs to be symbolically congruent.

Last point that we would like to make about individual item level analysis is about reverse-coded items that are present in the affective commitment to change construct. In affective commitment to change, while groups differ for the composite construct, there are three individual items that does not show a significant difference between the EG2 and CG groups. These are all the reverse-coded variables "I think the management is making a mistake by introducing this change" variable, "Things would be better without this change" variable, and "This change is not necessary"

variable. This behavior of reverse-coded items was something that was observed in all of the previous experiments.

While there are certain benefits to using reverse-coded items, it has been found out that there is substantial amount of empirical evidence which indicates they cause measurement problems and have undesired consequences (Weijters & Baumgartner, 2012).

Finally, looking at the means of the constructs, we can say that CG group has a lower mean for affective commitment to change construct, trust construct and emotions construct, compared to the EG2 group; thus, hypotheses *Hypothesis 3.b (H3.b)*, *Hypothesis 5.b (H5.b):* and, *Hypothesis 7.b (H7.b):* are *fully* supported.

7.3.6.3 Differences between EG1/CG

Finally, we wanted to check if there were any significant differences between participants regarding the composite constructs of affective commitment to change, emotions and trust related variables between the *EG1* and *CG* groups. We used a *t-test* to check for any differences between the EG1 and CG group means. Table 41 shows the results of the t-test.

Results show significant clear differences in affective commitment to change related questions between the EG1 and CG groups. When we check the significance of the difference in means, we see that the *p-value* is *0.000* (two tailed), and it is lower than 0.05, which means that we can reject the null hypothesis. The same pattern of very clear differences applies to the emotions construct, with *p-value* of *0.000* and the trust construct with *p-value* of *0.002*.

This means hypotheses *Hypothesis 4.b (H4.b)*, *Hypothesis 6.b (H6.b)* and, *Hypothesis 8.b (H7.b)* are all *supported*.

This finding directly confirms and validates the results of the previous experiments, as the experimental setup in those studies were identical to this one. We were happy to have this confirmation after a few years of executing the older experiments. We will discuss this finding more in the discussion section. For the detailed explanations why this comparison was made once again for EG1 and CG, please refer to the methodology chapter.

Analysis at individual item level show there is only one variable that does not show significant difference between the EG1 and CG groups. This is the reverse coded "Things would be better without this change" variable. Similarly, the cause of this single item behaving differently is explained by Weijters and Baumgartner (2012) in their review paper about why reverse-coded items are inclined to show this kind of behavior (Weijters & Baumgartner, 2012).

The implications of this finding are also fascinating. It shows that in the context of the change, the participants in the EG1 group understand how the company will achieve it is goals significantly better than the participants in the CG group. The same applies to understanding the CEO's emotions and the interpersonal trust.

Finally, looking at the means, and comparing them to the means of the EG2 group; we can compare the three groups with each other. We see that the EG1 group with a symbolically congruent story has a significantly higher mean than the EG2 group with the symbolically incongruent story. We can see that the affective commitment to change construct has a mean of *5.7456* for C1, and *4.4785* for CG.

The trust construct has a mean of *5.7895* for EG1, and *4.7903* for CG. The emotions construct has a mean of *5.7500* for EG1, and *4.4355* for CG.

With that regard, hypotheses *Hypothesis 3.a (H3.a)*, *Hypothesis 3.b (H3.b)*, *Hypothesis 3.c (H3.c)* for affective commitment to change are *fully supported.* Similarly, hypotheses *Hypothesis 5.a (5.a)*, *Hypothesis 5.b (5.b)*, *Hypothesis 5.c (5.c)* for emotional recognition and hypotheses *Hypothesis 7.a (7.a)*, *Hypothesis 7.b (7.b)*, *Hypothesis 7.c (7.c)* for are *fully supported*.

This practically means that the participants in the EG1 group trust the leader more, find the communication more emotionally engaging and most importantly, understand how the company will achieve it is goals (in the context of the change) and understand the CEO's emotions better than the participants in the EG2 group.

Control variables

We wanted to check if there were any significant differences in participants' age and years of working experience, gender and level of blockchain technology knowledge between the *EG2*, *EG1* and *CG* groups. We used a *t-test* to check for differences.

Results show that there were no significant differences in all of the control variables between all of the groups. When we check the significance of the difference in means, we see that the all the p-values are greater than 0.05, which means that we cannot reject the null hypothesis, based on *Levene's test of equality of variances*.

This was an expected finding. If this were not the case, this would have undermined the validity of the study, especially for the level of blockchain technology knowledge item, which is a less common control variable.

The results show us that all of the sub-hypotheses that are part of *Hypothesis 9 (H9)* are *supported*.

7.4 Results for experiments 3, 2 and 1

These experiments were much simpler in their nature. There were only two groups, and the only difference between the groups was the presence of a story (with a high story-context symbolic congruence). For the details, check out the experiment design section in the methodology chapter.

The data analysis results for all these three experiments have been very similar to the results of Experiment 4's EG1 and CG comparisons. (That is how the older experimental groups map to the last experiment.)

The analyses from these experiments show us that *Hypothesis 1.a (H1.a)*, *Hypothesis 1.b (H1.b)*, and *Hypothesis 1.c (H1.c)* are all *supported* for these three experiments individually.

The the *t-test* results have been all significant, which means the experimental group 2 is significantly different from the control group in terms of affective commitment to change.

The control variables (age, gender, years of working experience, and knowledge of blockchain technologies) have also been checked for any differences between the groups. The results show that there are no significant differences between the groups in terms of the control variables.

Since the time difference (delta) between groups has been decreasing in value throughout the experiments (to improve the design of the experiment; please see

Appendix B for details), the significance values of the *t-tests* have also been decreasing, but they are all still statistically significant.

This might be due to the fact that the experimental group 2 has been exposed to the manipulation, ie. story (thus story-context symbolic congruence), for a longer time and the longer the exposure, the more the effect of the story on the participants.

7.5 Hypotheses testing results

Table 42 summarizes the hypotheses testing results for experiments 4, 3, 2, 1 and the story-context symbolic congruence survey.

Table 36. Experiment 4 - ANOVA - Affective Commitment to Change

Item		*Sum of Squares*	*df*	*Mean Square*	*F*	*Sig.*
I believe in the value of this change.	Between Groups	41.171	2	20.586	15.494	0
	Within Groups	131.535	99	1.329		
	Total	172.706	101			
This change is a good strategy for this organization.	Between Groups	38.68	2	19.34	12.935	0
	Within Groups	148.025	99	1.495		
	Total	186.706	101			
(R) I think that management is making a mistake by introducing this change.	Between Groups	37.147	2	18.573	6.785	0.002
	Within Groups	271.02	99	2.738		
	Total	308.167	101			
This change serves an important purpose.	Between Groups	31.044	2	15.522	9.698	0
	Within Groups	158.446	99	1.6		
	Total	189.49	101			
(R) Things would be better without this change.	Between Groups	16.007	2	8.004	2.306	0.105
	Within Groups	343.64	99	3.471		
	Total	359.647	101			
(R) This change is not necessary.	Between Groups	28.171	2	14.086	4.764	0.011
	Within Groups	292.701	99	2.957		
	Total	320.873	101			

Table 37. Experiment 4 - ANOVA - Emotional Recognition

Item	*Group*	*Sum of Squares*	*df*	*Mean Square*	*F*	*Sig.*
I found the CEO's presentation to be emotionally engaging.	Between Groups	45.249	2	22.625	7.926	0.001
	Within Groups	282.594	99	2.854		
	Total	327.843	101			
I understand the CEO's emotions.	Between Groups	18.123	2	9.062	5.086	0.008
	Within Groups	176.396	99	1.782		
	Total	194.52	101			

Table 38. Experiment 4 - ANOVA - Interpersonal Leader Trust

Item		*Sum of Squares*	*df*	*Mean Square*	*F*	*Sig.*
I have confidence in the motivations of the CEO.	Between Groups	16.996	2	8.498	3.627	0.03
	Within Groups	231.994	99	2.343		
	Total	248.99	101			
I have an understanding of how we (as this company) would like to achieve our goals.	Between Groups	18.497	2	9.249	6.06	0.003
	Within Groups	151.081	99	1.526		
	Total	169.578	101			

Table 39. Experiment 4 - T-TEST - EG2 vs. EG1 Results

Comp. const.	*t*	*df*	*Sig. (2-tailed)*	MD	SEM	CI_L	CI_U
Affective Com. C.	-0.635	69	0.528	-0.1547	0.2438	-0.64107	0.33166
Trust C.	-1.625	69	0.109	-0.41069	0.25272	-0.91484	0.09347
Emotions C.	-1.699	69	0.094	-0.52273	0.30775	-1.13667	0.09122

Table 40. Experiment 4 - T-TEST - EG2 vs. CG Results

Comp. const.	*t*	*df*	*Sig. (2-tailed)*	MD	SEM	CI_L	CI_U
Affective CTC. C.	3.483	62	0.001	1.11241	0.3194	0.47394	1.75089
Trust C.	1.804	62	0.076	0.58847	0.32612	-0.06345	1.24038
Emotions C.	2.009	62	0.049	0.79179	0.39409	0.00401	1.57957

Table 41. Experiment 4 T-TEST EG1 vs. CG Results

Comp. Const.	*t*	*df*	*Sig. (2-tailed)*	MD	SEM	CI_L	CI_U
Affective CTC. C.	4.038	67	0.000	1.26712	0.3138	0.64077	1.89347
Trust C.	3.31	67	0.002	0.99915	0.30182	0.39671	1.6016
Emotions C.	3.896	67	0.000	1.31452	0.33744	0.64098	1.98805

Table 42. The Summary of Hypotheses Testing Results

Hypothesis #	*Type*	*Focus area*	*Result*
H1.a	H_0 vs. H_1	Affective commitment to change	Supported
H1.b	H_0 vs. H_1	Affective commitment to change	Supported
H1.c	H_0 vs. H_1	Affective commitment to change	Supported
H2.a	Consensus	Story-context symbolic congruence	Supported
H2.b	Consensus	Story-context symbolic congruence	Supported
H2.c	H_0 vs. H_1	Story-context symbolic congruence	Supported
H3.a	Ordinal	Affective commitment to change	Supported
H3.b	Ordinal	Affective commitment to change	Supported
H3.c	Ordinal	Affective commitment to change	Supported
H4.a	H_0 vs. H_1	Affective commitment to change	*Not supported*
H4.b	H_0 vs. H_1	Affective commitment to change	Supported
H4.c	H_0 vs. H_1	Affective commitment to change	*Not supported*
H5.a	Ordinal	Emotional appeal	Supported
H5.b	Ordinal	Emotional appeal	Supported
H5.c	Ordinal	Emotional appeal	Supported
H6.a	H_0 vs. H_1	Emotional appeal	*Not supported*
H6.b	H_0 vs. H_1	Emotional appeal	Supported
H6.c	H_0 vs. H_1	Emotional appeal	*Not supported*
H7.a	Ordinal	Interpersonal leader trust	Supported
H7.b	Ordinal	Interpersonal leader trust	Supported
H7.c	Ordinal	Interpersonal leader trust	Supported
H8.a	H_0 vs. H_1	Interpersonal leader trust	*Not supported*
H8.b	H_0 vs. H_1	Interpersonal leader trust	Supported
H8.c	H_0 vs. H_1	Interpersonal leader trust	Supported
H9.a	H_0 vs. H_1	Affective commitment to change	Supported
H9.b	H_0 vs. H_1	Affective commitment to change	Supported
H9.c	H_0 vs. H_1	Emotional appeal	Supported
H9.d	H_0 vs. H_1	Emotional appeal	Supported
H9.e	H_0 vs. H_1	Interpersonal leader trust	Supported
H9.f	H_0 vs. H_1	Interpersonal leader trust	Supported

CHAPTER 8

DISCUSSION AND CONCLUSION

8.1 Introduction

This chapter presents the implications of the experiment results in the form of a discussion. Following that discussion, the conclusions are drawn from the synthesis of the literature. The strengths and limitations of the study then follow this theoretical synthesis. Finally, future research directions are provided for researchers who wish to take these findings a few steps further.

8.2 Theoretical implications

Synthesis of the literature reveals that strategic leadership overlaps significantly with stories and storytelling. They could even be considered the same thing. A striking example of this similarity can be found in Appendix E.

Like strategic leadership, stories build "bridges between the past, the present, and the future" (Boal & Hooijberg, 2000). These bridges (stories) act as the "road map" (Boal & Hooijberg, 2000) for the organization that allows it to evolve and innovate. Stories are the "vision" (Boal & Hooijberg, 2000) that enables organizations to make and give sense during turbulent and ambiguous times.

This theoretical finding parallels the suggestion that leadership itself can be seen as a socially constructed story (Auvinen, Aaltio, & Blomqvist, 2013).

There are many functions of storytelling that empower strategic change leadership. Some of the most notable ones are: amending and altering organizational reality, developing and sharpening the sense of purpose (held by employees), and co-creating the organizational vision and the strategy (Boyce, 1996).

The narrative theory suggests that we endorse stories for the basis of our decisions and actions while we create new stories that better account for our lives (Fisher, 1985). These new stories are the potential to change, and they can be seen as a journey of exploration of the value the change can bring to us.

In the context of change, using stories strategically can benefit the organization by reducing the resistance to change by reducing counterarguments (Krakow, Yale, Jensen, Carcioppolo, & Ratcliff, 2018) because they bias our processing of the information away from the negative thoughts (Krause & Rucker, 2020). Especially, when "purposeful" stories (Snowden, 2000) are used, they become "powerful persuasive devices" (Krause & Rucker, 2020) and that can "shape" (Martin, Feldman, Hatch, & Sitkin, 1983) culture of the organization (Snowden, 2000) by reinforcing the organization's values and identity (Boal & Hooijberg, 2000).

As an alternative perspective, the culture of the organization can be seen as an "adaptive behavior" (Baskin, 2008) to change and this behavior formed of stories of "how things are done" in the organization (Baskin, 2008). When the culture cannot adapt to the changes anymore, it needs a new story to be told. With that regard, re-mythologizing (McWhinney & Batista, 1988) or unlearning can revitalize the organization's culture. Changing the mental representation of major events and links between them in a way to change the life-story schema of the organization (Bluck & Habermas, 2000) is the equivalent of re-writing the organization's story.

An emotional element of communication (Amis & Aissaoui, 2013; Bayraktar & Kabasakal, 2022) is required to convince people about the change (Sole & Wilson, 2002), and stories are great tools for that due to their high potential to embody

emotions. Using stories, leaders can convert emotions into action and (social) change (Mahoney, 2017).

One of the reasons stories create emotional appeal is because they contain metaphors and symbols (Fox & Amichai-Hamburger, 2001; Sinclair, 2005). Emotional appeal is required for emotional engagement(Kahn, 1990) and is one of the fundamental parts of change communication (Bayraktar & Kabasakal, 2022).

Stories can help build consensus among the employees regarding the change initiative (Graetz, 2000), influence their affective commitment to change (Herscovitch & Meyer, 2002), and affect their readiness (Amis & Aissaoui, 2013) and openness (Wanberg & Banas, 2000) to change.

The root reason why all these proposed outcomes and explanations about stories and storytelling are possible fundamentally depends on human biology, the evolution of our species (Caine, Caine, McClintic, & Klimek, 2009), and brain science (neuroscience and neurochemistry, to be precise).

Laboratory experiments and fMRI scans have proved that stories and the specific styles of narratives (Zak, 2014) change the concentrations of neurochemicals in our brain (Zak, 2015), and this, in turn, increases the neural activity in our brains (Snow, Lazauskas, et al., 2018) and even creates neural coupling (Stephens, Silbert, & Hasson, 2010). These outcomes can create different states of mind, feelings, and emotions and develop a sense of connectedness between the storyteller and the listeners (Stephens et al., 2010).

From the storytelling perspective, the fields of biology and psychology (Cook, 2012) intersect at the concept of apophenia, the human need and tendency to see patterns between unrelated things (Fyfe, Williams, Mason, & Pickup, 2008; Goldfarb

& King, 2016). Stories fulfill this need very well and create a sense of order (Buetow, 2019). That is also why they are very effective in change processes because they help people make sense of the change and the new reality.

Stories become effective tools when dealing with heterogeneous groups (Gardner, 2006) and confirmation bias (Nickerson, 1998), also based on findings of brain science (Demeester, 2010; LeDoux, 1998).

Stories create interpersonal leadership trust as they bypass the rational mind and go straight to the emotional mind (Demeester, 2010) to provide a perception of congruence between leaders' "espoused and enacted" (Joseph & Winston, 2005) values and leader integrity (Yukl & Gardner, 2019). This theoretical finding parallels the suggestion that creating leaders' trust can be conceptualized as a narrative process (Fisher, 2021).

Combining the ideas and findings from the strategic change leadership literature and change communication literature, we can synthesize a new and narrower construct, the strategic change leadership communication (SCLC), to satisfy the assumption that it will draw boundaries around the context of the experiments and limit the scope of the study.

Stories diminish the power distance between the leader and the followers (Auvinen et al., 2013) due to the perception that communication takes place "face-to-face" and this creates a sense of organizational equality (Weick & Browning, 1986).

Stories simulate complex organizational realities very well due to their structural and functional parallels (Busse, 2020). In a way, stories can be seen as a

(flight) simulator for the real world. They prepare us for the real world by helping us see (imagine) consequences or outcomes that have not yet come true.

In organizations, this kind of simulation empowers employees to anticipate change, simplify their mental models about the change initiatives (Busse, 2020), and in return, enable them to make sense of what is really happening. Ultimately, this allows them to cope with volatility, uncertainty, complexity, and ambiguity. This is also known as "VUCA" (Bennett & Lemoine, 2014).

8.3 Methodical complexities

Our examination of experimental research in social sciences has revealed that it poses several challenges, particularly when the complexity of the experimental design increases. The experimental design steps in the first three experiments were more straightforward than the last one.

The final experiment, Experiment 4, exemplified this as it involved three groups and additional multiple dependent variables. Additionally, the use of real narratives, in the form of audio files, introduced a further layer of complexity in terms of methodology. These difficulties will be further analyzed in the upcoming limitations section, offering insights into the complexities inherent to utilizing narratives in experimental research.

8.4 Main discussion for the experimental results

Experiment results prove that stories are indeed "catalysts for change" (Kets de Vries, 2015) and that they outperform rational arguments in strategic change leadership communication. Experiment results also show that the use of stories, due to their

affective nature, can "translate emotions into action" (Mahoney, 2017) by creating affective commitment to change, especially when used effectively.

One of the most striking results of the experiments was about "understanding emotions". The results of the experiments show that the participants were able to understand the emotions of the leader significantly better when the context-story symbolic congruence was high. In other words, the participants were able to understand the leader's emotions better when the story was congruent with the context (see literature review for details), and this self-awareness resulting from this "understanding" made all the difference.

This fascinating finding about "understanding of emotions" was not explicitly hypothesized previously. It was a surprise finding that came out of the experiments.

In light of our findings on the topic of understanding of emotions, further investigation uncovered two additional insights. Firstly, it was discovered that "emotional appeal and engagement" constitutes a distinct and separate phenomenon from "understanding emotions." In other words, a piece of communication may evoke "emotional appeal and engagement" in listeners, yet still not lead to an "understanding" of the emotions conveyed. This highlights the complex nature of emotional communication and underscores the importance of clear and comprehensive transmission of emotions. Secondly, participants who exhibited a higher level of understanding regarding the emotions of the leader also demonstrated increased levels of trust in the said leader. These findings provide valuable insights into the complex relationship between emotions, understanding, and trust.

It is known that our species, homo sapiens, have evolved to be equipped with the gift of understanding the story form very well. This means that when messages

are communicated through stories, we can naturally understand them much better. The results of the experiments highlighted a few critical points and details about this understanding, especially about emotions and when communicating strategic messages.

This finding shines new light on using stories in strategic communication and leadership. Tactical stories need to be symbolically congruent with the context to be effective in the change process. This new finding has not been discussed in the literature before.

Many of the hypotheses were supported by the results of the experiments. Table 42 summarizes the results of the hypotheses testing.

There were few exceptions, and the root cause of these exceptions is due to other explanations that were not considered while developing hypotheses. Further research has come up with some of these explanations.

For example, in *H10*, it was hypothesized that affective commitment to change construct results would be significantly higher for the group that listens to the congruent story than the group that listens to the non-congruent story. However, this was not supported by the results, and this result was one of the most surprising insights gained.

Further research was conducted to find the root cause of this result. It was discovered the root cause of this outcome might be apophenia, a human tendency to find meanings in unrelated things. (See literature review for details.) The participants in the congruent story group and the participants in the non-congruent story were both able to find the symbolic meaning of the story; thus, the results of affective

commitment to change did not differ significantly. While the participants in the congruent story group scored higher, the difference was not significant.

Interestingly, this result was actually hinted to us before even executing the experiment. In the manipulation check survey for agreement on the story's symbolic congruence with the context, the results showed that while the participants in the congruent story survey were in more agreement with the symbolic congruence of the story (90%), there were a lot more false positives in the non-congruent story survey (%75). Somehow, participants in the non-congruent story survey were able to find the symbolic meaning of the story, and at that time, this was also explained by apophenia (Fyfe et al., 2008).

The same pattern of results was also observed for the leader's trust and emotions-related constructs.

8.5 Managerial implications

Telling a story makes all the difference, and this was proven with the experiments. It is a plain and simple fact. The underlying reason for this is that the story helps with communication, it helps with understanding, thus, helps with change. The relevance of the story to the context is very important; however, even if it is not entirely applicable and the congruency is not present at all, the story remains a critical component as the followers' apophenic mechanisms will enable them to find meaning in it. It is recommended that leaders prepare and possess an appropriate narrative, as this will enhance the overall impact of the communication.

Having a symbolically congruent story was proven to yield better results. Our findings indicate that uncovering the symbolic meaning of a story is a crucial aspect

of the process. This understanding of the symbolic meaning is the key to comprehending the leader's emotions and ultimately represents the key to effecting change. These results emphasize the significance of interpreting the symbolic elements of narratives in order to gain a deeper understanding of the emotions being conveyed.

Incorporating symbolically congruent storytelling into strategic change communication provides leaders with a valuable tool for bridging the gap between the vision of change and the challenges that will be encountered along the way. Using a symbolically congruent story highlights the similarities between challenges faced in both the story and the real world, serving to facilitate greater understanding and support for the change initiative. This process triggers the mental simplification processes necessary for followers to comprehend the change being proposed by the leader. By facilitating mental simplification, leaders can cultivate a greater sense of order and coherence among their followers, enhancing their ability to understand the emotions being conveyed. Consequently, the greater the alignment between the story and the context, the clearer the emotional understanding and the higher the level of trust that followers will place in the leader. This underscores the importance of strategic storytelling as a means of effective emotional communication.

One small practical tip about using a symbolically congruent story would be that it is essential to explicitly acknowledge why the story is being told in a given context so that the leader's intentions are understood clearly.

On the more practical side of things: if someone asked my storytelling teacher Liberman, she would most probably say that leaders should trust their instincts about

choosing the right story in the right context. We agree with her statement, but we would like to take a few steps ahead to formulate three more practical suggestions.

In order to effectively utilize storytelling in the context of strategic change communication, it is important for leaders to have a strong foundation in the dynamics of their current environment. They should be aware of the challenges and opportunities that exist in the current context, as well as the values and beliefs that are held by followers. This understanding and knowledge can then be used to "train" their instincts to choose a story that is symbolically congruent with the current environment.

Secondly, leaders are advised to be well-versed in a range of relevant stories. Simply choosing a story may not be sufficient. Leaders should also be prepared to modify and tailor their selected story to align with the specific context and organizational reality, leveraging values, anecdotes, and archetypes to maximize its impact and engagement. This process of refinement and customization can result in a more powerful and effective storytelling experience. To achieve these outcomes, after the process of training their instincts, leaders are advised to build a diverse collection of stories, as well as be willing to adapt and re-design their selected stories as necessary.

In conclusion, these three things (training instincts, learning stories, and modifying them) do really need a lot of time. If a leader does not have the required time or opportunities for adequate preparation, they can try to find a story manually by checking some books that are published for that given purpose. Appendix C includes some suggestions. Similarly, leaders can ask some storytelling experts, as was done in this dissertation, for their suggestions and help. Last but not least, Taylor

et al. (2002) have compiled a few criteria that make some stories more effective than others (Taylor, Fisher, & Dufresne, 2002).

8.6 Strengths and limitations of the research

There were several limitations to these studies that we were aware of. We would like to mention them here. These limitations are common to all studies. Some of these limitations can be addressed in future work. While some of these are methodological, others are more conceptual.

8.6.1 Limitation about not a real person telling the story

The story was not told by a real person. It was told by artificial intelligence (natural human-sounding robot voice). This is a limitation because artificial intelligence technology cannot outperform the storytelling performances of real humans yet, especially if the storytellers are skilled in their craft.

While the voices (the intonations etc.) were gradually improved over time, we still think it is one of the most significant limitations of this study.

Findings from Winkle et al. (2017) also suggest that emotion portrayal through robot voices still lacks a few specific features that are present in human voices (Winkle & Bremner, 2017).

8.6.2 Limitation about not being present when the story was told

The participants of the experiments were not physically present while the story was being told. Thus non-verbal cues were not transmitted.

They could not see the storyteller, her face, her facial expressions, and all the things that make us real human beings. This is an extension of the previous limitation.

In their review of non-verbal elements of leadership behavior, Schyns and Mohr (2004) confirm that non-verbal cues are a critical part of leaders' behaviors (Schyns & Mohr, 2004).

8.6.3 Limitation about stories not stimulating a dialogue

As a combination of the previous two limitations, the dialogue was not simulated among participants. It will also never be simulated in the future either. Ready (2002) advises using stories to stimulate dialogue, reflection, and action (among the listeners). In other words, stories in his suggested settings are not speeches; they are catalysts for discussion (Ready, 2002).

Another methodological limitation of this study, due to its design, was that it was not able to stimulate a dialogue. Everybody was not in the same place, so that is why the impact of the story might have been lower than it would have been.

For maximum impact, we would have preferred to have a facilitated dialogue with the participants so that we could talk in more depth about the challenges raised in the story and how those symbolizes the situation they are encountering. It is very reinforcing when participants reflect on their story-listening experience. It can be argued that facilitating such a dialogue is an action that would increase the effectiveness of the story. Further research and experiments can be designed to measure those.

It was hoped to have this critical element as part of this Ph.D. research, but COVID-19 happened, and the plans had to change due to the pandemic. There were lockdowns and travel restrictions, so meeting with real people in real life was not possible.

8.6.4 Limitation about participants not being part of the same organization

The participants were not part of the same organization. This means they did not really share the same organizational context. They were not part of the same team, and they did not have the same goals; they did not have the same challenges. They did not share the same company culture. We were well aware that there would be a loss of effectiveness since experiments were done with non-employees (of a company).

In the case study that was written, we asked the participants to consider themselves as employees of the company. The truth is that they are not. For this reason, they will never be able to put themselves in the shoes of real employees of a real company since nothing is a stake for them. They are not really risking anything, their career, jobs, or income (standard of life), by choosing or not choosing to comply with the new vision. They will just walk out of the classroom as students after 20 minutes or finish listening to the recording and continue with their lives.

It was advised to make a business case that really relates to participants and their needs. It would have made much more sense to write about something that would touch their self-leadership. However, it was decided that this strategy might deviate the research from the domain of organizations and management; thus, a

"business" case study was written, and it would only be right to include this idea as a limitation.

In experiments 2, 3, and 4, friends, family, and colleagues were not used as participants. They were totally random people that might even come from different countries. While this helps with the generalizability of the overall results, it would still have been much better if this was done with real people in a real organization.

8.6.5 Limitation about being in formal vs. informal settings

Intrinsically, we feel like stories are more appropriate for more informational settings or situations. While this was not directly tested in this dissertation, the whole case study (where the story was told) was conceptualized as if it were a keynote speech/presentation, which, by definition, is a formal setting. While it was proven that the story was still effective in a formal setting, we believe it would have been more effective in an informal setting. This can be something that future research can explore.

We believe this is a natural extension of limitation number 3. In a more formal setting, usually, we see less two-way communication, dialogue, or instant feedback from the audience. We believe that makes a big difference in the effectiveness of the story.

8.6.6 Limitation about exercising leadership in a vacuum

As an extension of limitation number 4, we would like to lay out another limitation about contextual factors. These contextual factors change how people experience leadership.

As once suggested by Warren Bennis (1996), leadership is never exerted in a vacuum. He argues that leadership is a transaction between the leader, his/her followers, and the goal or dream (Bennis, 1996).

One of the biggest limitations of the study is this point. Confirming Bennis' point of view, we would like to point out that in leadership research, everything is contextual. Since this is only a case study, there is no actual company, and participants are not actually employees. There is no real goal or dream that is relevant to the participants of this case study. Thus, these considerable contextual differences would deviate the study results from field experiment results.

There are other more minor contextual differences too. For example, the participants of experiment one received a recording of this case study in their email. They perhaps listened in different environments (some at home, some on the bus) but perhaps not in a meeting room. Perhaps some of them were disturbed/disrupted during their session, and they all listened to this at different times of the day. Some might have done the study at night, while others in the morning, so their concentration, focus, energy levels, etc., would have been different for these reasons too. (And for all the other personal reasons we cannot really take into account, this also applies to the real-life stations as well.)

Also, the participants of this study (apart from experiment 1) were all incentivized monetarily. Doing something for the sake of money is not the same as doing something you have to go through for your job. This is a fundamental distinction that needs to be made.

Additionally, the validity of the results boils down to the listeners' (the participants') imagination. Some people lack imagination, thus the ability to put

themselves in the shoes of actual employees. Or similarly, their motivation to put themselves in the shoes of the employees, just because they have been asked to do so, would not be as high as it would be if they were actually employees of the company.

It is pretty difficult to put oneself in the shoes of actual employees. This means they are not really risking anything, such as their career, their jobs, or their income (standard of life), by choosing or not choosing to comply with the new vision presented in the case study. Participants just answer some of the questions, earn some money and continue with their lives.

8.6.7 Limitation about the delivery style

This study's fundamental assumption was that the story's delivery style was well done. In other words, in order to conclude that the results of these experiments are valid, it was assumed that the delivery style of the leader when telling the story was captivating and engaging, and the leader knows the artistic expression of how to tell a story. This is a crucial assumption that needs to be tested in future research.

If the delivery style of the story is not captivating, then the results of this study might not be true. In other words, the delivery style of the story would change its effectiveness. This has many parallels with the research on the delivery style of the leader (Baur et al., 2016).

In line with the limitation about not being a real person, in the future, some of the things that can be varied are (not limited to) nonverbal cues and facial expressions, voice tone, rate, pitch, volume, pauses, fluency of delivery, eye contact, use of gestures, use of music and other audio effects, use of special lighting, use of special props, use of special costumes, use of special set design, use of special video

effects. Future work about this can manipulate the delivery style of the story based on these factors to gain further insights.

8.6.8 Strengths of the research

Specific novel methodological approaches when generating narratives and collecting data could be seen as strengths of the research. Examples include randomized assignment of participants to various groups using Django and Python, two-layered checks and verifications to ensure data quality, and the use of artificial intelligence (previously SSML tagging) to generate audio files with text-to-speech processing. Details of these approaches can be found in the research design chapter.

The use of AMT can be seen as another strength. It was a practical demonstration of how researchers can get data and feedback about their research that is required really fast and in high quality. AMT also auto-fills in the missing participants' data that have been rejected, so keeping the sample size consistent becomes second nature. The ability to include premium workers and the allowed tweaks for the AMT worker settings for participants based on certain criteria (such as their rating) should be stressed out.

The data was collected from participants from all over the world. This is a strength because it shows that the results are not biased toward a specific culture or country.

Since the experiments nearly spanned ten years, in a sense, this could be considered a pseudo-longitudinal study. It is not an actual longitudinal study since the participants were different. However, the same results were still observed (under the

same conditions) over a long period of time, and we believe this is one of the study's strengths.

LateX and Github were used in writing this dissertation. This is a strength because that approach has yielded some great suggestions (tips) in terms of writing style, collaboration with other academics, and sharing the dissertation (as well as the results). Details for LateX and Github usage and the benefits they provide can be found in Appendix D.

The theoretical findings of this dissertation have been achieved with a synthesis of literature from different fields of study, such as storytelling, leadership, change management, organizational behavior, psychology, neuroscience, communications, etc. This synthesis is another strength because it highlights new areas that need to be researched in the future.

Last but not least, being an under-researched topic is one of the strengths of this dissertation. While some might believe that stories and storytelling are temporary management fads, I think they are wrong. In contrast, stories are timeless and have consistent results even after many years. This timeless nature of the stories has been proven by the studies (experiments) in this thesis which span nearly a decade. Due to their timeless aspect, stories have been, are, and will always be powerful tools to lead change processes in organizations.

8.7 Suggestions for future research

Based on the limitations above and the overall experience running the study, the suggestions for future research would fall into two main categories.

The first category is the methodological limitations are those that are related to the way the research was conducted. Most of the limitations addressed in the previous section fall into this category, and they are great candidates for future research.

The second category is the conceptual limitations are those that are related to the way the research was conceptualized. These include the construction of the conceptual model, the variables used in the experiments, and the theoretical framework used in the study. These are also great candidates for future research. Please refer to Appendix B for alternatives on the model, variables, and theoretical framework.

8.8 Concluding remarks

Stories are highly illustrative, powerful, and effective tools for leaders to communicate their vision and inspire their followers to shape their reality and, thus, the organizations' reality.

They are instrumental in bringing meaningful change in organizations because they are usually full of hope, demonstrate the triumph of overcoming challenges, and show how the future can be better and brighter than the present. That is exactly what people in the change processes need to hear.

Stories take the listeners much further beyond the sentence/word boundaries of the language and transport them into the enchanted realms of imagination and emotions. When they do, they influence our perceptions and shape the way we think, feel, and act. They alter our perspectives of the world, others (including our leaders, organizations, etc.), and eventually, ourselves and our lives.

It is imperative to understand that our whole life and existence is a narrative in its essence, and we are the hero in the story. Whether we acknowledge it or not, we are actually telling the story of our lives to ourselves all the time. This dissertation serves as an open invitation for leaders within organizations to do this more explicitly, deliberately, and strategically. We should allow stories to guide us toward shaping our reality and let these four magical words open new chapters in our lives to lead the change:

Once upon a time...

APPENDIX A

STORIES USED IN EXPERIMENTS AND SSML

These are the narratives that were used in the early-stage, mid-state and late-stage experiments. They have been modified to fit the context of the experiments. In each iteration of the experiments, both the story and the case study have been modified slightly for the improvements suggested.

Except for the first experiment, the story is a modification of "The prince who feared tigers" (Shah, 2008). In the first experiment, the story was the Turkish version of the same narrative (Liberman, 2018).

The case study is inspired by many articles (Tapscott & Tapscott, 2017a; Tapscott & Tapscott, 2017b) and news reports.

A.1 Experiment 1: The early stage case study and story in Turkish

This was the state of the story before all the changes requested and improvements made on it.

This was narrated by myself, and was used on study 1 only. I will try to highlight the sections that make up the whole case study.

Since I have read the story directly and without any changes (from Judith Liberman's book) (Liberman, 2018), I cannot share it here. In the rest of the appendix, I will share the story in English (Shah, 2008), which was modified heavily by me.

Prelude (EG2 and CG)

Az sonra, Wall Street'de faaliyet gösteren bir finans şirketinin uzun süredir beklenen, şirketteki büyük ve stratejik bir değişimle alakalı olan toplantısını

dinleyeceksiniz. Siz şirketin bir çalışanısınız ve toplantıya katıldınız. Şirketin bir çalışanı olarak bu söz konusu büyük değişim herkesi olduğu gibi sizi de etkileyebilir. CEO bu stratejik değişimi duyuracak ve onunla alakalı olarak çeşitli açıklamalar yapacak.

CEO: Sevgili çalışanlar, daha önce duyduğunuz ve bildiğiniz gibi finans şirketimiz, yepyeni bir maceraya atılıyor. Önümüzdeki aydan itibaren şirket bünyesinde "Blockchain ve Cryptocurrency Finansal Operasyonları" isimli yeni bir bölüm faaliyetlerine başlayacak. Bu yeni teknoloji şirkette işlerin yapılış şeklini büyük ölçüde değiştirecek. Şirketin CEO'su olarak size bu değişimlerin detayını sunmak isterim.

Bir süredir yapmakta olduğumuz teknik analizlerin sonuçları gösterdi ki, blockchain (blokzincir) teknolojilerinin adaptasyonunu yakın zamanda gerçekleştirmezsek, kısa ve uzun vadede başarılı olma gibi bir olanağımız yok.

Böyle bir kararı vermek kolay değildi. Artan iç ve dış baskılarla, fark ettik ki cryptocurrency'leri portfolyomüze eklemekten başka bir şansımız, çaremiz yok. Bu cryptocurrency'ler arasında Bitcoin, Ethereum, Ripple, Cardano ve IOTA bulunmakta..

Bu teknolojiler ve bazı cryptocurrency'ler bir süredir ortalıktaydı. Örneğin Bitcoin neredeyse 10 senedir var. Fakat biz, ve bizim gibi diğer birçok finans şirketi bu teknolojilere inanmıyordu ve zaman zaman önümüze çıksalar da onları görmezden gelmeyi seçiyorduk.

Şimdi ise, görünüşe bakılırsa, artık böyle bir seçeceğimiz bulunmuyor. Şirketimizin geleceği, bu teknolojilerle ve değişimlerle ne kadar iyi bağlandığımızla doğrudan alakalı (olacak).

Rational Reasoning Part (EG2 and CG)

CEO: Bu noktaya nasıl ulaştığımızı sizlere anlatmak isterim.

Finans sektöründe regülasyon giderlerinin giderek attığını gözlemliyoruz. Bu giderler, bizim de toplam giderlerimizin büyük bir kısmını oluşturuyor.

Bu artan masraflar tüketicilerin, müşterilerimizin omuzlarına maddi bir yük olarak yansımakta. Müşteriler ise giderlerin artmasından hiç mutlu değiller.

Rekabet artık blockchain alanına kaymış durumda. Kişiden kişiye toplu iş birliği modellerini destekleyen bu teknolojiler, çeşitli işlem giderlerini düşürüyor. Aynı zamanda birçok organizasyonel formu da gereksiz kılıyor. Bu teknolojileri adapte etmiş şirketler bu verimliği rekabetsel avantaj olarak kullanmaktalar.

Üzülerek söylemeliyim ki, şirketimiz blockchain teknolojileri tarafından gereksiz kılınan bu organizasyonel formlardan oluşmakta. Eğer bir an önce harekete geçmezsek, çok ciddi ve karşı koyamayacağımız bir rekabetin içine girmiş olacağız.

Aslında şirket yöneticileri olarak uzun süredir bu teknolojilerden haberdardık ve durumun yavaş yavaş bu hale geldiğini de uzaktan gözlemliyorduk. Uzun süre bu yeni akıma karşı direndik, göz ardı ettik. Bu teknolojileri ve ardındaki felsefeyi tam olarak anlamıyorduk. Bilinmeze adım atmaya korkuyorduk. Oysaki bugün, durum daha fazla göz ardı edemeyeceğimiz, direnemeyeceğimiz bir boyuta ulaştı. Harekete geçmek dışında bir seçeceğimiz kalmadı.

İyi haber şu ki, bu teknolojileri derinlemesine şahsen araştırdıktan sonra finans sektörünün şu anki işleyişinin ne kadar verimsiz olduğunu ve blockchain teknolojilerini kullanarak büyük kazançlar elde edebileceğimizi anlamış bulunuyorum. Size açıklamama izin verin.

Büyük bir verimsizlik okyanusunun içinde yüzüyoruz çünkü finans sektöründe dijitallik anlayışımız, kağıt üzerindeki süreçlerin dijital ismiyle tekrar paketlenmesinden ibaret. Bu gerçekten dijital değildir ve bu legacy birçok işi ve inovasyonu yavaşlatmaktadır.

İkincisi, verimsizlik okyanusunda boğuluyoruz çünkü, mevcut finansal sistemimiz merkezi bir yapı. Bu yapı değişime çok zor adapte olmak anlamına geliyor. Ayrıca sistemin hatalara ve saldırılara karşı da açık olduğu anlamına gelmekte. Sistemi korumak ve çalışır halde tutmak için çok fazla kaynak, zaman ve enerji harcıyoruz.

Üçüncüsü, finansal sistemimiz dışlayıcı olduğu için verimsiz. Milyarlarca insanın basit finansal araçlara erişimleri yok. Deneyimlerimden şunu söyleyebilirim ki yeni nesil müşterilerimiz (gençler) kontrolde olmayı seviyorlar ve her ne konuda olursa olsun limitlenmeyi ve dışlanmayı hiç sevmiyorlar.

Bu üç noktanın ortak çözümü blockchain teknolojilerinden geçmektedir. Her ne kadar biraz dağınık olsalar da ekonomik güçlülük ve ilerleme için bu teknolojiler gereklidir.

Her şey bir yana, aslında fark etmeliyiz ki bizim gibi finansal aracı şirketler bile operasyonlarında diğer birçok aracı şirketlerin kompleks ve maliyetli operasyonlarına ihtiyaç duymaktadır.

Örneğin bir Avrupa bankası olan Santander, blockchain teknolojilerini kullanarak potansiyel olarak yıllık 20 milyar dolar kar elde edebileceğini açıkladı. Capgemini danışmanlık şirketi de, denklemin diğer tarafındaki tüketicilerin sadece banka ve sigorta giderlerinden yıllık olarak 16 milyar dolar karda olacağını hesapladı.

JPMorgan Chase, Citigroup, ve Credit Suisse şu aralar bu teknolojilere yatırım yapan, daha azla daha çoğu başaran ve süreçlerindeki riski azaltan şirketler arasında.

Önümüzde büyük fırsatlar yatıyor. Artık bu fırsatları şirketimizin çıkarları için kullanmalıyız..

Uzun lafın kısası, artık bu geçişi erteleyemeyiz. Biz bu teknolojileri göz ardı ettikçe, her gün daha da çok karşımıza çıkıyor.

Bazılarınızın bu yeni teknolojiler hakkında hiçbir şey bilmediğinin farkdayım. Bazılarınız ise cryptocurrency varlıklarının yüksek volatilesi konusunda endişeler beslemektesiniz. Durum ne olursa olsun, artık yüzleşme zamanımız geldi. Cesur olmalıyız ve bu zorluğun üzerinden beraber gelmeliyiz. Her ne pahasına olursa olsun.

Story Part (EG2 Only)

For this part the story, price who feared tigers is used from Judith Liberman's story book. (Liberman, 2015)

Tying Story with Case (EG2 Only)

CEO: Evet bu durum karşısında ben de tam böyle hissediyorum.

Bu teknolojiyi anlamıyor olabiliriz evet, ondan korkuyor da olabiliriz. Fakat şu anki konumladırmamızla, bu teknolojilere olan yaklaşımımızla bu teknolojiler net bir şekilde şirket olarak varlığımıza bir tehdit oluşturuyor.

Bu bilinmeyen ve karanlık yolda ilerlemek için gerekli cesareti kendimizde bulmalıyız. Yoksa daha yola çıkmadan başarısız olmuş oluruz.

Bir devrim yaşanıyor. Bunun bir parçası olmalıyız. Ya devrime katılacağız, ya da zaman içinde yok olup gideceğiz.

Closing (EG2 and CG)

CEO: İnanıyorum ki, blockchain teknolojileri, bu yeni paradigmaya açık olup onu kucaklayanlar için varlıksal bir tehdit oluşturmuyor. Kendi içimizden karışıklığa itmeliyiz. Asıl soru, finans sektöründe bu devrime kim öncülük edecek. Bu öncü biz olacak mıyız?

Blockchain teknolojilerinin durdurulamaz gücü hızla modern finans altyapısına entegre oluyor. Bu her ne kadar büyük ve belirsiz bir değişim olsa da bundan korkmamalıyız. Geride kalmamak ve dahası rakiplerimizden bir adım da önde olmak için hemen harekete geçmeli ve bu yeni teknolojilerle entegre olmalıyız. Bu bağlamda, yeni kurulan "blockchain" departmanımızla hepinizin aktif iş birliğinde olacağına inanıyorum.

Tüm söylemek istediklerim bu kadardı. Evet, gördüğüm kadarıyla zamanımızı biraz aşmışız. Bu önemli toplantıya katıldığınız için hepinize teşekkür ederim.

İyi bir çalışma haftası dilerim. Bir sonraki toplantıda görüşmek üzere.

Skype görüşmesi sona erer.

A.2 Experiment 2: Shortened story: Prince who feared tigers

The story used is adapted and edited from: The Tiger and the Prince

Once there was a king who had a handsome son. He had the young prince trained in every form of courtly behavior, and schooled in mathematics, geometry and astronomy.

When he was eighteen years old, the King said to him: "Thomas, my son, there's a secret which all prices in our family learn at the age you are now. There is a tiger which has been bred for the purpose and is extremely fierce and strong. It is to be your task to go into its cage, armed only with one dagger and with a small shield.

My son, you must fight that tiger, or you will never be the King. I was sent into the cage to fight a similar tiger when I was your age. My father was pleased with me, and announced to the people that I had passed the test of daring and strength which the princes of the family must all undergo, in order to become the King."

Thomas was distressed at this news and said: "I have no liking for fighting with beasts, father; let me wrestle a man, or even an daemon, but a tiger... why, it sounds impossible to me."

The King looked displeased and said: "Unless you pass this test, how are the people ever going yo accept you as their King after I am dead? You need courage, that is all. If you lack the courage to fight the tiger, then I am afraid you will be considered a coward."

Thomas was terrified by the very idea, but replied, "Let me see the animal."

He led the trembling young prince to a deep dungeon under the castle where, in an iron cage, a fierce-looking tiger with huge teeth and vicious snarl was chewing at a large bone.

At dinner that night he was subdued, wrestling with the problem. But soon after he went to bed his mind was made up: he would leave the palace as soon as his parents were asleep and probably never return. He could not persuade himself that he could fight and kill the tiger.

At midnight he rose, dressed in very ordinary clothes, made his was way to the stable, and he rode away.

He pointed his horse’s head in a northerly direction and, by morning, he had arrived at a pleasant river with flowery meadows. He heard the sound of a shepherd boy playing upon a pipe, and leading a small flock of sheep. Thomas asked the boy if

there was somewhere he might stay for a few days. The boy pointed to a road leading up a large house where his master lived, saying that he was always happy to welcome strangers, and was very generous and hospitable.

The master of the house, who also owned much of the surrounding lands, made Thomas welcome when he arrived and invited him to stay for as long as he wished.

Each day he discovered some new and enchanting spot where he could enjoy the river and hear the shepherds playing on their pipes. He would ride his horse to vantage points from which he could view the surrounding countryside, and admire the trees and abundant grapes which grew on terraced vines on every side.

One night, as he looked out of his bedroom window, he saw to his horror that there was a tiger in the grounds. As he heard the snarling of the ferocious beast, his heart stood still and the blood froze in his veins. That night he tossed and turned, unable to sleep. Next morning his host asked him: "Did you sleep well? You do not look very rested."

"No, I couldn't sleep," said Thomas. "I saw a large tiger in the grounds, and I heard it snarling – it seems to be quite a dangerous creature. Do you often have them here? So near the house, I mean?"

That afternoon, as soon as he could get his horse saddled, Thomas bade goodbye to his generous host, and set off on his journey north once more – this news about the local tigers had quite unsettled him.

He rode on until the nightfall, and he was happy to see a large fort, and several men with guns standing on the guard outside the main gate. As night was falling, they were preparing to secure the gates for the greater security of those inside.

Thomas dismounted and told them he was a traveler seeking shelter for the hours of darkness.

Next day Thomas was asked to go hawking with them, which Thomas did with much enjoyment, delighting in the fresh air and wild scenery. After a wonderful day of sport they returned to a grand feast, where the whole party ate and drank together in warm companionship. As they were about to go to bed, the head warrior said to Thomas "My man and I have been pleased with your company today, and we have admired the way in which you have entered into the spirit of our simple sport.

Two miles to the south of here is an area which is infested with the Tigers. We usually rise early and we go out to do battle with those tigers. We would be very happy if you could accompany us tomorrow."

Thomas' face paled as he said goodnight. He scarcely slept until dawn. He knew that he could not join those fearsome warriors in their tiger hunt, so as soon as he was not being watched by the others he urged his horse in other direction, and this time he galloped westwards as fast as his gallant mare could carry him.

He rode on, until at last he came to a charming region of hills and dales covered with small fruit trees and shrubs with sweet smelling blossoms. He got down from the saddle to stretch his legs and let his horse drink from a tranquil pool. Then, riding on, he saw a wonderful palace, finer than any he had known before.

The palace was of rose-colored stone, with pillars set with mosaics of sky-blue tiles, and the balconies of painted wood carved with delicate designs. There were fountains of pure water in the gardens all around palace, and pavilions where sweetly signing birds had their nests.

"This is surely a paradise on earth!" said Thomas to himself.

To his surprise, a guard standing at gates saluted Thomas and a boy came to lead his horse away to the stables as he were an honored and expected guest. Thomas was then taken to a guest room by another servant, who showed him where he could bathe and change into clothes laid out for him on the couch.

Prime Minister, the owner of the house told him he was welcome to stay in the palace for as long as he wished.

Several days had passed before one afternoon he saw the BB Mariam, the Prime Minister's beautiful daughter. She was sitting in the garden, singing to herself in a charming and pleasant voice, accompanying herself on a delicate stringed instrument. He was instantly in love.

Just as he was about to go forward and introduce himself to her, he froze in his tracks. Beside her, laying on the grass at her feet, was a large and very aggressive looking tiger. The lady looked in his direction and said, "So you are our guest for this week? I have seen you several times, eating with my father." and she gave a delicious giggle.

The tiger raised its head and looked at Thomas with huge green eyes, bright as emeralds. Its teeth look very sharp, and he backed away. "I am... I'm sorry to have disturbed you," he said faintly "I must go now. I'm sure that I should not have interrupted you at your music." He would have liked to turn and run, but he was afraid that the tiger would chase him if he did.

"Oh, nonsense," she said. "Please come over here and sit down. My father has just told me I should entertain you and introduce my love the pet tiger to you. Come, be seated please, in the chair," and she indicated a seat opposite her. With every nerve in his body tingling with anxiety, Thomas forced himself to sit where she pointed.

He looked rather shyly at her and inwardly agreed that she must indeed be the most beautiful lady in the land. He had never seen anyone so lovely.

Her eyes were large and dark, fringed with black lashes and she had a full, rose pink mouth. Her copper colored hair gleamed and she wore a leaf green robe. BB Mariam was a delicate being as he had ever seen and he felt himself falling deeply in love with her. But how could she ever feel anything for coward like himself, he wondered bitterly.

That night when all was still, Thomas heard the tiger snuffling at his door and making the handle rattle with its claws. He lay in bed, petrified with fear. Again, he could not go to sleep, although he knew that the door was locked. In the morning, before opening the door, he took out the key and peered through the keyhole. The tiger was gone.

And then and there, Thomas made up his mind to return home. With so many tigers to be dealt with everywhere, surely the one at home in his father's dungeon could scarcely be much trouble?

He went to the minister, and said "I ask your permission to leave your palace. I wish to return to my home because I am now resolved to face the problem which I left behind. If I do not, I shall never find peace, however far away I go. I am deeply ashamed and I know that, unless I succeed, I can never ask to marry a lady like your daughter BB Mariam, whom I love dearly.

Arriving at the palace, Thomas kissed his father's hand and begged for the King's forgiveness for running away from his destiny in such a manner. "Now let me go to the tiger with dagger and shield, as soon as possible," he continued "for I'm ready for the test."

Excitement swept through the entire palace then, so that when Thomas was taken to the dungeon where the tiger was confined, all cheered him on his way below.

The keeper of the fearsome beast unbolted the iron door of the cage and animal snarled, shoving his gleaming white teeth.

With the dagger in his right hand and a small shield in his left, Thomas went bravely into the cage. For a moment his heart seemed to stop beating, but he stepped forward, his strength returning, and lifted the blade to plunge it into the animal's throat.

With it's leap, tiger knocked him down in one shot. In less than one tenth of a second, it jumped on top of Thomas. It opened it's mouth to destroy him.

Suddenly, to his astonishment, the giant creature begun to purr and rubbed its head against his head, licking his face like a pet hound. The keeper of the tiger took the dagger from the young man's hand and said "See, auspicious Prince, this animal is as tame as a pet cat! It has never injured any humans in its life. In fact, it had been bred and trained in order to test your courage. Congratulations, your true valor has been proved today!"

"So," smiled the King, "you now know how the test of the tiger is carried out by each generation, from prince to prince. Today it was your turn! I'm proud of you, my son, you are a worthy successor to my crown." And he embraced him with great joy. The tiger lay down beside them, gazing at Thomas with its large green eyes, perfectly at ease among the courtiers now coming forward to congratulate their prince on his success.

Thomas lost no time in sending a fast riding messenger to BB Mariam, to tell her that now he felt she would not think him as a coward, and asking her to come and marry him, when her father was willing.

After he received the answer he was seeking, it seemed an eternity before his bride to be arrived with her cavalcade of relatives and servants, bringing presents of great prince, as befitted a lady of such quality who was to become his princess.

The wedding festivities went on for 14 days and 14 nights, and many coins were thrown daily to the poor from the palace balcony. Gallons of green tea ever quaffed in the tea houses by entire populace, and all hearts were happy at the marriage of their young prince and his princess. The tiger which BB Mariam brought with her to her new home played most amicably with the one which was now Thomas' pet. Tigers followed their master and mistress like tame cats for all the rest of their lives.

A.3 Experiment 2: Case study + story + non-story

The story used is adapted and edited from: The Tiger and the Prince

The following text includes both the story and the speech from the case study. SSML tags are also present where applicable.

Case study introduction

"HighPro Investment Assets" is an established finance company operating in Wall Street. These'a an important meeting about a long-awaited strategic change in the company. CEO of the company is making a Skype call to all employees for her keynote speech. She is addressing her followers from home, because:

i. she broke her leg on the weekend and she is not able to come to the company. (in the older version)

ii. she got COVID and she needs to self-isolate. (in the newer version)

Speech introduction (Part 1/4)

<speak> <amazon:auto-breaths> Dear employees,

Thanks for joining our keynote presentation meeting.

As you all may already know, our finance company is starting a completely new adventure. Starting next month, we will have a new division, called "Blockchain and Cryptocurrency Financial Operations".

Blockchain, this new disruptive technology, will definitely change the way we do things here. As the CEO of this company, I feel that this is my responsibility to give you the news how and why this decision was necessary.

The results of technical analysis we had been conducting over the years made us understand that it would be impossible to position our company for success today, and in the future, without adoption of blockchain technologies in our financial markets.

This decision was not easy. With increasing internal and external pressures, we understood that had no choice but to include blockchain technology currencies as digital assets into our financial portfolio. These assets include Bitcoin, Ethereum, Ripple, Cardano and IOTA.

These technologies and some of these cryptocurrencies have been around for a while. For example, Bitcoin is around nearly for ten years. We, however, alongside the other companies in the finance sector, we didn't believe in these technologies and each time they appeared in front of us in different forms, we chose to ignore them.

Now it seems, we simply don't have this option to ignore them anymore. I will talk more about why this is the case.

Regardless, our company's ability to achieve expected benefits will be directly tied to how effectively we engage in these upcoming changes.

I would like to start by explaining how we have arrived at this point.

We are all witnessing that regulatory costs continue to climb in the finance sector. These costs remain a top concern for financial institutions like our company.

The consumers, our customers, are actually the ones who ultimately are bearing this burden of increasing costs. And we have observed that they have been becoming more and more unhappy about this situation. Our marketing surveys and focus group studies tell this.

Competition has recently shifted towards the blockchain domain. Blockchain technologies support models of peer-to-peer mass collaboration. These technologies make many of our existing "organizational forms" redundant. By reducing the financial transaction costs among everybody in the economy, the companies who have adapted blockchain technologies are gaining competitive advantage.

And I am bit sad to announce you that our company foundations are made up of those "organizational forms" that are about to be redundant. Our company may face serious, unbeatable competition anytime soon, if we don't urgently take action.

We were aware of the these disruptive technologies and nature of the situation shifting towards this state for a very long time but we resisted it. We ignored it. We didn't completely understand the nature and philosophy of these technologies. We were afraid to take action into the unknown. However, today the situation has turned

into a logjam that we can no longer ignore or resist. We have no choice. We have to take action as soon as possible..

The good news is that, personally after digging deep in research about those technologies in the last few months, I am also convinced that we can benefit greatly from blockchain technologies. And regardless of how inefficient our current financial system is.

Let me tell you how and why.

First, we are currently operating inside an ocean of inefficiency. That's because our current understanding of "digital" is mainly limited to paper-based processes dressed up in a digital wrapper. However, it's not really digital, when it's tied to antiquated paper-based values. This legacy slows down many processes and it makes innovation much harder.

Secondly, we are drowning in the ocean of inefficiency, because our current financial system is centralized. This makes it resistant to change and vulnerable to systems failures and attacks. We spend so much time, energy and resources to protect and maintain these systems.

Third, last but not least, our current financial system is inefficient because it is exclusionary. It denies billions of people access to basic financial tools. From my experience, I can tell you the next generation of our customers, mainly the youth, they like to be in control, and they certainly do not like to be limited or excluded in any way.

These three points have a common solution: blockchain technologies. It's a creative destruction. And while messy, it is actually quite critical to economic vitality

and progress. And remember, technology always follows the path which has the least resistance.

After all, we must realize that many financial intermediaries, like our company, rely on many other intermediaries to run their own operations. This is very costly and the dependency between these companies is dizzyingly complex.

Santander, the well known European bank, achieved to put $20 billion a year in savings. Capgemini, a financial services consultancy, estimates that each year consumers could save up to $16 billion in banking and insurance fees if they used blockchain based applications.

JPMorgan Chase, Citigroup, and Credit Suisse, are only of the few companies I know currently investing in the blockchain technologies. They are all willing do to do more with less and streamline their businesses while reducing risk in the process.

I feel that Pandora's box has been opened. While these companies are saving millions by embracing these technologies, we cannot just sit back and watch. There is no going back, we have to be part of this new journey.

The story introduction (Part 2/4)

And...

Would you believe me, if I told you that my 9 year old daughter told me a story about this situation while I was driving her to school this morning? I was deeply moved by the story and it made me realize few things. I'd like to share the same story with you today.

<break time="950ms"/>

The story (Part 3/4)

Once upon a time, there was a king who had a handsome son. He had the young prince trained in every form of courtly behavior, and schooled in mathematics, geometry and astronomy.

When he was eighteen years old, the King said to him:

<break strength="strong"/>

<amazon:effect phonation="soft">

"Thomas, my son, there's a secret which all princes in our family learn at the age you are now. There is a tiger which has been bred for the purpose. It is extremely fierce and strong. And it is to be your task to go into its cage, armed only with one dagger and with a small shield.

My son, you must fight that tiger, or you will

<break strength="medium"/>

<emphasis>never</emphasis> be the King!

I was sent into the cage to fight a similar tiger when I was your age. I had passed the test of daring and strength which the princes of our family must all undergo, in order to become the King."

</amazon:effect>

<break strength="strong"/>

Thomas was distressed at the news and said:

<break strength="strong"/> <amazon:effect phonation="soft">

<amazon:auto-breaths>

"I have no liking for fighting with beasts, father. Let me wrestle a man, or even an daemon, but a

<emphasis>tiger?</emphasis>...

why...? <break strength="strong"/>

it sounds impossible to me."

</amazon:auto-breaths> </amazon:effect>

The King looked displeased, and said:

<break strength="strong"/> <amazon:effect phonation="soft">

"Unless you pass this test, how are the people ever going to accept you as their King after I am dead? You need courage, that is all."

"If you lack the courage to fight the tiger, then I am afraid you will be considered a coward."

</amazon:effect>

Thomas was terrified by the idea, but replied, <break strength="strong"/>

<amazon:auto-breaths>

"Let me see the animal?"

</amazon:auto-breaths>

<break strength="strong"/>

The King led the trembling young prince to a deep dungeon under the castle where, in an iron cage, a fierce-looking tiger with huge teeth and vicious snarl was chewing at a large bone.

At dinner that night, Thomas was subdued, wrestling with the problem. But soon after he went to bed his mind was made up: he would leave the palace as soon as his parents were asleep and probably never return.

At midnight he rose, dressed in very ordinary clothes, and he rode away.

He pointed his horse's head in a northerly direction and, by the morning, he had arrived at a pleasant river with flowery meadows.

He heard the sound of a shepherd boy playing upon a pipe, and leading a small flock of sheep. Thomas asked the boy if there was somewhere he might stay for a few days. The boy pointed to a road leading up a large house where his master lived, saying that he was always happy to welcome strangers, and was very generous and hospitable.

The master of the house, who also owned much of the surrounding lands, made Thomas welcome when he arrived and invited him to stay for as long as he wished.

Each day Thomas discovered some new and enchanting spot where he could enjoy the river and hear the shepherds playing on their pipes. He would ride his horse to vantage points from which he could view the surrounding countryside, and admire the trees and abundant grapes which grew on terraced vines on every side.

One night, as he looked out of his bedroom window, he saw, to his horror that there was a tiger in the grounds. As he heard the snarling of the ferocious beast, his heart stood still and the blood froze in his veins. That night he tossed and turned, unable to sleep. Next morning his host asked him:

<break strength="strong"/>

"Did you sleep well? You do not look very rested."

"No, I couldn’t sleep," said Thomas. "I saw a large tiger in the grounds, and I heard it snarling.

It seems to be quite a dangerous creature?

<break strength="strong"/>

<amazon:auto-breaths> Do you often have them here?

So near the house, I mean?"

</amazon:auto-breaths>

Regardless of the answer the master gave, that afternoon, as soon as he could get his horse saddled, Thomas bade goodbye to his generous host, and set off on his journey north once more. This news about the local tigers had quite unsettled him.

He rode on until the nightfall, and he was happy to see a large fort, and several men with guns standing on the guard outside the main gate. As night was falling, they were preparing to secure the gates for the greater security of those inside. Thomas dismounted and told them he was a traveler seeking shelter for the hours of darkness.

Next day Thomas was asked to go hawking with them, which Thomas did with much enjoyment, delighting in the fresh air and wild scenery. After a wonderful day of sport, they returned to a grand feast, where the whole party ate and drank together in warm companionship. As they were about to go to bed, the head warrior said to Thomas:

<break strength="strong"/>

"My man and I have been pleased with your company today, and we have admired the way in which you have entered into the spirit of our simple sport.

Two miles to the south of here is an area which is infested with tigers. We usually rise early and we go out to do battle with those tigers. We would be very happy if you could accompany us tomorrow."

Thomas' face paled as he said goodnight. He scarcely slept until dawn. He knew that he could not join those fearsome warriors in their tiger hunt. In the morning, as soon as he was not being watched by the others, he urged his horse in other direction and he rode away.

He rode on, until at last he came to a charming region of hills and dales covered with small fruit trees and shrubs with sweet smelling blossoms. He got down from the saddle to stretch his legs and let his horse drink from a tranquil pool. Then, riding on, he saw a wonderful palace, finer than any he had seen before.

The palace was of rose-colored stone, with pillars set with mosaics of sky-blue tiles, and the balconies of painted wood carved with delicate designs. There were fountains of pure water in the gardens all around palace, and pavilions where sweetly singing birds had their nests.

<break strength="strong"/>

"This is surely a paradise on earth!" said Thomas to himself.

To his surprise, a guard standing at gates saluted Thomas and a boy came to lead his horse away to the stables. Thomas was then taken to a guest room by another servant, who showed him where he could bathe and change into clothes that were laid out for him on the couch. Thomas was confused.

Prime Minister, the owner of the house told him he was welcome to stay in the palace for as long as he wished.

Several days had passed before one afternoon he saw Mary, the Prime Minister’s beautiful daughter.

She was sitting in the garden, singing to herself in a charming and pleasant voice, accompanying herself on a delicate stringed instrument. Thomas was instantly in love.

Just as he was about to go forward and introduce himself to her, he froze in his tracks. Beside her, laying on the grass at her feet, was a large and very aggressive looking tiger.

Mary looked in his direction and said,

<break strength="strong"/> <prosody pitch="high">

"So you are our guest for this week? I have seen you several times, eating with my father."

</prosody> and she gave a delicious giggle.

The tiger raised its head and looked at Thomas with huge green eyes, bright as emeralds. Its teeth look very sharp, and he backed away.

<break strength="strong"/> <amazon:auto-breaths>

"I am...

I’m sorry to have disturbed you,"

</amazon:auto-breaths>

he said faintly

<amazon:auto-breaths>

"I must go now. I’m sure that I should not have interrupted you at your music."

</amazon:auto-breaths>

He would have liked to turn and run, but he was afraid that the tiger would chase him if he did.

Mary said:

<break strength="strong"/> <prosody pitch="high">

"Oh, nonsense,"

</prosody>

<prosody pitch="high">

"Please come over here and sit down. My father has just told me I should entertain you and introduce my lovely pet tiger to you."

</prosody>

and she indicated a seat opposite her.

With every nerve in his body tingling with anxiety, Thomas forced himself to sit where she pointed. He looked rather shyly at her and inwardly agreed that she must indeed be the most beautiful lady in the land. He had never seen anyone so lovely.

Her eyes were large and dark, fringed with black lashes and she had a full, rose pink mouth. Her copper colored hair gleamed and she wore a leaf green robe. He felt himself falling deeply in love with her.

That night when all was still, Thomas heard the tiger snuffling at his door and making the handle rattle with its claws. He lay in bed, petrified with fear. Again, he could not go to sleep, although he knew that the door was locked. In the morning, before opening the door, he took out the key and peered through the keyhole.

The tiger was gone.

And then and there, Thomas made up his mind to return home. With so many tigers to be dealt with everywhere, surely the one at home in his father’s dungeon could scarcely be much trouble?

He went to the minister, and said

<break strength="strong"/> <amazon:auto-breaths>

"I ask your permission to leave your palace. I wish to return to my home because I am now resolved to face the problem which I left behind. If I do not, I shall

never find peace, however far away I go. I am deeply ashamed and I know, unless I succeed, I can never ask to marry a lady like your daughter Mary, whom I love dearly.

</amazon:auto-breaths>

<break strength="strong"/>

Arriving at the palace, Thomas kissed his father's hand and begged for the King's forgiveness for running away from his destiny in such a manner.

<break strength="strong"/> <amazon:auto-breaths>

He said:

"Now let me go to the tiger with a dagger and a shield, as soon as possible..."

</amazon:auto-breaths>

<break strength="strong"/>

"I'm ready for the test."

Thomas was taken to the dungeon where the tiger was confined. All cheered him on his way below.

The keeper of the fearsome beast unbolted the iron door of the cage and animal snarled, shoving his gleaming white teeth.

With the dagger in his right hand and a small shield in his left, Thomas went bravely into the cage. For a moment his heart seemed to stop beating, but he stepped forward, his strength returning, and lifted the blade to plunge it into the animal's throat.

With it's leap, tiger knocked Thomas down in one shot!

In less than one tenth of a second, it jumped on top of him!

It opened it's mouth to destroy him!

<break strength="strong"/> <break strength="strong"/> <break time="950ms"/>

Suddenly, to his astonishment, the giant creature begun to purr and rubbed its head against Thomas' head, licking his face like a pet hound.

The keeper of the tiger took the dagger from the young man's hand and said

<break strength="strong"/> <prosody pitch="high">

"See, auspicious Prince, this animal is as tame as a pet cat! It has never injured any humans in its life. In fact, it had been bred and trained in order to test your courage.

Congratulations, your true valor has been proved today!"

</prosody>

<break strength="strong"/>

The King smiled and said:

<break strength="strong"/>

"you now know how the test of the tiger is carried out by each generation, from prince to prince. Today it was your turn!

<emphasis>I'm proud of you, my son,</emphasis>

you are a worthy successor to my crown!"

Thomas lost no time in sending a fast riding messenger to Mary, to tell her that now he felt she would not think him as a coward, and asking her to come and marry him, when her father was willing.

And she came. The wedding festivities went on for 14 days and 14 nights. All hearts were happy at the marriage of their young prince and his princess.

The tiger which Mary brought with her to her new home played most amicably with the one which was now Thomas' pet.

And; tigers followed their master and mistress

<break strength="strong"/> like tame cats,

<emphasis>for all the rest of their lives!</emphasis>

<break time="950ms"/>

Closing speech part (Part 4/4)

So...

<break strength="strong"/> <break strength="strong"/>

This story fundamentally reflects how I feel about this whole situation.

I am aware, no one really understands this technology yet and oddly enough it proposes a threat to our existence.

I am also aware that we will have doubters trying to sway minds and suggest we continue operating in less risky areas.

However, we have to find the courage, in this dark and unknown path, to move forward. Or else we're doomed to fail from the start.

It's a revolution. We have to be part of it. We have to join it or we might not survive long.

I strongly believe; blockchain is not an existential threat to those who truly embrace this new technology and the novel paradigm it brings along. If we have the courage to disrupt from within, we will achieve great results. The main question perhaps is, who will lead this revolution? Is it going to be us?

The force of blockchain technology is unstoppable now. It will very soon barrel down on the infrastructure of the modern finance. Despite how dramatic and unknown this change is, we shall not be afraid.

Not to be left behind, and preferably to be one step ahead of our competitors, we have to act now and embrace these new financial technologies.

With this regard I believe you will actively collaborate with the requirements of our new "Blockchain and Cryptocurrency Financial Operations" department.

This was all I wanted to say. Thank you all for joining me here in this very important meeting.

Have a great week.

</amazon:auto-breaths>

</speak>

A.4 Experiment 3: Improved (and shortened) versions

These include of the story, non-story and the CEO's speech.

The motivation here is to make the EG2 and CG times equivalent. Also the transition to story section has been edited with suggestions of the committee.

Finally, the name of the girl has been changed to "Mary" to make it more generic, and bit more anglo-saxon sounding.

Introduction (Part 1/8) (EG2 and CG)

Dear employees,

Thanks for joining our keynote presentation meeting.

As you all know, our finance company is starting a completely new adventure. Starting next month, we will have a new division, called "Blockchain and

Cryptocurrency Financial Operations". This new disruptive technology will definitely change the way we do things here. As the CEO of this company, I feel that this is my responsibility to give you the news.

The results of technical analysis we had been conducting over the years made us understand that it would be impossible to position our company for success today, and in the future, without adoption of blockchain technologies in our financial markets.

This decision was not easy. With increasing internal and external pressures, we understood that had no choice but to include blockchain technology currencies as digital assets into our financial portfolio. These assets include Bitcoin, Ethereum, Ripple, Cardano and IOTA.

These technologies and some of these cryptocurrencies have been around for a while. For example, Bitcoin has been around nearly for ten years. We, however, alongside the other companies in the finance sector, we didn't believe in these technologies and each time they appeared in front of us in different forms, we chose to ignore them.

Now it seems, we simply don't have this option to ignore them anymore. I will talk more about why this is the case.

Regardless, our company's ability to achieve expected benefits will be directly tied to how effectively we engage in these upcoming changes.

I would like to start by explaining how we have arrived at this point.

We are all witnessing that regulatory costs continue to climb in the finance sector. These costs remain a top concern for financial institutions like our company.

The consumers, our customers, are actually the ones who ultimately are bearing this burden of increasing costs. And we have observed that they have been becoming more and more unhappy about this situation. Our marketing surveys and focus group studies tell this.

Competition has recently shifted towards the blockchain domain. Blockchain technologies support models of peer-to-peer mass collaboration. These technologies make many of our existing "organizational forms" redundant. By reducing the financial transaction costs among everybody in the economy, the companies who have adapted blockchain technologies are gaining competitive advantage.

And I am sad to announce to you that our company foundations are made up of those "organizational forms" that are about to be redundant. Our company may face serious, unbeatable competition anytime soon if we don't urgently take action.

We were aware of these disruptive technologies and the nature of the situation shifting towards this state for a very long time but we resisted it. We ignored it. We didn't completely understand the nature and philosophy of these technologies. We were afraid to take action into the unknown. However, today the situation has turned into a logjam that we can no longer ignore or resist. We have no choice. We have to take action as soon as possible..

The good news is that after digging deep in research about those technologies in the last few months, I am also convinced that we can benefit greatly from blockchain technologies. And regardless of how inefficient our current financial system is.

Let me tell you how and why.

We are currently operating inside an ocean of inefficiency. The first reason for this is because our current understanding of "digital" is mainly limited to paper-based processes dressed up in a digital wrapper. Let's admit, it's not really digital, when it's tied to antiquated paper-based values. This legacy slows down many processes and it makes innovation much harder.

Secondly, we are drowning in the ocean of inefficiency, because our current financial system is centralized. This makes it resistant to change and vulnerable to systems failures and attacks. We spend so much time, energy and resources to protect and maintain these systems.

Third, last but not least, our current financial system is inefficient because it is exclusionary. It denies billions of people access to basic financial tools. From my experience, I can tell you the next generation of our customers, mainly the youth, they like to be in control, and they certainly do not like to be limited or excluded in any way.

These three points have a common solution: blockchain technologies. It's creative destruction. And while messy, it is actually quite critical to economic vitality and progress. And remember, the technology always follows the path which has the least resistance.

After all, we must realize that many financial intermediaries, like our company, rely on many other intermediaries to run their own operations. This is very costly and the dependency between these companies is dizzyingly complex.

Santander, the well known European bank, achieved to put $20 billion a year in savings. Capgemini, a financial services consultancy, estimates that each year

consumers could save up to $16 billion in banking and insurance fees if they used blockchain based applications.

JPMorgan Chase, Citigroup, and Credit Suisse, are only of the few companies I know currently investing in the blockchain technologies. They are all willing do to do more with less and streamline their businesses while reducing risk in the process.

I feel that Pandora's box has been opened. While these companies are saving millions by embracing these technologies, we cannot just sit back and watch. There is no going back, we have to be part of this new journey.

Transition to story section (Part 2/8) (EG2 only)

And...

This morning, when I was driving to work, I was a bit bored in the traffic and I was zapping through the radio channels. I can't remember which channel it was but there was a lady telling a fairy tale on the radio. For a moment it caught my attention and I started listening.

When the story finished, I was deeply moved by it and it made me realize a few things. I'd like to share this story with you today.

Transition to non-story section (Part 3/8) (CG only)

<break time="950ms"/>

OK, let's continue with the other items in our meeting agenda.

<break time="950ms"/>

This brings us to the next topic: recycling.

I would like to explain to you the benefits of our organizational recycling initiatives. Our company will be re-thinking and re-defining how we manage waste and how we will make a difference in the sustainability of our planet.

The story section (Part 4/8) (EG2 only)

<break time="950ms"/>

Once upon a time, there was a king who had a handsome son. He had the young prince trained in every form of courtly behavior and schooled in mathematics, geometry and astronomy.

When he was eighteen years old, the King said to him:

<break strength="strong"/>

<amazon:effect phonation="soft">

"Thomas, my son, there's a secret which all princes in our family learn at the age you are now. There is a tiger which has been bred for the purpose and is extremely fierce and strong. It is to be your task to go into its cage, armed only with one dagger and with a small shield.

My son, you must fight that tiger, or you will

<break strength="medium"/>

<emphasis>never</emphasis> be the King!

I was sent into the cage to fight a similar tiger when I was your age. I had passed the test of daring and strength."

</amazon:effect>

<break strength="strong"/>

Thomas was distressed at this news and said:

<break strength="strong"/> <amazon:effect phonation="soft">

<amazon:auto-breaths>

"I have no liking for fighting with beasts, father; let me wrestle a man, or even a daemon, but a

<emphasis>tiger?</emphasis>...

why...? <break strength="strong"/>

it sounds impossible to me."

</amazon:auto-breaths> </amazon:effect>

Thomas was terrified by the very idea, but replied, <break strength="strong"/>

<amazon:auto-breaths>

"Let me see the animal?"

</amazon:auto-breaths>

<break strength="strong"/>

<break time="950ms"/>

The King led the trembling young prince to a deep dungeon under the castle where, in an iron cage, a fierce-looking tiger with huge teeth and vicious snarl was chewing at a large bone.

At dinner that night, Thomas was subdued, wrestling with the problem. But soon after he went to bed his mind was made up. He would leave the palace as soon as his parents were asleep and probably never return.

<break time="950ms"/>

At midnight he rose, dressed in very ordinary clothes, and he rode away.

By the morning, he had arrived at a pleasant river with flowery meadows.

He heard the sound of a shepherd boy playing upon a pipe, and leading a small flock of sheep. Thomas asked the boy if there was somewhere he might stay for a few days. The boy pointed to a road leading up a large house where his master lived.

The master of the house, who also owned much of the surrounding lands, made Thomas welcome when he arrived and invited him to stay for as long as he wished.

Each day Thomas discovered some new and enchanting spot where he could enjoy the river and hear the shepherds playing on their pipes. He would ride his horse to vantage points from which he could view the surrounding countryside, and admire the trees and abundant grapes which grew on terraced vines on every side.

One night, as he looked out of his bedroom window, he saw, to his horror that there was a tiger in the grounds. As he heard the snarling of the ferocious beast, his heart stood still and the blood froze in his veins. That night he tossed and turned, unable to sleep. Next morning his host asked him:

<break strength="strong"/>

"Did you sleep well? You do not look very rested."

"No, I couldn't sleep," said Thomas. "I saw a large tiger on the grounds, and I heard it snarling.

It seems to be quite a dangerous creature?

<break strength="strong"/>

<amazon:auto-breaths> Do you often have them here?

So near the house, I mean?"

</amazon:auto-breaths>

<break time="950ms"/>

Regardless of the answer the master gave, that afternoon, as soon as he could get his horse saddled, Thomas bade goodbye and set off on his journey once more. This news about the local tigers had quite unsettled him.

He rode on until the nightfall, and he was happy to see a large fort, and several men with guns standing on the guard outside the main gate. As night was falling, they were preparing to secure the gates for the greater security of those inside. Thomas dismounted and told them he was a traveller seeking shelter for the hours of darkness.

Next day Thomas was asked to go hawking with them, which he did with much enjoyment, delighting in the fresh air and wild scenery. After a wonderful day of sport, they returned to a grand feast, where the whole party ate and drank together in warm companionship. As they were about to go to bed, the head warrior said to Thomas:

<break strength="strong"/>

"My man and I have been pleased with your company today, and we have admired the way in which you have entered into the spirit of our simple sport.

Two miles to the south of here is an area which is infested with tigers. We usually rise early and we go out to do battle with those tigers. We would be very happy if you could accompany us tomorrow."

Thomas' face paled as he said goodnight. He scarcely slept until dawn. He knew that he could not join those fearsome warriors in their tiger hunt. In the morning, as soon as he was not being watched by the others, he urged his horse in the other direction and he rode away.

He rode on, until he came to a charming region of hills and dales covered with small fruit trees and shrubs with sweet-smelling blossoms. Then, he saw a wonderful palace, finer than any he had seen before.

The palace was of rose-colored stone, with pillars set with mosaics of sky-blue tiles, and the balconies of painted wood carved with delicate designs. There were fountains of pure water in the gardens all around the palace, and pavilions where sweetly singing birds had their nests.

<break strength="strong"/>

"This is surely a paradise on earth!" said Thomas to himself.

To his surprise, a guard standing at gates saluted Thomas and he was then taken to a guest room by another servant, who showed him where he could bathe and change into clothes that were laid out for him on the couch. Thomas was confused.

<break time="950ms"/>

Prime Minister, the owner of the house told him he was welcome to stay in the palace for as long as he wished.

Several days had passed before one afternoon he saw Mary, the Prime Minister's beautiful daughter.

She was sitting in the garden, singing to herself in a charming and pleasant voice, accompanying herself on a delicate stringed instrument.

Thomas was instantly in love.

Just as he was about to go forward and introduce himself to her, he froze in his tracks. Beside her, laying on the grass at her feet, was a large and very aggressive looking tiger.

<break time="950ms"/>

Mary looked in his direction and said,

<break strength="strong"/> <prosody pitch="high">

"So you are our guest for this week? I have seen you several times, eating with my father."

</prosody> and she gave a delicious giggle.

The tiger raised its head and looked at Thomas with huge green eyes, bright as emeralds. Its teeth look very sharp!

<break strength="strong"/> <amazon:auto-breaths>

"I am...

I’m sorry to have disturbed you,"

</amazon:auto-breaths>

he said faintly

<amazon:auto-breaths>

"I must go now. I’m sure that I should not have interrupted you at your music."

</amazon:auto-breaths>

<break time="950ms"/>

He would have liked to turn and run, but he was afraid that the tiger would chase him if he did.

Mary said:

<break strength="strong"/> <prosody pitch="high">

"Oh, nonsense,"

</prosody>

<prosody pitch="high">

"Please come over here and sit down. My father has just told me I should entertain you and introduce my lovely pet tiger to you."

</prosody>

and she indicated a seat opposite her.

With every nerve in his body tingling with anxiety, Thomas forced himself to sit where she pointed. He looked rather shyly at her and inwardly agreed that she must indeed be the most beautiful lady in the land. He had never seen anyone so lovely.

Her eyes were large and dark, fringed with black lashes and she had a full, rose pink mouth. Her copper-coloured hair gleamed and she wore a leaf green robe. He felt himself falling deeply in love with her but at the same time, he was petrified with fear of the tiger.

And then and there, Thomas made up his mind to return home. With so many tigers to be dealt with everywhere, surely the one at home in his father's dungeon could scarcely be much trouble?

He went to the minister and said

<break strength="strong"/> <amazon:auto-breaths>

"I ask your permission to leave your palace. I wish to return to my home because I am now resolved to face the problem which I left behind. If I do not, I shall never find peace, however far away I go. I am deeply ashamed and I know, unless I succeed, I can never ask to marry a lady like your daughter Mary, whom I love dearly."

</amazon:auto-breaths>

<break strength="strong"/>

Arriving at the palace, Thomas kissed his father's hand and begged for the King's forgiveness for running away from his destiny in such a manner.

<break strength="strong"/> <amazon:auto-breaths>

He said:

"Now let me go to the tiger with a dagger and a shield, as soon as possible..."

</amazon:auto-breaths>

<break strength="strong"/>

Thomas was taken to the dungeon where the tiger was confined. All cheered him on his way below.

<break time="950ms"/>

The keeper of the fearsome beast unbolted the iron door of the cage and animal snarled, shoving his gleaming white teeth.

With the dagger in his right hand and a small shield in his left, Thomas went bravely into the cage. For a moment his heart seemed to stop beating, but he stepped forward, his strength returning, and lifted the blade to plunge it into the animal's throat.

With its leap, tiger knocked Thomas down in one shot!

<break time="750ms"/>

In less than one-tenth of a second, it jumped on top of him!

It opened it's mouth to destroy him!

<break strength="strong"/> <break strength="strong"/> <break time="950ms"/>

Suddenly, to his astonishment, the giant creature began to purr and rubbed its head against Thomas' head, licking his face like a pet hound.

The keeper of the tiger took the dagger from the young man's hand and said:

<break strength="strong"/> <prosody pitch="low">

"See, auspicious Prince, this animal is as tame as a pet cat! It has never injured any humans in its life. In fact, it had been bred and trained in order to test your courage.

</prosody>

<break strength="strong"/>

The King smiled and said:

<break strength="strong"/>

"you now know how the test of the tiger is carried out by each generation, from prince to prince. Today it was your turn!

<emphasis>I’m proud of you, my son,</emphasis>

you are a worthy successor to my crown!"

Thomas lost no time in sending a fast riding messenger to Mary, to ask her to come and marry him, when her father was willing.

And she came. The wedding festivities went on for 14 days and 14 nights. All hearts were happy at the marriage of their young prince and his princess.

The tiger which Mary brought with her to her new home played most amicably with the one which was now Thomas’ pet.

And; tigers followed their master and mistress

<break strength="strong"/> like tame cats,

<emphasis>for all the rest of their lives!</emphasis>

<break time="950ms"/>

So...

The non-story section (Part 5/8) (CG only)

I am sure many of us recycle at home. Why don't we do it at work? Why doesn't our company recycle?

<break time="950ms"/>

I believe it is our organizational responsibility to curb our waste levels and boost our recycling rates.

We live on our beautiful planet with finite natural resources. However, annually, we generate 1.3 billion tons of solid waste. And the worst part is that this number is expected to go up. Unfortunately, just about 34 per cent of this gets recycled. In other words, the average person throws away waste that's equivalent to their body weight every month. Think about it. This might certainly help you visualise the waste problem.

We have to take action. If we don't tackle this waste problem collectively, we <break strength="strong"/>, as an organization, not only will be left behind in the new organizational recycling trend but also we will be personally and organizationally responsible for the future.

Let me tell you more about this new recycling trend. I find it very exciting. Today, more and more companies are thinking about how to reduce their waste. There's a growing awareness of the need to protect our environment. As the company CEO, I feel a big responsibility to be a catalyst for positive environmental action and show other companies that we are doing good.

In addition, I personally believe recycling in companies should not be a trend. Trends come and go, but the actions we take now should stay. They should be permanent. That's why we should integrate the recycling awareness into our company culture.

There are a few things we can do about this. I will be explaining those ideas to you. If you have any additions or suggestions, please find me after the meeting and we can discuss your ideas too.

<break time="950ms"/>

Let’s talk about recycling cooking oil.

Cooking oils contaminate water. This is a known fact. To reduce water contamination, our company kitchen will be using oil pots. We will collect the used oil into these pots and we will be sending those oil pots to professional third-party recycling agencies to let them make it reusable as much as possible.

<break time="950ms"/>

Also there’s the topic of composting.

We will also put special, high-tech green bins that will be used for composting. These bins will be stylish and cool art objects that people will love to see, be around and interact with.

<break time="950ms"/>

We need to create education sessions.

We have to help people understand that waste can also be a valuable raw material. This is possible through the free education sessions that we will incentivise for our employees’ attendance. This way, we hope that recycling awareness will spread across the company (and outside of the company) more quickly. Everyone should try to do their part and recycle.

<break time="950ms"/>

We need a reverse vending machine.

Next to our current vending machines, we will install another one. However, this will be a special type of vending machine. It will reverse the process by giving you incentives and small prizes in exchange for an empty bottle or can.

<break time="950ms"/>

We need to redesign our company office garden.

We will re-design our company garden with 100 per cent recycled materials. Our garden will be the showcase of our recycling philosophy and rigorous recycling efforts. Of course, we will make the new design very special, colorful and fun. Some items will have inspiring architecture and ecological-features.

We must join the Recycling Association and The National Recycling Coalition.

Our company will be a gold member of the Recycling Association. The association provides recycled material to re-processors in the US and across the world. This allows manufacturers to use sustainable recycled materials, reduces the amount of needless landfilling and cuts reliance on single use commodities. I believe that by working together with the Recycling Association we can do more.

On the other hand, The National Recycling Coalition is a non-profit organization that is focused on the promotion and enhancement of recycling in the United States. The Coalition represents and advocates for every sector of the recycling industry across the country. Our company will be amoung the first represented companies in the US.

<break time="950ms"/>

We must meet new legal obligations.

Some businesses in some industries have a legal responsibility for disposal of specific products; ensuring compliance through recycling schemes to avoid penalties and fines. Our financial services industry is not yet of those industries but I am aware that new laws are being prepared to make the legal responsibilities much stricter. It's always good to be one step ahead of the game.

<break time="950ms"/>

So...

We are converting these ideas into real action. We will start delivering them soon. As I have mentioned before, as a company we have to start taking action now. If we don't, it will be too late and the world will certainly be a less beautiful place. The future for our children or grandchildren will be destroyed. It will not only be at the expense of the environment but our children's health and wellbeing.

It is not enough to address these problems personally. So companies, organizations, businesses should also be actively involved in the process.

We must leave a positive legacy behind and make the beautiful future a reality. <break time="950ms"/>

The non-story transition to closing section (Part 6/8) (CG only)

This concludes our recycling point in our meeting.

The story transition to closing section (Part 7/8) (EG2 only)

This story fundamentally reflects how I feel about this whole situation.

The closing section (Part 8/8) (EG2 and CG)

<break time="950ms"/>

Before concluding this meeting, I want to go back to my blockchain point and I want to say few more things.

I am aware, no one really understands these blockchain technologies yet and oddly enough it proposes a threat to our existence.

I am also aware that we will have doubters trying to sway minds and suggest we continue operating in less risky areas.

However, we have to find the courage, in this dark and unknown path, to move forward. Or else we're doomed to fail from the start.

It's a financial revolution. We have to be part of it. We have to join it or we might not survive long.

I strongly believe; blockchain is not an existential threat to those who truly embrace this new technology and the novel paradigm it brings along. If we have the courage to disrupt from within, we will achieve great results. The main question perhaps is, who will lead this revolution? Is it going to be us?

The force of blockchain technology is unstoppable now. It will very soon barrel down on the infrastructure of the modern finance. Despite how dramatic and unknown this change is, we shall not be afraid.

Not to be left behind, and preferably to be one step ahead of our competitors, we have to act now and embrace these new financial technologies.

With this regard I believe you will actively collaborate with the requirements of our new "Blockchain and Cryptocurrency Financial Operations" department.

This was all I wanted to say. Thank you all for joining me here in this very important meeting.

Have a great week.

A.5 Experiment 4: Partial non-SSML narratives

See the methodology section to understand why SSML tags were stripped from the narratives for experiment 4.

Down below you can find a summary of how these partial narratives that were used to construct and build the final version of the audio that the experimental group 2 and control groups 1 and 2 used. Table 43 shows the parts and subsections of the narratives.

Table 43. The Parts and Subsections of the Narratives

Main section	EG2	EG1	CG
Part 1: INTRODUCTION	sub-section A	sub-section A	sub-section A
Part 2: TRANSITION	sub-section B	sub-section B	sub-section C
Part 3: STORY/NON-STORY	sub-section D	sub-section E	sub-section F
Part 4: CLOSING	sub-section G	sub-section G	sub-section G

The story is a further modification of "The prince who feared tigers" (Shah, 2008).

The case study is inspired from many articles (Tapscott & Tapscott, 2017a; Tapscott & Tapscott, 2017b) and news reports.

Please refer to Table 43 to understand the structure of the narratives based on the tags of the sections below.

A.5.1 Introduction (Narrative Part 1/4) (SS-A) (EG2, EG1, CG)

Dear employees,

Thanks for joining our keynote presentation meeting.

As you all know, our finance company is starting a completely new adventure.

Starting next month, we will have a new division, called "Blockchain and Cryptocurrency Financial Operations". This new disruptive blockchain technology will definitely change the way we do things here. As the CEO of this company, I feel that this is my responsibility to give you the news.

The results of technical analysis we had been conducting over the years made us understand that it would be impossible to position our company for success today, and in the future, without adoption of blockchain technologies in our financial markets.

This decision was not easy. With increasing internal and external pressures, we understood that had no choice but to include blockchain technology currencies as digital assets into our financial portfolio. These assets include Bitcoin, Ethereum, Ripple, Cardano and IOTA.

These technologies and some of these cryptocurrencies have been around for a while. For example, Bitcoin has been around nearly for twelve years. We, however, alongside the other companies in the finance sector, didn't believe in these technologies and each time they appeared in front of us in different forms, we chose to ignore them.

Now it seems, we simply don't have this option to ignore them anymore. I will talk more about why this is the case.

Regardless, our company's ability to achieve expected benefits will be directly tied to how effectively we engage in these upcoming changes.

I would like to start by explaining how we have arrived at this point.

We are all witnessing that regulatory costs continue to climb in the finance sector. These costs remain a top concern for financial institutions like our company.

The consumers, our customers, are actually the ones who ultimately are bearing this burden of increasing costs. And we have observed that they have been becoming more and more unhappy about this situation. Our marketing surveys and focus group studies tell exactly this.

Competition has recently shifted towards the blockchain domain. Blockchain technologies support models of peer-to-peer mass collaboration. These technologies make many of our existing "organizational forms" redundant. By reducing the financial transaction costs among everybody in the economy, the companies who have adapted blockchain technologies are gaining competitive advantage.

And I am sad to announce to you that our company foundations are made up of those "organizational forms" that are about to be redundant. Our company may face serious, unbeatable competition anytime soon if we don't urgently take action.

We were aware of these disruptive technologies and the nature of the situation shifting towards this state for a very long time but we resisted it. We ignored it. We didn't completely understand the nature and philosophy of these technologies. We were afraid to take action into the unknown. However, today the situation has turned into a logjam that we can no longer ignore or resist. We have no choice. We have to take action as soon as possible..

The good news is that after digging deep in research about those technologies in the last few months, I am also convinced that we can benefit greatly from blockchain technologies. And regardless of how inefficient our current financial system is.

Let me tell you how and why.

We are currently operating inside an ocean of inefficiency. The first reason for this is because our current understanding of "digital" is mainly limited to paper-based processes dressed up in a digital wrapper. Let's admit, it's not really digital, when it's tied to antiquated paper-based values. This legacy slows down many processes and it makes innovation much harder.

Secondly, we are drowning in the ocean of inefficiency, because our current financial system is centralized. This makes it resistant to change and vulnerable to systems failures and attacks. We spend so much time, energy and resources to protect and maintain these systems.

Third, last but not least, our current financial system is inefficient because it is exclusionary. It denies billions of people access to basic financial tools. From my experience, I can tell you the next generation of our customers, mainly the youth, they like to be in control, and they certainly do not like to be limited or excluded in any way.

These three points have a common solution: blockchain technologies. It's creative destruction. And while messy, it is actually quite critical to economic vitality and progress. And remember, the technology always follows the path which has the least resistance.

After all, we must realize that many financial intermediaries, like our company, rely on many other intermediaries to run their own operations. This is very costly and the dependency between these companies is dizzyingly complex.

Santander, the well known European bank, achieved to put $20 billion a year in savings. Capgemini, a financial services consultancy, estimates that each year

consumers could save up to $16 billion in banking and insurance fees if they used blockchain based applications.

JPMorgan Chase, Citigroup, and Credit Suisse, are only of the few companies I know currently investing in the blockchain technologies. They are all willing do to do more with less and streamline their businesses while reducing risk in the process.

I feel that Pandora's box has been opened. While these companies are saving millions by embracing these technologies, we cannot just sit back and watch. There is no going back, we have to be part of this new journey.

A.5.2 Transition (Narrative Part 2/4) (SS-B) (EG2, EG1)

And...

This morning, when I was driving to work, I was a bit bored in the traffic. I was zapping through the radio channels.

I can't remember which channel it was but there was a lady telling a story on the radio. For a moment it caught my attention and I started listening.

When the story finished, I was deeply moved by it and it made me realize a few things. I'd like to share this story with you today.

It was something like this:

A.5.3 Transition (Narrative Part 2/4) (SS-C) (CG)

OK, let's continue with the other items in our meeting agenda.

This brings us to the next topic: recycling.

I would like to explain to you the benefits of our organizational recycling initiatives. Our company will be re-thinking and re-defining how we manage waste and how we will make a difference in the sustainability of our planet.

A.5.4 Main changing bit (Narrative Part 3/4) (SS-D) (EG1)

Once upon a time, there was a king who had a handsome son. He had the young prince trained in every form of courtly behavior and schooled in mathematics, geometry and astronomy.

When he was eighteen years old, the King said to him:

"Thomas, my son, there's a secret which all princes in our family learn at the age you are now.

There is a tiger which has been bred for the purpose. It is extremely fierce and strong. And it is to be your task to go into its cage, armed only with one dagger and with a small shield.

My son, you must fight that tiger, or you will never be the King!

I was sent into the cage to fight a similar tiger when I was your age. I had passed the test of daring and strength."

Thomas was distressed at this news and said:

"I have no liking for fighting with beasts, father! Let me wrestle a man, or even a daemon, but a ... tiger?

why...?

it sounds impossible to me."

The King led the trembling young prince to a deep dungeon under the castle where, in an iron cage, a fierce-looking tiger with huge teeth and vicious snarl was chewing at a large bone. Thomas was terrified.

At dinner that night, Thomas was subdued, wrestling with the problem. But soon after he went to bed his mind was made up. He would leave the palace as soon as his parents were asleep and probably never return.

At midnight he rose, dressed in very ordinary clothes, and he rode away.

By the morning, he had arrived at a pleasant river with flowery meadows.

He heard the sound of a shepherd boy playing upon a pipe. He was leading a small flock of sheep. Thomas asked the boy if there was somewhere he might stay for a few days. The boy pointed to a road leading up a large house where his master lived.

The master of the house, who also owned much of the surrounding lands, made Thomas welcome when he arrived and invited him to stay for as long as he wished.

Each day Thomas discovered new and enchanting spots where he could enjoy the river and hear the shepherds playing on their pipes. He would ride his horse to vantage points from which he could view the surrounding countryside, and admire the trees and abundant grapes which grew on terraced vines on every side.

One night, as he looked out of his bedroom window, he saw, to his horror, that there was a tiger in the grounds. As he heard the snarling of the ferocious beast, his heart stood still and the blood froze in his veins. That night he tossed and turned, unable to sleep. Next morning his host asked him:

"Did you sleep well? You do not look very rested."

"No, I couldn’t sleep," said Thomas. "I saw a large tiger on the grounds, and I heard it snarling.

It seems to be quite a dangerous creature?

Do you often have them here?

So near the house, I mean?"

Regardless of the answer the master gave, that afternoon, as soon as he could get his horse saddled, Thomas bade goodbye and set off on his journey once more. This news about the local tigers had quite unsettled him.

He rode on until the nightfall, and he was happy to see a large fort, and several men with guns standing on the guard outside the main gate. As night was falling, they were preparing to secure the gates for the greater security of those inside. Thomas dismounted and told them he was a traveler seeking shelter for the hours of darkness.

Next day Thomas was asked to go hawking with them, which he did with much enjoyment, delighting in the fresh air and wild scenery. After a wonderful day of sport, they returned to a grand feast, where the whole party ate and drank together in warm companionship. As they were about to go to bed, the head warrior said to Thomas:

"My man and I have been pleased with your company today, and we have admired the way in which you have entered into the spirit of our simple sport.

Two miles to the south of here is an area which is infested with tigers. We usually rise early and we go out to do battle with those tigers. We would be very happy if you could accompany us tomorrow."

Thomas' face paled as he said goodnight. He scarcely slept until dawn. He knew that he could not join those fearsome warriors in their tiger hunt. In the morning, as soon as he was not being watched by the others, he urged his horse in the other direction and he rode away.

He rode on, until he came to a charming region of hills and dales covered with small fruit trees and shrubs with sweet-smelling blossoms. Then, he saw a wonderful palace, finer than any he had seen before.

The palace was of rose-colored stone, with pillars set with mosaics of sky-blue tiles, and the balconies of painted wood carved with delicate designs. There were fountains of pure water in the gardens all around the palace, and pavilions where sweetly singing birds had their nests.

"This is surely a paradise on earth!" said Thomas to himself.

To his surprise, a guard standing at gates saluted Thomas and he was then taken to a guest room by another servant, who showed him where he could bathe and change into clothes that were laid out for him on the couch. Thomas was confused.

Prime Minister, the owner of the house, told him he was welcome to stay in the palace for as long as he wished.

Several days had passed before one afternoon he saw Mary, the Prime Minister’s beautiful daughter.

She was sitting in the garden, singing to herself in a charming and pleasant voice, accompanying herself on a delicate stringed instrument.

Thomas was instantly in love!

Just as he was about to go forward and introduce himself to her, he froze in his tracks. Beside her, laying on the grass at her feet, was a large and very aggressive looking tiger.

Mary looked in his direction and said,

"So you are our guest for this week?

I have seen you several times, eating with my father."

and she gave a delicious giggle.

The tiger raised its head and looked at Thomas with huge green eyes, bright as emeralds. Its teeth look very sharp!

"I am...

I'm sorry to have disturbed you,"

he said faintly.

"I must go now. I'm sure that I should not have interrupted you at your music."

He would have liked to turn and run, but he was afraid that the tiger would chase him if he did.

Mary said:

"Oh, nonsense,"

"Please come over here and sit down. My father has just told me I should entertain you and introduce my lovely pet tiger to you."

and she indicated a seat opposite her.

With every nerve in his body tingling with anxiety, Thomas forced himself to sit where she pointed. He looked rather shyly at her and inwardly agreed that she must indeed be the most beautiful lady in the land. He had never seen anyone so lovely.

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And then and there, Thomas made up his mind to return home. With so many tigers to be dealt with everywhere, surely the one at home in his father's dungeon could scarcely be much trouble?

Arriving back at the palace, Thomas kissed his father's hand and begged for the King's forgiveness for running away from his destiny in such a manner.

He said:

"Now let me go to the tiger with a dagger and a shield, as soon as possible..."

Thomas was taken to the dungeon where the tiger was confined. All cheered him on his way below.

The keeper of the fearsome beast unbolted the iron door of the cage and animal snarled, shoving his gleaming white teeth.

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For a moment his heart seemed to stop beating, but he stepped forward, his strength returning, and lifted the blade to plunge it into the animal's throat.

With its leap, tiger knocked Thomas down in one shot!

In less than one-tenth of a second, it jumped on top of him!

It opened it's mouth to destroy him!

Suddenly, to his astonishment, the giant creature began to purr and rubbed its head against Thomas' head, licking his face like a pet hound.

The keeper of the tiger took the dagger from the young man's hand and said:

"See, auspicious Prince? This animal is as tame as a pet cat! It has never injured any humans in its life. In fact, it had been bred and trained in order to test your courage."

The King smiled and said:

"You now know how the test of the tiger is carried out by each generation, from prince to prince. Today it was your turn!

I’m proud of you my son!

"You are a worthy successor to my crown!"

Thomas lost no time in sending a fast riding messenger to Mary, to ask her to come and marry him.

And she came. The wedding festivities went on for 14 days and 14 nights. All hearts were happy at the marriage of their young prince and his princess.

The tiger which Mary brought with her to her new home played most amicably with the one which was now Thomas’ pet.

And; tigers followed their master and mistress...

like tame cats...

for all the rest of their lives...

So...

This story fundamentally reflects how I feel about this whole change situation.

A.5.5 Main changing bit (Narrative Part 3/4) (SS-E) (EG2)

Once upon a time, in a country far away, lived Nasreddin Hodja.

One day, Nasreddin Hodja needed a large cooking container.

He borrowed his neighbor’s copper cauldron, then he returned it in a very timely manner.

"What is this?"

asked his neighbor upon examining the returned cauldron.

"There is a small pot inside my cauldron."

The Hodja cheered up.

"Oh!"

he responded happily.

"While your cauldron was in my care, it gave birth to a little one. Because you are the owner of the mother cauldron, it is only right that you should keep its baby. And in any event, it would not be right to separate the child from its mother at such a young age."

The neighbor, thought that the Hodja had gone quite mad and he did not argue. Whatever had caused the crazy man to come up with this explanation, the neighbor had a nice little pot, and it had cost him nothing.

Some time later, the Hodja asked to borrow the cauldron again.

"Why not?"

thought the neighbor to himself.

"Perhaps there will be another little pot inside when he returns it."

But this time the Hodja did not return the cauldron. After many days had passed, the neighbor went to the Hodja and asked for the return of the borrowed cauldron.

"My dear friend,"

replied the Hodja.

"I have bad news. Your cauldron has died, and is now in her grave."

Upon hearing the Hodja’s answer:

"What are you saying!?"

shouted the neighbor.

A cauldron does not live, and it cannot die.

Return it to me at once!"

However, the Hodja was not convinced.

"One moment!"

he answered back.

"This is the same cauldron that but a short time ago gave birth to a child, a child that is still in your possession. If a cauldron can give birth to a child, then it also can die."

And the neighbor never again saw his cauldron.

So...

This story fundamentally reflects how I feel about this whole change situation.

A.5.6 Main changing bit (Narrative Part 3/4) (SS-F) (CG)

Our next big topic on the meeting agenda is recycling.

I would like to explain to you the benefits of our organizational recycling initiatives. Our company will be re-thinking and re-defining how we manage waste and how we will make a difference in the sustainability of our planet.

I am sure many of us recycle at home. Why don't we do it at work? Why doesn't our company recycle? Have you asked these questions before? Were you even aware that we didn't recycle?

I believe it is our organizational responsibility to curb our waste levels and boost our recycling rates.

We live on our beautiful planet with finite natural resources. However, annually, we generate 1.3 billion tons of solid waste. And the worst part is that this

number is expected to go up. Unfortunately, just about 34 per cent of this waste gets recycled. In other words, the average person throws away waste that's equivalent to their body weight every single month. Think about it. This might certainly help you visualize the waste problem.

We have to take action. If we don't tackle this waste problem collectively, we, as an organization, not only will be left behind in the new organizational recycling trend but also we will be personally and organizationally responsible for the future.

Let me tell you more about this new recycling trend. I find it very exciting. Today, more and more companies are thinking about how to reduce their waste. There's a growing awareness of the need to protect our environment.

As the company CEO, I feel a big responsibility to be a catalyst for positive environmental action and show other companies that we are doing good.

In addition, I personally believe recycling in companies should not be a trend. Trends come and go, but the actions we take now should stay. They should be permanent. That's why we should integrate the recycling awareness into our company culture.

There are a few things we can do about this. I will be explaining those ideas to you one by one. If you have any additions or suggestions, please find me after the meeting and we can discuss your ideas too.

Let's first talk about recycling cooking oil.

In order to serve our employees great food, we cook it in house.

Cooking oils contaminate water. This is a known fact.

To reduce water contamination, our company kitchen will be using oil pots. We will collect the used oil into these pots and we will be sending those oil pots to

professional third-party recycling agencies to let them make it reusable as much as possible.

Also there's the topic of composting.

As an action point, we will also put special, high-tech green bins that will be used for composting. These bins will be stylish and cool art objects that people will love to see. They will be fun to be around and interact with.

We're in touch with few tech companies and few design agencies to create those bins that have our company branding.

Another important topic is the need to create education sessions.

We have to help people understand that waste can also be a valuable raw material. This is possible through the free education sessions that we will incentivize for our employees' attendance. This way, we hope that recycling awareness will spread across the company (and outside of the company) more quickly. Everyone should try to do their part and recycle.

We need a reverse vending machine.

Next to our current food and drink vending machines, we will install another one. However, this will be a special type of vending machine. It will reverse the process by giving you incentives and small prizes in exchange for an empty bottle or can.

We're again in touch with few tech companies who create those reverse vending machines.

One thing that must not be missed is that we need to redesign our company office garden.

We will redesign our company garden with 100 per cent recycled materials. Our garden will be the showcase of our recycling philosophy and rigorous recycling efforts. Of course, we will make the new design very special, colorful and fun. Some items will have inspiring architecture and ecological-features. It will be lovely.

Another action point is that we must join the Recycling Association and The National Recycling Coalition.

Those are two different organizations.

Let me start with the Recycling Association.

Our company will be a gold member of the Recycling Association. The association provides recycled material to re-processors in the US and across the world. This allows manufacturers to use sustainable recycled materials, reduces the amount of needless land-filling and cuts reliance on single use commodities. I believe that by working together with the Recycling Association we can do more.

On the other hand, The National Recycling Coalition is a non-profit organization that is focused on the promotion and enhancement of recycling in the United States. The Coalition represents and advocates for every sector of the recycling industry across the country. Our company will be among the first represented companies in the US.

We must meet new legal obligations.

Some businesses in some industries have a legal responsibility for disposal of specific products; ensuring compliance through recycling schemes to avoid penalties and fines. Our financial services industry is not yet of those industries but I am aware that new laws are being prepared to make the legal responsibilities much stricter. It's always good to be one step ahead of the game.

So...

We are converting these ideas into real action. We will start delivering them soon. As I have mentioned before, as a company we have to start taking action now. If we don't, it will be too late and the world will certainly be a less beautiful place. The future for our children or grandchildren will be destroyed. It will not only be at the expense of the environment but our children's health and wellbeing.

It is not enough to address these problems personally. So companies, organizations, businesses, everyone should also be actively involved in the process.

We must leave a positive legacy behind and make the beautiful future a reality.

This final point concludes our recycling part in our meeting.

A.5.7 Closing (Narrative Part 4/4) (SS-G) (EG2, EG1, CG)

Before concluding this meeting, I want to go back to my blockchain point and I want to say few more things.

I am aware, no one really understands these blockchain technologies yet and oddly enough it proposes a threat to our existence.

I am also aware that we will have doubters trying to sway minds and suggest we continue operating in less risky areas.

However, we have to find the courage, in this dark and unknown path, to move forward. Or else we're doomed to fail from the start.

It's a financial revolution. We have to be part of it. We have to join it or we might not survive long.

I strongly believe; blockchain is not an existential threat to those who truly embrace this new technology and the novel paradigm it brings along. If we have the courage to disrupt from within, we will achieve great results. The main question perhaps is, who will lead this revolution? Is it going to be us?

The force of blockchain technology is unstoppable now. It will very soon barrel down on the infrastructure of the modern finance. Despite how dramatic and unknown this change is, we shall not be afraid.

Not to be left behind, and preferably to be one step ahead of our competitors, we have to act now and embrace these new financial technologies.

With this regard I hope you will actively collaborate with the requirements of our new "Blockchain and Cryptocurrency Financial Operations" department.

This was all I wanted to say.

Thank you all for joining me here in this very important meeting.

Have a great week.

A.6 Tagging the audio file

This section providesv examples of how the narratives were generated for the final experiment. SSML tags were used. Details for those are provided in the sections below.

A.7 SSML related resources

A.7.1 List of SSML tags

To be able to synthesize a more realistic story, SSML tags were used.

For the voice engine, in experiments 2 and 3, Amazon (AWS) Polly was chosen. The service supports the following SSML tags:

- Adding a pause:

  < *break* >

- Emphasizing words:

  < *emphasis* >

- Specifying another language for specific words:

  < *lang* >

- Placing a custom tag in your text:

  < *mark* >

- Adding a pause between paragraphs:

  < *p* >

- Using phonetic pronunciation:

  < *phoneme* >

- Controlling volume, speaking rate, and pitch:

  < *prosody* >

- Setting a maximum duration for synthesized speech:

  < *prosody amazon : max - duration* >

- Adding a pause between sentences:

  < *s* >

- Controlling how special types of words are spoken:

  < *say - as* >

- Identifying SSML - enhanced text:

< *speak* >

- Pronouncing acronyms and abbreviations:

  < *sub* >

- Improving pronunciation by specifying parts of speech:

  < *w* >

- Adding the sound of breathing:

  < *amazon : auto - breaths* >

- Adding dynamic range compression:

  < *amazon : effect name =" drc "* >

- Speaking softly:

  < *amazon : effect phonation =" soft "* >

- Controlling timbre:

  < *amazon : effect vocal - tract - length* >

- Whispering:

  < *amazon : effect name =" whispered "* >

A.7.2 Exact narratives with SSML tags

This section features the complete narratives.

This is exactly what was synthesized for the final experiment before switching to the AI tool.

For details, see the section with annotated titles. The annotated titles section will provide the boundaries and clarify where each section starts and ends and check group are getting which parts.

The case-study and the story have been both shortened and edited for further clarity for the final experiment.

The story is a modification of "The prince who feared tigers" (Shah, 2008).

The case study is inspired from many articles (Tapscott & Tapscott, 2017a; Tapscott & Tapscott, 2017b) and news reports.

Experimental group 1 (EG1)

This is the congruent story.

‘html <speak> Dear employees, Thanks for joining our keynote presentation meeting. As you all know, our finance company is starting a completely new adventure. Starting next month, we will have a new division, called "Blockchain and Cryptocurrency Financial Operations". This new disruptive blockchain technology will definitely change the way we do things here. As the CEO of this company, I feel that this is my responsibility to give you the news. The results of technical analysis we had been conducting over the years made us understand that it would be impossible to position our company for success today, and in the future, without adoption of blockchain technologies in our financial markets. This decision was not easy. With increasing internal and external pressures, we understood that had no choice but to include blockchain technology currencies as digital assets into our financial portfolio. These assets include Bitcoin, Ethereum, Ripple, Cardano and IOTA. These technologies and some of these cryptocurrencies have been around for a while. For example, Bitcoin has been around nearly for twelve years. We, however, alongside the other companies in the finance sector, we didn’t believe in these technologies and each time they appeared in front of us in different forms, we chose to ignore them. Now it seems, we simply don’t have this option to ignore them

anymore. I will talk more about why this is the case. Regardless, our company's ability to achieve expected benefits will be directly tied to how effectively we engage in these upcoming changes. I would like to start by explaining how we have arrived at this point. We are all witnessing that regulatory costs continue to climb in the finance sector. These costs remain a top concern for financial institutions like our company. The consumers, our customers, are actually the ones who ultimately are bearing this burden of increasing costs. And we have observed that they have been becoming more and more unhappy about this situation. Our marketing surveys and focus group studies tell exactly this. Competition has recently shifted towards the blockchain domain. Blockchain technologies support models of peer-to-peer mass collaboration. These technologies make many of our existing "organizational forms" redundant. By reducing transaction costs among all participants in the economy, the companies who have adapted blockchain technologies are gaining competitive advantage. And I am sad to announce to you that our company foundations are made up of those "organizational forms" that are about to be redundant. Our company may face serious, unbeatable competition anytime soon if we don't urgently take action. We were aware of these disruptive technologies and the nature of the situation shifting towards this state for a very long time but we resisted it. We ignored it. We didn't completely understand the nature and philosophy of these technologies. We were afraid to take action into the unknown. However, today the situation has turned into a logjam that we can no longer ignore or resist. We have no choice but to take action. The good news is that after digging deep in research about those technologies in the last few months, I am also convinced that we can benefit greatly from blockchain technologies. And regardless of how inefficient our current financial system is. Let

me tell you how and why. We are currently operating inside an ocean of inefficiency. The first reason for this is because our current understanding of "digital" is mainly limited to paper-based processes dressed up in a digital wrapper. Let's admit, it's not really digital, when it's tied to antiquated paper-based values. This legacy slows down many processes and it makes innovation much harder. Secondly, we are drowning in the ocean of inefficiency, because our current financial system is centralized. This makes it resistant to change and vulnerable to systems failures and attacks. We spend so much time, energy and resources to protect and maintain these systems. Third, last but not least, our current financial system is inefficient because it is exclusionary. It denies billions of people access to basic financial tools. From my experience, I can tell you the next generation of our customers, mainly the youth, they like to be in control, and they certainly do not like to be limited or excluded in any way. These three points have a common solution: blockchain technologies. It's creative destruction. And while messy, it is actually quite critical to economic vitality and progress. And remember, the technology always follows the path which has the least resistance. After all, we must realize that most financial intermediaries, like our company, rely on a dizzying, complex, and costly array of other intermediaries to run their own operations. Santander, a European bank, achieved to put $20 billion a year in savings. Capgemini consultancy estimates that consumers could save up to $16 billion in banking and insurance fees each year through blockchain-based applications. JPMorgan Chase, Citigroup, and Credit Suisse are only of the few companies I know currently investing in the technology, to do more with less, streamline their businesses, and reduce risk in the process. I feel that Pandora's box has been opened. While these companies are saving millions by embracing these

technologies, we cannot just sit back and watch. There is no going back, we have to be part of this new journey. And... This morning, when I was driving to work, I was a bit bored in the traffic. I was zapping through the radio channels. I can't remember which channel it was but there was a lady telling a fairy tale on the radio. For a moment it caught my attention and I started listening. When the story finished, I was deeply moved by it and it made me realize a few things. I'd like to share this story with you today. It was something like this:

<break time="950ms" /> <break time="1.5s" />

Once upon a time, there was a king who had a handsome son. He had the young prince trained in every form of courtly behavior and schooled in mathematics, geometry and astronomy. When he was eighteen years old, the King said to him:

<break strength="strong" /> <prosody pitch="low"> "Thomas, my son, there's a secret which all princes in our family learn at the age you are now. There is a tiger which has been bred for the purpose. It is extremely fierce and strong. And it is to be your task to go into its cage, armed only with one dagger and with a small shield. My son, you must fight that tiger, or you will <emphasis>never</emphasis> be the King!

<break time="1s" />

I was sent into the cage to fight a similar tiger when I was your age. I had passed the test of daring and strength." </prosody>

<break time="1.5s" />

Thomas was distressed at this news and said: "I have no liking for fighting with beasts, father! Let me wrestle a man, or even a daemon, but a <emphasis>tiger?</emphasis>... why...? <break strength="strong" />

it sounds impossible to me."

<break time="1.5s" />

The King led the trembling young prince to a deep dungeon under the castle where, in an iron cage, a fierce-looking tiger with huge teeth and vicious snarl was chewing at a large bone. Thomas was terrified. At dinner that night, Thomas was subdued, wrestling with the problem. But soon after he went to bed his mind was made up. He would leave the palace as soon as his parents were asleep and probably never return.

<break time="950ms" />

At midnight he rose, dressed in very ordinary clothes, and he rode away. By the morning, he had arrived at a pleasant river with flowery meadows. He heard the sound of a shepherd boy playing upon a pipe. He was leading a small flock of sheep. Thomas asked the boy if there was somewhere he might stay for a few days. The boy pointed to a road leading up a large house where his master lived. The master of the house, who also owned much of the surrounding lands, made Thomas welcome when he arrived and invited him to stay for as long as he wished. Each day Thomas discovered new and enchanting spots where he could enjoy the river and hear the shepherds playing on their pipes. He would ride his horse to vantage points from which he could view the surrounding countryside, and admire the trees and abundant grapes which grew on terraced vines on every side. One night, as he looked out of his bedroom window, he saw, to his horror, that there was a tiger in the grounds. As he heard the snarling of the ferocious beast, his heart stood still and the blood froze in his veins. That night he tossed and turned, unable to sleep. Next morning his host asked him:

<break strength="strong" />

"Did you sleep well? You do not look very rested." "No, I couldn’t sleep," said Thomas. "I saw a large tiger on the grounds, and I heard it snarling. It seems to be quite a dangerous creature?

<break strength="strong" /> Do you often have them here? So near the house, I mean?"

<break time="1.5s" />

Regardless of the answer the master gave, that afternoon, as soon as he could get his horse saddled, Thomas bade goodbye and set off on his journey once more. This news about the local tigers had quite unsettled him. He rode on until the nightfall, and he was happy to see a large fort, and several men with guns standing on the guard outside the main gate. As night was falling, they were preparing to secure the gates for the greater security of those inside. Thomas dismounted and told them he was a traveler seeking shelter for the hours of darkness. Next day Thomas was asked to go hawking with them, which he did with much enjoyment, delighting in the fresh air and wild scenery. After a wonderful day of sport, they returned to a grand feast, where the whole party ate and drank together in warm companionship. As they were about to go to bed, the head warrior said to Thomas:

<break strength="strong" />

"My man and I have been pleased with your company today, and we have admired the way in which you have entered into the spirit of our simple sport. Two miles to the south of here is an area which is infested with tigers. We usually rise early and we go out to do battle with those tigers. We would be very happy if you could accompany us tomorrow."

<break time="1.5s" />

Thomas' face paled as he said goodnight. He scarcely slept until dawn. He knew that he could not join those fearsome warriors in their tiger hunt. In the morning, as soon as he was not being watched by the others, he urged his horse in the other direction and he rode away. He rode on, until he came to a charming region of hills and dales covered with small fruit trees and shrubs with sweet-smelling blossoms. Then, he saw a wonderful palace, finer than any he had seen before. The palace was of rose-colored stone, with pillars set with mosaics of sky-blue tiles, and the balconies of painted wood carved with delicate designs. There were fountains of pure water in the gardens all around the palace, and pavilions where sweetly singing birds had their nests.

<break strength="strong" />

"This is surely a paradise on earth!" said Thomas to himself. To his surprise, a guard standing at gates saluted Thomas and he was then taken to a guest room by another servant, who showed him where he could bathe and change into clothes that were laid out for him on the couch. Thomas was confused.

<break time="950ms" />

Prime Minister, the owner of the house, told him he was welcome to stay in the palace for as long as he wished. Several days had passed before one afternoon he saw Mary, the Prime Minister's beautiful daughter. She was sitting in the garden, singing to herself in a charming and pleasant voice, accompanying herself on a delicate stringed instrument. Thomas was instantly in love! Just as he was about to go forward and introduce himself to her, he froze in his tracks. Beside her, laying on the grass at her feet, was a large and very aggressive looking tiger.

<break time="950ms" />

Mary looked in his direction and said,

<break strength="strong" /> <prosody pitch="high"> "So you are our guest for this week? I have seen you several times, eating with my father." </prosody>

and she gave a delicious giggle. The tiger raised its head and looked at Thomas with huge green eyes, bright as emeralds. Its teeth look very sharp!

<break time="1.5s" />

"I am... I'm sorry to have disturbed you," he said faintly. "I must go now. I'm sure that I should not have interrupted you at your music."

<break time="1.5s" />

He would have liked to turn and run, but he was afraid that the tiger would chase him if he did. Mary said:

<break strength="strong" /> <prosody pitch="high"> "Oh, nonsense," </prosody>

<prosody pitch="high"> "Please come over here and sit down. My father has just told me I should entertain you and introduce my lovely pet tiger to you." </prosody>

and she indicated a seat opposite her. With every nerve in his body tingling with anxiety, Thomas forced himself to sit where she pointed. He looked rather shyly at her and inwardly agreed that she must indeed be the most beautiful lady in the land. He had never seen anyone so lovely. Her eyes were large and dark, fringed with black lashes and she had a full, rose pink mouth. Her copper-coloured hair gleamed and she wore a leaf green robe. He felt himself falling deeply in love with her but at the same time, he was petrified with fear of the tiger. And then and there, Thomas

made up his mind to return home. With so many tigers to be dealt with everywhere, surely the one at home in his father's dungeon could scarcely be much trouble? Arriving back at the palace, Thomas kissed his father's hand and begged for the King's forgiveness for running away from his destiny in such a manner.

<break strength="strong" /> He said: "Now let me go to the tiger with a dagger and a shield, as soon as possible..."

<break time="1.5s" />

Thomas was taken to the dungeon where the tiger was confined. All cheered him on his way below. The keeper of the fearsome beast unbolted the iron door of the cage and animal snarled, shoving his gleaming white teeth. With the dagger in his right hand and a small shield in his left, Thomas went bravely into the cage. For a moment his heart seemed to stop beating, but he stepped forward, his strength returning, and lifted the blade to plunge it into the animal's throat. With its leap, tiger knocked Thomas down in one shot!

<break time="1.5s" />

In less than one-tenth of a second, it jumped on top of him! It opened it's mouth to destroy him!

<break strength="strong" /> <break strength="strong" /> <break time="950ms" />

Suddenly, to his astonishment, the giant creature began to purr and rubbed its head against Thomas' head, licking his face like a pet hound. The keeper of the tiger took the dagger from the young man's hand and said:

<break strength="strong" /> <prosody pitch="high"> "See, auspicious Prince? This animal is as tame as a pet cat! It has never injured any humans in its life. In fact, it had been bred and trained in order to test your courage." </prosody>

<break strength="strong" />

The King smiled and said:

<break strength="strong" /> <prosody pitch="low"> "You now know how the test of the tiger is carried out by each generation, from prince to prince. Today it was your turn!

<emphasis>I’m proud of you my son!</emphasis>

"You are a worthy successor to my crown!" </prosody>

<break time="1.5s" />

Thomas lost no time in sending a fast riding messenger to Mary, to ask her to come and marry him. And she came. The wedding festivities went on for 14 days and 14 nights. All hearts were happy at the marriage of their young prince and his princess. The tiger which Mary brought with her to her new home played most amicably with the one which was now Thomas’ pet. And; tigers followed their master and mistress...

<break strength="strong" /> like tame cats...

<break strength="strong" />

<emphasis>for all the rest of their lives...</emphasis>

<break time="950ms" />

So... This story fundamentally reflects how I feel about this whole change situation.

<break time="950ms" />

Before concluding this meeting, I want to go back to my blockchain point and I want to say few more things. I am aware, no one really understands these blockchain technologies yet and oddly enough it proposes a threat to our existence. I am also aware that we will have doubters trying to sway minds and suggest we continue operating in less risky areas. However, we have to find the courage, in this dark and unknown path, to move forward. Or else we're doomed to fail from the start. It's a financial revolution. We have to be part of it. We have to join it or we might not survive long. I strongly believe; blockchain is not an existential threat to those who embrace this new technology paradigm and disrupt from within. The question is, who in the financial services industry will lead the revolution? Is it going to be us? The unstoppable force of blockchain technology is barreling down on the infrastructure of the modern finance. Despite how dramatic and unknown this change is, we shall not be afraid. Not to be left behind, and preferably to be one step ahead of our competitors, we have to act now and embrace these new financial technologies. With this regard I believe you will actively collaborate with the requirements of our new "Blockchain and Cryptocurrency Financial Operations" department. This was all I wanted to say. Thank you all for joining me here in this very important meeting. Have a great week. </speak> `

Control group (CG)

This is the non-story.

`html <speak> Dear employees, Thanks for joining our keynote presentation meeting. As you all know, our finance company is starting a completely new adventure. Starting next month, we will have a new division, called "Blockchain and Cryptocurrency Financial Operations". This new disruptive blockchain technology

will definitely change the way we do things here. As the CEO of this company, I feel that this is my responsibility to give you the news. The results of technical analysis we had been conducting over the years made us understand that it would be impossible to position our company for success today, and in the future, without adoption of blockchain technologies in our financial markets. This decision was not easy. With increasing internal and external pressures, we understood that had no choice but to include blockchain technology currencies as digital assets into our financial portfolio. These assets include Bitcoin, Ethereum, Ripple, Cardano and IOTA. These technologies and some of these cryptocurrencies have been around for a while. For example, Bitcoin has been around nearly for twelve years. We, however, alongside the other companies in the finance sector, we didn't believe in these technologies and each time they appeared in front of us in different forms, we chose to ignore them. Now it seems, we simply don't have this option to ignore them anymore. I will talk more about why this is the case. Regardless, our company's ability to achieve expected benefits will be directly tied to how effectively we engage in these upcoming changes. I would like to start by explaining how we have arrived at this point. We are all witnessing that regulatory costs continue to climb in the finance sector. These costs remain a top concern for financial institutions like our company. The consumers, our customers, are actually the ones who ultimately are bearing this burden of increasing costs. And we have observed that they have been becoming more and more unhappy about this situation. Our marketing surveys and focus group studies tell exactly this. Competition has recently shifted towards the blockchain domain. Blockchain technologies support models of peer-to-peer mass collaboration. These technologies make many of our existing "organizational forms" redundant. By

reducing transaction costs among all participants in the economy, the companies who have adapted blockchain technologies are gaining competitive advantage. And I am sad to announce to you that our company foundations are made up of those "organizational forms" that are about to be redundant. Our company may face serious, unbeatable competition anytime soon if we don't urgently take action. We were aware of these disruptive technologies and the nature of the situation shifting towards this state for a very long time but we resisted it. We ignored it. We didn't completely understand the nature and philosophy of these technologies. We were afraid to take action into the unknown. However, today the situation has turned into a logjam that we can no longer ignore or resist. We have no choice but to take action. The good news is that after digging deep in research about those technologies in the last few months, I am also convinced that we can benefit greatly from blockchain technologies. And regardless of how inefficient our current financial system is. Let me tell you how and why. We are currently operating inside an ocean of inefficiency. The first reason for this is because our current understanding of "digital" is mainly limited to paper-based processes dressed up in a digital wrapper. Let's admit, it's not really digital, when it's tied to antiquated paper-based values. This legacy slows down many processes and it makes innovation much harder. Secondly, we are drowning in the ocean of inefficiency, because our current financial system is centralized. This makes it resistant to change and vulnerable to systems failures and attacks. We spend so much time, energy and resources to protect and maintain these systems. Third, last but not least, our current financial system is inefficient because it is exclusionary. It denies billions of people access to basic financial tools. From my experience, I can tell you the next generation of our customers, mainly the youth, they like to be in

control, and they certainly do not like to be limited or excluded in any way. These three points have a common solution: blockchain technologies. It's creative destruction. And while messy, it is actually quite critical to economic vitality and progress. And remember, the technology always follows the path which has the least resistance. After all, we must realize that most financial intermediaries, like our company, rely on a dizzying, complex, and costly array of other intermediaries to run their own operations. Santander, a European bank, achieved to put $20 billion a year in savings. Capgemini consultancy estimates that consumers could save up to $16 billion in banking and insurance fees each year through blockchain-based applications. JPMorgan Chase, Citigroup, and Credit Suisse are only of the few companies I know currently investing in the technology, to do more with less, streamline their businesses, and reduce risk in the process. I feel that Pandora's box has been opened. While these companies are saving millions by embracing these technologies, we cannot just sit back and watch. There is no going back, we have to be part of this new journey.

<break time="950ms" />

OK, let's continue with the other items in our meeting agenda. We have few more important topics to discuss.

<break time="950ms" />

This brings us to the next topic: recycling. I would like to explain to you the benefits of our organizational recycling initiatives. Our company will be re-thinking and re-defining how we manage waste and how we will make a difference in the sustainability of our planet. Our next big topic on the meeting agenda is recycling. I would like to explain to you the benefits of our organizational recycling initiatives.

Our company will be re-thinking and re-defining how we manage waste and how we will make a difference in the sustainability of our planet. I am sure many of us recycle at home. Why don't we do it at work? Why doesn't our company recycle? Have you asked these questions before? Were you even aware that we didn't?

<break time="950ms" />

I believe it is our organizational responsibility to curb our waste levels and boost our recycling rates. We live on our beautiful planet with finite natural resources. However, annually, we generate 1.3 billion tons of solid waste. And the worst part is that this number is expected to go up. Unfortunately, just about 34 per cent of this waste gets recycled. In other words, the average person throws away waste that's equivalent to their body weight every single month. Think about it. This might certainly help you visualise the waste problem. We have to take action. If we don't tackle this waste problem collectively, we <break strength="strong" />, as an organization, not only will be left behind in the new organizational recycling trend but also we will be personally and organizationally responsible for the future. Let me tell you more about this new recycling trend. I find it very exciting. Today, more and more companies are thinking about how to reduce their waste. There's a growing awareness of the need to protect our environment. As the company CEO, I feel a big responsibility to be a catalyst for positive environmental action and show other companies that we are doing good. In addition, I personally believe recycling in companies should not be a trend. Trends come and go, but the actions we take now should stay. They should be permanent. That's why we should integrate the recycling awareness into our company culture. There are a few things we can do about this. I

will be explaining those ideas to you one by one. If you have any additions or suggestions, please find me after the meeting and we can discuss your ideas too.

<break time="950ms" />

Let’s first talk about recycling cooking oil. In order to serve our employees great food, we cook it in house. Cooking oils contaminate water. This is a known fact. To reduce water contamination, our company kitchen will be using oil pots. We will collect the used oil into these pots and we will be sending those oil pots to professional third-party recycling agencies to let them make it reusable as much as possible.

<break time="950ms" />

Also there’s the topic of composting. As an action point, we will also put special, high-tech green bins that will be used for composting. These bins will be stylish and cool art objects that people will love to see. They will be fun to be around and interact with. We’re in touch with few tech companies and few design agencies to create those bins that have our company branding.

<break time="950ms" />

Another important topic is the need to create education sessions. We have to help people understand that waste can also be a valuable raw material. This is possible through the free education sessions that we will incentivise for our employees’ attendance. This way, we hope that recycling awareness will spread across the company (and outside of the company) more quickly. Everyone should try to do their part and recycle.

<break time="950ms" />

We need a reverse vending machine. Next to our current food and drink vending machines, we will install another one. However, this will be a special type of vending machine. It will reverse the process by giving you incentives and small prizes in exchange for an empty bottle or can. We're again in touch with few tech companies who create those reverse vending machines.

<break time="950ms" />

One thing that must not be missed is that we need to redesign our company office garden. We will re-design our company garden with 100 per cent recycled materials. Our garden will be the showcase of our recycling philosophy and rigorous recycling efforts. Of course, we will make the new design very special, colorful and fun. Some items will have inspiring architecture and ecological-features. It will be lovely.

<break time="950ms" />

Another action point is that we must join the Recycling Association and The National Recycling Coalition. Those are two different organizations. Let me start with the Recycling Association. Our company will be a gold member of the Recycling Association. The association provides recycled material to re-processors in the US and across the world. This allows manufacturers to use sustainable recycled materials, reduces the amount of needless landfilling and cuts reliance on single use commodities. I believe that by working together with the Recycling Association we can do more. On the other hand, The National Recycling Coalition is a non-profit organization that is focused on the promotion and enhancement of recycling in the United States. The Coalition represents and advocates for every sector of the

recycling industry across the country. Our company will be among the first represented companies in the US.

<break time="950ms" />

We must meet new legal obligations. Some businesses in some industries have a legal responsibility for disposal of specific products; ensuring compliance through recycling schemes to avoid penalties and fines. Our financial services industry is not yet of those industries but I am aware that new laws are being prepared to make the legal responsibilities much stricter. It's always good to be one step ahead of the game.

<break time="950ms" />

So... We are converting these ideas into real action. We will start delivering them soon. As I have mentioned before, as a company we have to start taking action now. If we don't, it will be too late and the world will certainly be a less beautiful place. The future for our children or grandchildren will be destroyed. It will not only be at the expense of the environment but our children's health and wellbeing. It is not enough to address these problems personally. So companies, organizations, businesses, everyone should also be actively involved in the process. We must leave a positive legacy behind and make the beautiful future a reality. <break time="950ms" />

This final point concludes our recycling part in our meeting.

<break time="950ms" />

Before concluding this meeting, I want to go back to my blockchain point and I want to say few more things. I am aware, no one really understands these blockchain technologies yet and oddly enough it proposes a threat to our existence. I

am also aware that we will have doubters trying to sway minds and suggest we continue operating in less risky areas. However, we have to find the courage, in this dark and unknown path, to move forward. Or else we're doomed to fail from the start. It's a financial revolution. We have to be part of it. We have to join it or we might not survive long. I strongly believe; blockchain is not an existential threat to those who embrace this new technology paradigm and disrupt from within. The question is, who in the financial services industry will lead the revolution? Is it going to be us? The unstoppable force of blockchain technology is barreling down on the infrastructure of the modern finance. Despite how dramatic and unknown this change is, we shall not be afraid. Not to be left behind, and preferably to be one step ahead of our competitors, we have to act now and embrace these new financial technologies. With this regard I believe you will actively collaborate with the requirements of our new "Blockchain and Cryptocurrency Financial Operations" department. This was all I wanted to say. Thank you all for joining me here in this very important meeting. Have a great week. </speak> `

Experimental group 2 (EG2)

This is the non-congruent story.

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<break time="950ms" /> Once upon a time, in a country far away, lived Nasreddin Hodja. One day, Nasreddin Hodja needed a large cooking container. He borrowed his neighbor's copper cauldron, then he returned it in a very timely manner.

<break strength="strong" /> <prosody pitch="high"> "What is this?" </prosody>

asked his neighbor upon examining the returned cauldron.

<break strength="strong" /> <prosody pitch="high"> "There is a small pot inside my cauldron." </prosody>

The Hodja cheered up.

<break strength="strong" /> <prosody pitch="low"> "Oh!" </prosody>

he responded happily.

<break strength="strong" /> <prosody pitch="low"> "While it was in my care, your cauldron gave birth to a little one. Because you are the owner of the mother cauldron, it is only right that you should keep its baby. And in any event, it would not be right to separate the child from its mother at such a young age." </prosody>

The neighbor, thought that the Hodja had gone quite mad and he did not argue. Whatever had caused the crazy man to come up with this explanation, the neighbor had a nice little pot, and it had cost him nothing. Some time later, the Hodja asked to borrow the cauldron again. "Why not?" thought the neighbor to himself. "Perhaps there will be another little pot inside when he returns it." But this time the Hodja did not return the cauldron. After many days had passed, the neighbor went to the Hodja and asked for the return of the borrowed cauldron.

<break strength="strong" /> <prosody pitch="low"> "My dear friend," </prosody>

replied the Hodja.

<break strength="strong" /> <prosody pitch="low"> "I have bad news. Your cauldron has died, and is now in her grave." </prosody>

Upon hearing the Hodja’s answer:

<break strength="strong" /> <prosody pitch="high"> "What are you saying?" </prosody>

shouted the neighbor.

<break strength="strong" /> <prosody pitch="high"> A cauldron does not live, and it cannot die. Return it to me at once!" </prosody>

However, the Hodja was not convinced.

<break strength="strong" /> <prosody pitch="low"> "One moment!" </prosody>

he answered back.

<break strength="strong" /> <prosody pitch="low"> "This is the same cauldron that but a short time ago gave birth to a child, a child that is still in your possession. If a cauldron can give birth to a child, then it also can die." </prosody>

And the neighbor never again saw his cauldron. So... This story fundamentally reflects how I feel about this whole change situation.

<break time="950ms" />

Before concluding this meeting, I want to go back to my blockchain point and I want to say few more things. I am aware, no one really understands these blockchain technologies yet and oddly enough it proposes a threat to our existence. I am also aware that we will have doubters trying to sway minds and suggest we continue operating in less risky areas. However, we have to find the courage, in this dark and unknown path, to move forward. Or else we're doomed to fail from the start. It's a financial revolution. We have to be part of it. We have to join it or we might not survive long. I strongly believe; blockchain is not an existential threat to those who embrace this new technology paradigm and disrupt from within. The question is, who in the financial services industry will lead the revolution? Is it going to be us? The unstoppable force of blockchain technology is barreling down on the infrastructure of

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A.7.3 Partial SSML tagged narratives

Introduction (Part 1 of 8) (EG2 and EG1)

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Transition to story (Part 2 of 8) (EG2 and EG1)

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Transition to non-story (Part 3 of 8) (CG only)

`html <break time="950ms" />

OK, let's continue with the other items in our meeting agenda. `

<break time="950ms" />

Our next big topic on the agenda is recycling. I would like to explain to you the benefits of our organizational recycling initiatives. Our company will be re-thinking and re-defining how we manage waste and how we will make a difference in the sustainability of our planet.

The congruent story (Part 4 of 8) (EG1 only)

`html <break time="1.5s" />

Once upon a time, there was a king who had a handsome son. He had the young prince trained in every form of courtly behavior and schooled in mathematics, geometry and astronomy. When he was eighteen years old, the King said to him:

<break strength="strong" /> <prosody pitch="low"> "Thomas, my son, there's a secret which all princes in our family learn at the age you are now. There is a tiger which has been bred for the purpose. It is extremely fierce and strong. And it is to be your task to go into its cage, armed only with one dagger and with a small shield. My son, you must fight that tiger, or you will <emphasis>never</emphasis> be the King!

<break time="1s" />

I was sent into the cage to fight a similar tiger when I was your age. I had passed the test of daring and strength." </prosody>

<break time="1.5s" />

Thomas was distressed at this news and said: "I have no liking for fighting with beasts, father! Let me wrestle a man, or even a daemon, but a <emphasis>tiger?</emphasis>... why...? <break strength="strong" />

it sounds impossible to me."

<break time="1.5s" />

The King led the trembling young prince to a deep dungeon under the castle where, in an iron cage, a fierce-looking tiger with huge teeth and vicious snarl was chewing at a large bone. Thomas was terrified. At dinner that night, Thomas was subdued, wrestling with the problem. But soon after he went to bed his mind was made up. He would leave the palace as soon as his parents were asleep and probably never return.

<break time="950ms" />

At midnight he rose, dressed in very ordinary clothes, and he rode away. By the morning, he had arrived at a pleasant river with flowery meadows. He heard the sound of a shepherd boy playing upon a pipe. He was leading a small flock of sheep. Thomas asked the boy if there was somewhere he might stay for a few days. The boy pointed to a road leading up a large house where his master lived. The master of the house, who also owned much of the surrounding lands, made Thomas welcome when he arrived and invited him to stay for as long as he wished. Each day Thomas discovered new and enchanting spots where he could enjoy the river and hear the shepherds playing on their pipes. He would ride his horse to vantage points from which he could view the surrounding countryside, and admire the trees and abundant grapes which grew on terraced vines on every side. One night, as he looked out of his bedroom window, he saw, to his horror, that there was a tiger in the grounds. As he heard the snarling of the ferocious beast, his heart stood still and the blood froze in his veins. That night he tossed and turned, unable to sleep. Next morning his host asked him:

<break strength="strong" />

"Did you sleep well? You do not look very rested." "No, I couldn’t sleep," said Thomas. "I saw a large tiger on the grounds, and I heard it snarling. It seems to be quite a dangerous creature?

<break strength="strong" /> Do you often have them here? So near the house, I mean?"

<break time="1.5s" />

Regardless of the answer the master gave, that afternoon, as soon as he could get his horse saddled, Thomas bade goodbye and set off on his journey once more. This news about the local tigers had quite unsettled him. He rode on until the nightfall, and he was happy to see a large fort, and several men with guns standing on the guard outside the main gate. As night was falling, they were preparing to secure the gates for the greater security of those inside. Thomas dismounted and told them he was a traveler seeking shelter for the hours of darkness. Next day Thomas was asked to go hawking with them, which he did with much enjoyment, delighting in the fresh air and wild scenery. After a wonderful day of sport, they returned to a grand feast, where the whole party ate and drank together in warm companionship. As they were about to go to bed, the head warrior said to Thomas:

<break strength="strong" />

"My man and I have been pleased with your company today, and we have admired the way in which you have entered into the spirit of our simple sport. Two miles to the south of here is an area which is infested with tigers. We usually rise early and we go out to do battle with those tigers. We would be very happy if you could accompany us tomorrow."

<break time="1.5s" />

Thomas' face paled as he said goodnight. He scarcely slept until dawn. He knew that he could not join those fearsome warriors in their tiger hunt. In the morning, as soon as he was not being watched by the others, he urged his horse in the other direction and he rode away. He rode on, until he came to a charming region of hills and dales covered with small fruit trees and shrubs with sweet-smelling blossoms. Then, he saw a wonderful palace, finer than any he had seen before. The

palace was of rose-colored stone, with pillars set with mosaics of sky-blue tiles, and the balconies of painted wood carved with delicate designs. There were fountains of pure water in the gardens all around the palace, and pavilions where sweetly singing birds had their nests.

<break strength="strong" />

"This is surely a paradise on earth!" said Thomas to himself. To his surprise, a guard standing at gates saluted Thomas and he was then taken to a guest room by another servant, who showed him where he could bathe and change into clothes that were laid out for him on the couch. Thomas was confused.

<break time="950ms" />

Prime Minister, the owner of the house, told him he was welcome to stay in the palace for as long as he wished. Several days had passed before one afternoon he saw Mary, the Prime Minister's beautiful daughter. She was sitting in the garden, singing to herself in a charming and pleasant voice, accompanying herself on a delicate stringed instrument. Thomas was instantly in love! Just as he was about to go forward and introduce himself to her, he froze in his tracks. Beside her, laying on the grass at her feet, was a large and very aggressive looking tiger.

<break time="950ms" />

Mary looked in his direction and said,

<break strength="strong" /> <prosody pitch="high"> "So you are our guest for this week? I have seen you several times, eating with my father." </prosody>

and she gave a delicious giggle. The tiger raised its head and looked at Thomas with huge green eyes, bright as emeralds. Its teeth look very sharp!

<break time="1.5s" />

"I am... I’m sorry to have disturbed you," he said faintly. "I must go now. I’m sure that I should not have interrupted you at your music."

<break time="1.5s" />

He would have liked to turn and run, but he was afraid that the tiger would chase him if he did. Mary said:

<break strength="strong" /> <prosody pitch="high"> "Oh, nonsense," </prosody>

<prosody pitch="high"> "Please come over here and sit down. My father has just told me I should entertain you and introduce my lovely pet tiger to you." </prosody>

and she indicated a seat opposite her. With every nerve in his body tingling with anxiety, Thomas forced himself to sit where she pointed. He looked rather shyly at her and inwardly agreed that she must indeed be the most beautiful lady in the land. He had never seen anyone so lovely. Her eyes were large and dark, fringed with black lashes and she had a full, rose pink mouth. Her copper-coloured hair gleamed and she wore a leaf green robe. He felt himself falling deeply in love with her but at the same time, he was petrified with fear of the tiger. And then and there, Thomas made up his mind to return home. With so many tigers to be dealt with everywhere, surely the one at home in his father’s dungeon could scarcely be much trouble? Arriving back at the palace, Thomas kissed his father’s hand and begged for the King’s forgiveness for running away from his destiny in such a manner.

<break strength="strong" /> He said: "Now let me go to the tiger with a dagger and a shield, as soon as possible..."

<break time="1.5s" />

Thomas was taken to the dungeon where the tiger was confined. All cheered him on his way below. The keeper of the fearsome beast unbolted the iron door of the cage and animal snarled, shoving his gleaming white teeth. With the dagger in his right hand and a small shield in his left, Thomas went bravely into the cage. For a moment his heart seemed to stop beating, but he stepped forward, his strength returning, and lifted the blade to plunge it into the animal's throat. With its leap, tiger knocked Thomas down in one shot!

<break time="1.5s" />

In less than one-tenth of a second, it jumped on top of him! It opened it's mouth to destroy him!

<break strength="strong" /> <break strength="strong" /> <break time="950ms" />

Suddenly, to his astonishment, the giant creature began to purr and rubbed its head against Thomas' head, licking his face like a pet hound. The keeper of the tiger took the dagger from the young man's hand and said:

<break strength="strong" /> <prosody pitch="high"> "See, auspicious Prince? This animal is as tame as a pet cat! It has never injured any humans in its life. In fact, it had been bred and trained in order to test your courage." </prosody>

<break strength="strong" />

The King smiled and said:

<break strength="strong" /> <prosody pitch="low"> "You now know how the test of the tiger is carried out by each generation, from prince to prince. Today it was your turn!

<emphasis>I'm proud of you my son!</emphasis>

"You are a worthy successor to my crown!" </prosody>

<break time="1.5s" />

Thomas lost no time in sending a fast riding messenger to Mary, to ask her to come and marry him. And she came. The wedding festivities went on for 14 days and 14 nights. All hearts were happy at the marriage of their young prince and his princess. The tiger which Mary brought with her to her new home played most amicably with the one which was now Thomas' pet. And; tigers followed their master and mistress...

<break strength="strong" /> like tame cats...

<break strength="strong" />

<emphasis>for all the rest of their lives...</emphasis>

<break time="950ms" />

So... `

The non-story (Part 5 of 8) (CG only)

`html <break time="950ms" />

I am sure many of us recycle at home. Why don't we do it at work? Why doesn't our company recycle? Have you asked these questions before? Were you even aware that we didn't?

<break time="950ms" />

I believe it is our organizational responsibility to curb our waste levels and boost our recycling rates. We live on our beautiful planet with finite natural resources. However, annually, we generate 1.3 billion tons of solid waste. And the worst part is that this number is expected to go up. Unfortunately, just about 34 per cent of this waste gets recycled. In other words, the average person throws away

waste that’s equivalent to their body weight every single month. Think about it. This might certainly help you visualise the waste problem. We have to take action. If we don’t tackle this waste problem collectively, we <break strength="strong" />, as an organization, not only will be left behind in the new organizational recycling trend but also we will be personally and organizationally responsible for the future. Let me tell you more about this new recycling trend. I find it very exciting. Today, more and more companies are thinking about how to reduce their waste. There’s a growing awareness of the need to protect our environment. As the company CEO, I feel a big responsibility to be a catalyst for positive environmental action and show other companies that we are doing good. In addition, I personally believe recycling in companies should not be a trend. Trends come and go, but the actions we take now should stay. They should be permanent. That’s why we should integrate the recycling awareness into our company culture. There are a few things we can do about this. I will be explaining those ideas to you one by one. If you have any additions or suggestions, please find me after the meeting and we can discuss your ideas too.

<break time="950ms" />

Let’s first talk about recycling cooking oil. In order to serve our employees great food, we cook it in house. Cooking oils contaminate water. This is a known fact. To reduce water contamination, our company kitchen will be using oil pots. We will collect the used oil into these pots and we will be sending those oil pots to professional third-party recycling agencies to let them make it reusable as much as possible.

<break time="950ms" />

Also there's the topic of composting. As an action point, we will also put special, high-tech green bins that will be used for composting. These bins will be stylish and cool art objects that people will love to see. They will be fun to be around and interact with. We're in touch with few tech companies and few design agencies to create those bins that have our company branding.

<break time="950ms" />

Another important topic is the need to create education sessions. We have to help people understand that waste can also be a valuable raw material. This is possible through the free education sessions that we will incentivise for our employees' attendance. This way, we hope that recycling awareness will spread across the company (and outside of the company) more quickly. Everyone should try to do their part and recycle.

<break time="950ms" />

We need a reverse vending machine. Next to our current food and drink vending machines, we will install another one. However, this will be a special type of vending machine. It will reverse the process by giving you incentives and small prizes in exchange for an empty bottle or can. We're again in touch with few tech companies who create those reverse vending machines.

<break time="950ms" />

One thing that must not be missed is that we need to redesign our company office garden. We will re-design our company garden with 100 per cent recycled materials. Our garden will be the showcase of our recycling philosophy and rigorous recycling efforts. Of course, we will make the new design very special, colorful and

fun. Some items will have inspiring architecture and ecological-features. It will be lovely.

<break time="950ms" />

Another action point is that we must join the Recycling Association and The National Recycling Coalition. Those are two different organizations. Let me start with the Recycling Association. Our company will be a gold member of the Recycling Association. The association provides recycled material to re-processors in the US and across the world. This allows manufacturers to use sustainable recycled materials, reduces the amount of needless landfilling and cuts reliance on single use commodities. I believe that by working together with the Recycling Association we can do more. On the other hand, The National Recycling Coalition is a non-profit organization that is focused on the promotion and enhancement of recycling in the United States. The Coalition represents and advocates for every sector of the recycling industry across the country. Our company will be among the first represented companies in the US.

<break time="950ms" />

We must meet new legal obligations. Some businesses in some industries have a legal responsibility for disposal of specific products; ensuring compliance through recycling schemes to avoid penalties and fines. Our financial services industry is not yet of those industries but I am aware that new laws are being prepared to make the legal responsibilities much stricter. It’s always good to be one step ahead of the game.

<break time="950ms" />

So... We are converting these ideas into real action. We will start delivering them soon. As I have mentioned before, as a company we have to start taking action now. If we don't, it will be too late and the world will certainly be a less beautiful place. The future for our children or grandchildren will be destroyed. It will not only be at the expense of the environment but our children's health and wellbeing. It is not enough to address these problems personally. So companies, organizations, businesses, everyone should also be actively involved in the process. We must leave a positive legacy behind and make the beautiful future a reality. <break time="950ms" /> `

The non-story transition to closing (Part 6 of 8) (CG only)

`html This final point concludes our recycling part in our meeting. `

The story transition to closing (Part 7 of 8) (EG2 only)

`html This story fundamentally reflects how I feel about this whole change situation. `

The closing (Part 8 of 8) (EG2, EG1, CG)

`html <break time="950ms" />

Before concluding this meeting, I want to go back to my blockchain point and I want to say few more things. I am aware, no one really understands these blockchain technologies yet and oddly enough it proposes a threat to our existence. I am also aware that we will have doubters trying to sway minds and suggest we continue operating in less risky areas. However, we have to find the courage, in this dark and unknown path, to move forward. Or else we're doomed to fail from the start. It's a financial revolution. We have to be part of it. We have to join it or we might not survive long. I strongly believe; blockchain is not an existential threat to those who

embrace this new technology paradigm and disrupt from within. The question is, who in the financial services industry will lead the revolution? Is it going to be us? The unstoppable force of blockchain technology is barreling down on the infrastructure of the modern finance. Despite how dramatic and unknown this change is, we shall not be afraid. Not to be left behind, and preferably to be one step ahead of our competitors, we have to act now and embrace these new financial technologies. With this regard I believe you will actively collaborate with the requirements of our new "Blockchain and Cryptocurrency Financial Operations" department. This was all I wanted to say. Thank you all for joining me here in this very important meeting. Have a great week. `

A.7.4 Shorter story with further extended SSML tags

`html <speak> <amazon:auto-breaths> Would you believe me, if I told you that my 9 year of daughter told me a story about this situation while I was driving her to school this morning? I was deeply moved by the story and it made me realize few things. I'd like to share the same story with you today.

<break time="950ms" />

Once upon a time, there was a king who had a handsome son. He had the young prince trained in every form of courtly behavior, and schooled in mathematics, geometry and astronomy. When he was eighteen years old, the King said to him: <break strength="strong" />

<amazon:effect phonation="soft"> <prosody pitch="low"> "Thomas, my son, there's a secret which all princes in our family learn at the age you are now. There is a tiger which has been bred for the purpose and is extremely fierce and strong. It is to

be your task to go into its cage, armed only with one dagger and with a small shield. My son, you must fight that tiger, or you will

<break strength="medium" /> <emphasis>never</emphasis> be the King! I was sent into the cage to fight a similar tiger when I was your age. I had passed the test of daring and strength which the princes of our family must all undergo, in order to become the King." </prosody> </amazon:effect>

Thomas was distressed at this news and said: <break strength="strong" /> <amazon:effect phonation="soft"> <amazon:auto-breaths> "I have no liking for fighting with beasts, father; let me wrestle a man, or even an daemon, but a <emphasis>tiger?</emphasis>... why...? <break strength="strong" />

it sounds impossible to me." </amazon:auto-breaths> </amazon:effect>

The King looked displeased, and said: <break strength="strong" /> <amazon:effect phonation="soft"> <prosody pitch="low"> "Unless you pass this test, how are the people ever going yo accept you as their King after I am dead? You need courage, that is all. If you lack the courage to fight the tiger, then I am afraid you will be considered a coward." </prosody> </amazon:effect>

Thomas was terrified by the very idea, but replied, <break strength="strong" /> <amazon:auto-breaths> "Let me see the animal?" </amazon:auto-breaths>

<break strength="strong" />

The King led the trembling young prince to a deep dungeon under the castle where, in an iron cage, a fierce-looking tiger with huge teeth and vicious snarl was chewing at a large bone. At dinner that night Thomas was subdued, wrestling with the problem. But soon after he went to bed his mind was made up: he would leave the palace as soon as his parents were asleep and probably never return. At midnight

he rose, dressed in very ordinary clothes, and he rode away. He pointed his horse's head in a northerly direction and, by the morning, he had arrived at a pleasant river with flowery meadows. He heard the sound of a shepherd boy playing upon a pipe, and leading a small flock of sheep. Thomas asked the boy if there was somewhere he might stay for a few days. The boy pointed to a road leading up a large house where his master lived, saying that he was always happy to welcome strangers, and was very generous and hospitable. The master of the house, who also owned much of the surrounding lands, made Thomas welcome when he arrived and invited him to stay for as long as he wished. Each day Thomas discovered some new and enchanting spot where he could enjoy the river and hear the shepherds playing on their pipes. He would ride his horse to vantage points from which he could view the surrounding countryside, and admire the trees and abundant grapes which grew on terraced vines on every side. One night, as he looked out of his bedroom window, he saw, to his horror that there was a tiger in the grounds. As he heard the snarling of the ferocious beast, his heart stood still and the blood froze in his veins. That night he tossed and turned, unable to sleep. Next morning his host asked him:

<break strength="strong" /> <prosody pitch="low"> "Did you sleep well? You do not look very rested." </prosody>

"No, I couldn't sleep," said Thomas. "I saw a large tiger in the grounds, and I heard it snarling. It seems to be quite a dangerous creature?

<break strength="strong" /> <amazon:auto-breaths> Do you often have them here? So near the house, I mean?" </amazon:auto-breaths>

Regardless of the answer the master gave, that afternoon, as soon as he could get his horse saddled, Thomas bade goodbye to his generous host, and set off on his

journey north once more. This news about the local tigers had quite unsettled him. He rode on until the nightfall, and he was happy to see a large fort, and several men with guns standing on the guard outside the main gate. As night was falling, they were preparing to secure the gates for the greater security of those inside. Thomas dismounted and told them he was a traveler seeking shelter for the hours of darkness. Next day Thomas was asked to go hawking with them, which Thomas did with much enjoyment, delighting in the fresh air and wild scenery. After a wonderful day of sport, they returned to a grand feast, where the whole party ate and drank together in warm companionship. As they were about to go to bed, the head warrior said to Thomas:

<break strength="strong" /> <prosody pitch="low"> "My man and I have been pleased with your company today, and we have admired the way in which you have entered into the spirit of our simple sport. Two miles to the south of here is an area which is infested with tigers. We usually rise early and we go out to do battle with those tigers. We would be very happy if you could accompany us tomorrow." </prosody>

Thomas' face paled as he said goodnight. He scarcely slept until dawn. He knew that he could not join those fearsome warriors in their tiger hunt. In the morning, as soon as he was not being watched by the others, he urged his horse in other direction and he rode away. He rode on, until at last he came to a charming region of hills and dales covered with small fruit trees and shrubs with sweet smelling blossoms. He got down from the saddle to stretch his legs and let his horse drink from a tranquil pool. Then, riding on, he saw a wonderful palace, finer than any he had seen before. The palace was of rose-colored stone, with pillars set with mosaics

of sky-blue tiles, and the balconies of painted wood carved with delicate designs. There were fountains of pure water in the gardens all around palace, and pavilions where sweetly singing birds had their nests.

<break strength="strong" />

"This is surely a paradise on earth!" said Thomas to himself. To his surprise, a guard standing at gates saluted Thomas and a boy came to lead his horse away to the stables as he were an honored and expected guest. Thomas was then taken to a guest room by another servant, who showed him where he could bathe and change into clothes that were laid out for him on the couch. Thomas was confused. Prime Minister, the owner of the house told him he was welcome to stay in the palace for as long as he wished. Several days had passed before one afternoon he saw Mary, the Prime Minister's beautiful daughter. She was sitting in the garden, singing to herself in a charming and pleasant voice, accompanying herself on a delicate stringed instrument. Thomas was instantly in love. Just as he was about to go forward and introduce himself to her, he froze in his tracks. Beside her, laying on the grass at her feet, was a large and very aggressive looking tiger. The lady looked in his direction and said,

<break strength="strong" /> <prosody pitch="high"> "So you are our guest for this week? I have seen you several times, eating with my father." </prosody> and she gave a delicious giggle. The tiger raised its head and looked at Thomas with huge green eyes, bright as emeralds. Its teeth look very sharp, and he backed away.

<break strength="strong" /> <amazon:auto-breaths> "I am...? I'm sorry to have disturbed you," </amazon:auto-breaths>

he said faintly

<amazon:auto-breaths> "I must go now. I’m sure that I should not have interrupted you at your music." </amazon:auto-breaths>

He would have liked to turn and run, but he was afraid that the tiger would chase him if he did.

<break strength="strong" /> <prosody pitch="high"> "Oh, nonsense," </prosody>

Mary said.

<prosody pitch="high"> "Please come over here and sit down. My father has just told me I should entertain you and introduce my lovely pet tiger to you." </prosody>

and she indicated a seat opposite her. With every nerve in his body tingling with anxiety, Thomas forced himself to sit where she pointed. He looked rather shyly at her and inwardly agreed that she must indeed be the most beautiful lady in the land. He had never seen anyone so lovely. Her eyes were large and dark, fringed with black lashes and she had a full, rose pink mouth. Her copper colored hair gleamed and she wore a leaf green robe. He felt himself falling deeply in love with her. That night when all was still, Thomas heard the tiger snuffling at his door and making the handle rattle with its claws. He lay in bed, petrified with fear. Again, he could not go to sleep, although he knew that the door was locked. In the morning, before opening the door, he took out the key and peered through the keyhole. The tiger was gone. And then and there, Thomas made up his mind to return home. With so many tigers to be dealt with everywhere, surely the one at home in his father’s dungeon could scarcely be much trouble? He went to the minister, and said

<break strength="strong" /> <amazon:auto-breaths> "I ask your permission to leave your palace. I wish to return to my home because I am now resolved to face the problem which I left behind. If I do not, I shall never find peace, however far away I go. I am deeply ashamed and I know, unless I succeed, I can never ask to marry a lady like your daughter Mary, whom I love dearly. </amazon:auto-breaths>

<break strength="strong" />

Arriving at the palace, Thomas kissed his father's hand and begged for the King's forgiveness for running away from his destiny in such a manner.

<break strength="strong" /> <amazon:auto-breaths> He said: "Now let me go to the tiger with dagger and shield, as soon as possible..." </amazon:auto-breaths>

<break strength="strong" /> "I'm ready for the test." Thomas was taken to the dungeon where the tiger was confined. All cheered him on his way below. The keeper of the fearsome beast unbolted the iron door of the cage and animal snarled, shoving his gleaming white teeth. With the dagger in his right hand and a small shield in his left, Thomas went bravely into the cage. For a moment his heart seemed to stop beating, but he stepped forward, his strength returning, and lifted the blade to plunge it into the animal's throat. With it's leap, tiger knocked Thomas down in one shot! In less than one tenth of a second, it jumped on top of him! It opened it's mouth to destroy him! <break strength="strong" /> <break strength="strong" />

Suddenly, to his astonishment, the giant creature begun to purr and rubbed its head against his head, licking his face like a pet hound. The keeper of the tiger took the dagger from the young man's hand and said

<break strength="strong" /> <prosody pitch="high"> <lang xml:lang="en-IN"> "See, auspicious Prince, this animal is as tame as a pet cat! It has

never injured any humans in its life. In fact, it had been bred and trained in order to test your courage. Congratulations, your true valor has been proved today!" </lang> </prosody>

<break strength="strong" />

The King smiled and said:

<break strength="strong" /> <prosody pitch="low"> "you now know how the test of the tiger is carried out by each generation, from prince to prince. Today it was your turn!

<emphasis>I’m proud of you, my son,</emphasis> you are a worthy successor to my crown!" </prosody>

Thomas lost no time in sending a fast riding messenger to Mary, to tell her that now he felt she would not think him as a coward, and asking her to come and marry him, when her father was willing. And she came. The wedding festivities went on for 14 days and 14 nights. All hearts were happy at the marriage of their young prince and his princess. The tiger which Mary brought with her to her new home played most amicably with the one which was now Thomas’ pet. And; tigers followed their master and mistress <break strength="strong" /> like tame cats, <emphasis>for all the rest of their lives! </emphasis> </amazon:auto-breaths> </speak> ‘

APPENDIX B

ADDITIONAL EXPLANATIONS AND DISCUSSION

B.1 Categorization of leadership theories

B.1.1 The current micro and macro approaches in leadership theories

It is vital to be able to categorize the supporting theories into the right group of leadership theories. This categorization will significantly aid in the understanding of the leadership constructs throughout the thesis.

To begin with, we can talk about two categories of leadership theories. Since the naming of these categories can be misleading, in the following sections, it will be helpful to be able to distinguish between those two types. For further visual distinction, roman numerals will be used.

On the one hand, (I) supervisory theories of leadership focus on leadership "in" organizations, and on the other hand, (II) strategic theories of leadership focus on the leadership "of" organizations (Hunt, 1991; Selznick, 2011). I believe neither of those theories alone paints the complete picture, very similar to the micro and macro approaches to management we discussed earlier.

For example, the common aspect of theories such as path-goal, contingency, and LMX is that they are categorized as the "supervisory theories" of leadership (Type I), and they all focus on the task and person-oriented behaviors of leaders. Those theories are only concerned with the behaviors that attempt to provide guidance, support, and feedback to subordinates.

B.1.2 The missing link between Type I and Type II

We wish to approach the leadership theories that will be used in the thesis as neither Type I nor Type II. The change leadership theories that are reviewed in the literature review section (especially flexible leadership theory) will be about theories that can be used interchangeably as Type I and/or Type II.

The reason behind this novel categorization is that those two types of categories are so intertwined together such that only the level of analysis would differ (in our understanding), but they all would eventually converge to the same output.

For this reason, we would like to call this new category Type III (or maybe Type 0, since it is more fundamental than the others). Type III is a category that can be defined as leadership theories that will transform leadership "in" into leadership "of" organizations. This is the type that will act as a bridge and connect Type I to Type II of categories. We believe in painting a complete picture, and in terms of results that matter, this mezzo category will best relate to the symbolic perspective. Check out the leading-change meta-category in the literature review for details.

B.2 Alternatives for the experiment design

There were two options for the final experiment design (experiment 4).

One option would have two experimental groups and one control group. The other would have one experimental group 2 and two control groups.

In both options, we would change the story-context (symbolic) congruence variable between the experimental group 2 and others to see if affective commitment to change differs among the groups. See the literature review section for the details.

We would also measure the emotional appeal of the message and leadership trust to find out if there are any differences between those as well.

In option one, the first experimental group 2 would be provided with an irrelevant story. The control group would be provided the high-fit congruent story regarding the story-context congruence. And finally, the second experimental group 2 would be provided a low-fit story. In other words, varying levels of story-context congruence (fit) across the groups would tell us if the story-context congruence has any effect on our dependent variables. Table 44 summarizes the groups for option 1.

Table 44. SCSC Experiment Fit Option One

Group	*Story-context congruence*	*Story*
Experimental group 1	Low-fit	Cinderella
Experimental group 2	No fit (irrelevant)	Nasreddin Hodja borrows a cauldron
Control group	High-fit	The prince who feared tigers

As used in the previous experiments, the tale of the prince who fears tigers is a perfect fit for the case study. It is about a significant change; the future is unknown, and the prince fears the unknown, does not want to face it, and runs away from it, just like the situation described in the case study. However, every time the prince runs away from the tigers, he finds himself having to deal with them. This pattern is also how things were evolving in the case study. Thus, to succeed, the prince decides to face the tiger, which is the only way to move forward with things.

The tale of Cinderella has the themes of courage and bravery. The orphaned Cinderella has to demonstrate tremendous courage before she makes it to the royal ball and she eventually stands up to her unkind family. It is not a high-fit story

because it does not have the change element in it. Also, it is actually not about fear of the unknown. But the demonstration of bravery is a substantial similarity.

The tale of Nasreddin Hodja is about greed and trickery. It does not share any themes or symbolic resemble to the case study; thus is a no-fit story.

In option two, the experimental group 2 would be provided with a low fit story. The control group (EG1) would be provided the high-fit congruent story in terms of the story-context congruence. And finally, the control group (CG) would not be provided a story. In other words, story-context congruence (fit) would only apply to the experimental group 2, and the rest of the groups' experiments would be the same as the previous experiments. Table 45 summarizes the groups for option 2.

Table 45. SCSC Experiment Fit Option Two

Group	*Story-context congruence*
Experimental group 2	Low fit
Experimental group 1	High fit
Control group	Not applicable

It was decided to proceed with option two as that would make the testing easier and more robust, and it would nicely fit into the previous experiments. If we were to proceed with option number one, due to the many methodological complexities it brings alongside; the results might not have been as clear and robust as they are now.

The other option is certainly a design that can be looked into in the future and might give us more insight into the relationship between story-context congruence and affective commitment to change. We still think this is a very good idea (thus

would like to mention it here) when future researchers have the time and budget for this.

B.3 The non-congruent story/facts experiment alternative

As the final experiment, there was an option to execute a slightly more complicated experiment design than the previous ones.

Rather than providing a non-congruent story to both the control group and experimental group 2 (and checking if they differ in their responses), it was suggested a two-by-two experimental design. You can see the details of that in the Figure 20.

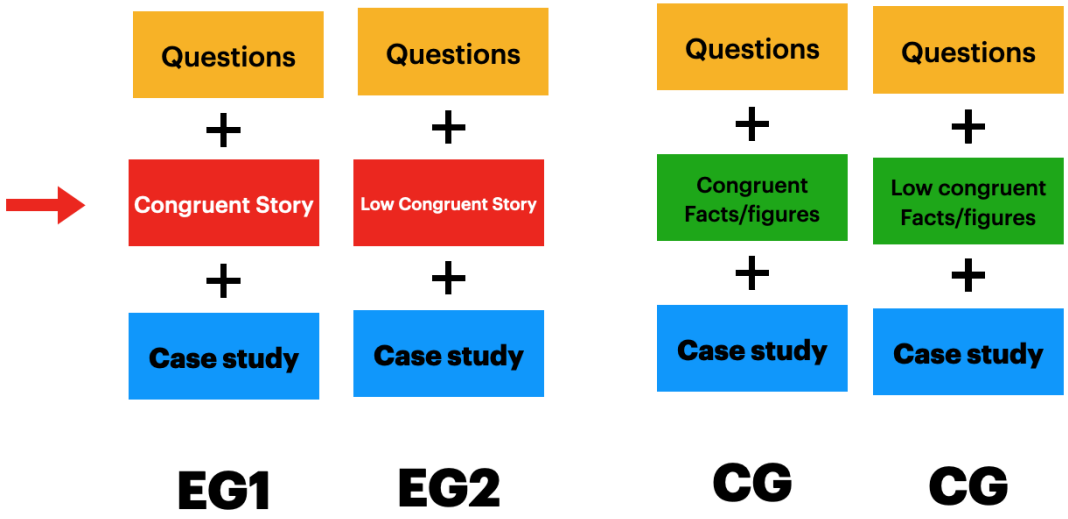


Figure 20. Non-congruent Story Experiment Design Alternative

It was proposed that the difference between the EG2 and CG will not be statistically significant, unlike other experiments. See the hypotheses section for more details.

The benefits of this experiment will be highlighting the boundary conditions, and how and under what circumstances the story works.

We decided not to execute this due to time and budget constraints. It would have been a very interesting experiment to execute, and we would like to do it in the future.

B.4 Alternatives for the emotional appeal

There were several alternatives to use for the appeal of the message. The literature review reveals that at the very top, they can be grouped into two as:

- Emotional appeal
- Rational appeal

We wanted to include this in the survey. We thought of using a seven-point Likert scale (1 = strongly disagree, 7 = strongly agree) and perhaps one of the following set of questions: It would be measured with:

(Category A)

- CEO's speech appealed to my emotions.
- CEO's speech appealed to my logic.

(Category B)

- I found CEO's speech emotional.
- I found CEO's speech logical.

(Category C)

- CEO's speech conveys more emotional appeal than a rational (informational) appeal.

- CEO's speech conveys more rational (informational) appeal than an emotional appeal.

These questions were inspired by Albers-Miller et al (Albers-Miller & Stafford, 1999).

The C category was the best candidate to be used in the actual experiment, but it was thought that adding questions from other categories might also make sense to make the results more solid.

While these questions are still very valuable, and they might have answered which content type, rational or emotional, is more influential on generating commitment to change; eventually, different set of questions about the emotional appeal and understanding of emotions were considered.

B.5 Constructing the conceptual model

This section shows the evolution of the conceptual model of my thesis. This process is documented here so that the ideas and the reasoning behind the model can be understood. The ideas that were not used (tested) also act as promising candidates for future research.

Modeling constructs is hard. There have been many iterations to the conceptual model since the beginning of the research. This was made possible with the valuable feedback of my thesis advisors.

After careful consideration of the structure of the model proposed and the desired research objectives, we have decided that due to the leaders' storytelling construct's function in the model, it has been repositioned.

In this new place, this construct now moderated the relationship between strategic change leadership and the outcome variables positive affective attitudes towards change and affective commitment towards change.

Later on, with the supervision, we received regarding the change literature (more on this later), we decided to remove one of the dependent variables in my model (which was "Positive Attitudes Towards Change"), and we have added two more dependent variables ("Openness Towards Change" and "Readiness for Change"). This way, we believed the model made much more sense. This was in early 2018's.

We were told my old variable, "Positive Attitudes Towards Change" was already included the commitment for change variable as commitment was an attitude.

Finally, after some time, we came to realize that what mattered in the story is the symbolic fit of the story to the situation.

To better reflect this, we had to change the model again. This is the current model that was used in the final experiment and details can be found in the model and hypotheses chapter of the thesis.

Despite the fact that there's still a lot of room for improvement in the current research model, we believe this way, it is almost ready to be tested with another experiment.

APPENDIX C

KEY RESEARCHERS ON STORYTELLING

C.1 Key people on storytelling research

Research on storytelling is a relatively new field, and many researchers may not know where to start their storytelling research in organizations. The following is a list of key people I was able to identify in storytelling research. While this list is not exhaustive, it is a good starting point for those who are interested in storytelling research.

David M. Boje

David M. Boje is a professor at Aalborg University, Denmark, and he also teaches qualitative storytelling science methods at other universities. David was editor of the "Journal of Organizational Change Management" for 14 years. He has written many books and articles on storytelling and organizational change.

He is currently a member of the editorial board of The Systemic Change Journal and editor-in-chief of the Business Storytelling Encyclopedia.

https://davidboje.com/vita/

Mary E. Boyce

Mary had tenured in the business and management faculty of the University of Redlands and served as Associate Dean. She is the author of key articles on storytelling in organizations and is a co-founder of Organizational Storytelling coaching company.

https://maryboycecoaching.com/about/

Gabriel Yiannis

Gabriel was a professor of management (now retired) in the Strategy & Organization area at the University of Bath.

He is the co-founder and coordinator of the Organizational Storytelling Seminar series. He has carried out studies of leadership and management. His research interests include topics in organizational studies approached through a narrative or storytelling methodology and topics in organizational studies approached from a psychoanalytic perspective.

https://researchportal.bath.ac.uk/en/persons/yiannis-gabriel

Andrew Brown

Andrew is also a professor of management in the Strategy & Organization area at the University of Bath.

His research interests include stories, narratives, and storytelling in (and about) organizations, sense-making, power and processes of organizing, and processes of group and organizational change.

https://researchportal.bath.ac.uk/en/persons/andrew-brown

C.2 Non-academic books about storytelling

These aren't part of the academic literature but I have read some great books about storytelling and for completeness, I would like to mention them here. While most of the books do not have a very academic purpose, the managerial implications and the practical tips provided were really useful. These books are:

- *The science of storytelling*, by Will Storr
- *Wired for story*, by Lisa Cron
- *TED talks storytelling*, by Akash Karia
- *Stories for work*, by Gabrielle Dolan
- *Hooked*, by Gabrielle Dolan
- *Bir masal iyi gelir*, by Judith Malika Liberman
- *Do story: how to tell your story so the world listens*, by Bobette Buster

The science of storytelling

While mostly aimed at the writers (authors) of the story (which I don't think makes a difference at this stage) this book suggests why they are effective. It provides a few tips to improve writing by going into the psychology behind the cognitive processes. Briefly mentions how the mind works too (Storr, 2020).

Wired for story

Again another book mostly for writers. The book is mostly about using brain science (neuroscience) to hook readers into the story and also reveals tips to utilize cognitive storytelling strategies to craft stories (Cron, 2012).

TED talks storytelling

Very interesting book. The author has studied over 200 of the best TED talks and found some common patterns. Talks about the secrets to delivering a great TED talk by going over the storytelling principles. The author explains what makes a TED talk (or any presentation) more powerful, dynamic, and engaging (Karia, 2015).

Stories for work

The book is about mastering the art of storytelling in a business context. The author explains how the right story, used at the right time can be a total game changer in organizations (Dolan, 2017).

Hooked

This book is focused more on the leadership aspect of storytelling. It explains how leaders, using the art of effective storytelling, can engage and inspire their teams and organizations to have a competitive advantage in their business (Dolan & Naidu, 2013).

Bir masal iyi gelir

The book includes many random and short tales that have inspiring explanations at the end. Ideal for expanding your story repertoire (Liberman, 2020).

Also, another great title by Liberman is Masal Terapi (Liberman, 2018).

Do story: how to tell your story so the world listens Buster talks about how to tell your story in a way that people will listen (Buster, 2018).

APPENDIX D

POWERFUL AND PRACTICAL TOOLS

This section includes details of the tools I have used to execute the experiments and write the thesis. This is added as set of explanations and recommendations for future researchers.

D.1 The request randomizer

The request randomizer was a simple tool I coded (and named) myself to randomly assign participants to the different groups.

I could not find any proper tool that would randomly assign participants. So, I decided to write my own. This tool was deployed into production using cloud infrastructure.

This was a Django (Python) project. The code is available publicly on GitHub. You can find and download the latest code here from the following link:

https://github.com/ahter/request-randomizer

While there are many other files in the project (see Github) and lots of other primarily boilerplate code, I wanted to include the most important bit here for the sake of demonstration.

While the code can change over time, this was the bit that was used to randomly assign participants the random groups. It uses Django 4 and Python 3.10.

The last note I would like to make about the code is it is not very generic yet. This means it may not fit all different purposes of research. This also means anyone is free to take it, enhance it and use it for their own purposes. I would like to

encourage people to contribute back to the project and generalize it so it just works for anyone.

D.1.1 The view code

The view code includes the interface logic that makes the redirection to different URL targets.

```
import random
from django.shortcuts import redirect


EG2_FORM_URL = "https://bit.ly/business-case-study-923"
EG1_FORM_URL = "https://bit.ly/business-case-study-293"
CG_FORM_URL = "https://bit.ly/business-case-study-392"


AVAILABLE_CHOICES = [
    EG2_FORM_URL,
    EG1_FORM_URL,
    CG_FORM_URL
    ]


def randomly_redirect_requests(request):
    random_url = random.choice(AVAILABLE_CHOICES)
    return redirect(random_url)
```

D.1.2 The URLs code

URLs are the paths that are used to access the view.

```
from django.urls import path
from . import views


urlpatterns = [
    path(
            "",
            views.randomly_redirect_requests,
            name="randomly-redirect"
        ),
]
```

D.2 LaTeX

In early stages of the thesis, I used LaTeX to write the document in Markdown format. This was possible using some libraries and repos found on the Github. Initially, I thought this was an excellent and convenient way of typing out the material and not worrying much about the LaTeX syntax since I had found the original syntax of LaTeX difficult. However, MD format, although you can make it render to LateX using Pandoc, is not native to this kind of thesis writing (yet).

I recommend using pure LateX for writing the thesis. You can get used the syntax very quickly. That is what I did. As a great advantage, for the references, I can use BibTeX format, where the reference details are automatically inserted into the

text file, and further updates, either to the style or the reference itself, are centralized. Plus, I got the convenience of having a great layout and typography.

D.3 GitHub

GitHub is an online platform (hub) to manage software projects. GitHub is also an online community. GitHub was used for version control.

It has been reported that educators have recently started using GitHub for their teaching and learning activities due to its collaborative features (Zagalsky, Feliciano, Storey, Zhao, & Wang, 2015).

I would also highly suggest that students use GitHub to communicate their work with thesis supervisors. I migrated the whole thesis into git source control so I can easily track down any changes I make while writing the document. Furthermore, my supervisors can also easily see my changes and comment on them.

I have also started to host the thesis files (the document and the rest of the files) in GitHub, as I would not want to risk losing the work if my computer broke down, burned down, or got stolen.

For the reference, this thesis includes more than 700 commits, that is, more than 700 self-contained small changes to the document.

APPENDIX E

MY PERSONAL STORY ABOUT STORYTELLING

E.1 Once upon a time

I guess everything, especially my interest in modern management theories and perspectives, started when I took an elective course in 2015 from Arzu İşeri Say. In her class, she talked about an alternative approach to management and business theories.

This approach was called the symbolic perspective. I was fascinated by this new perspective. I was excited about the new ways of looking at things. I was thrilled to imagine the novel academic and managerial implications and applications.

She used Mary Hatch's book (Hatch, 2018), which was an eye-opener for me because, until that time, the only perspective which taught me about business/management and organizations was limited to the other classical views. This alternative perspective was rarely mentioned in other academic literature I'd read.

However, Arzu İşeri Say had this unique vision that included these new and alternative management perspectives. She was certainly looking at things from a different perspectives, and that inspired me further. The book's symbolic perspective opened up new and exciting things I was interested in.

Suddenly, I had a theoretical basis where I could explain the phenomenon that some management academics or scholars overlooked (or down looked) all these years. Suddenly, theories like sense-making and sense-giving made a different (and much more) sense. I was excited about how these new ways of looking at things could actually be used in many alternative contexts. Storytelling was one of those areas.

Sense-making and the related theories of Karl Weick were one of my favorites. The question "why" was always more interesting to me. This is the reason why this thesis primarily focused on that question. "What" is also a relevant question, but I personally believe it is less valuable than "why" this context.

In the initial years of my Ph.D., as I was learning about the fundamentals of organizations, management, and leadership, I wasn't much aware of storytelling. I was very interested in the topic of change management in those years, and I decided to research the topic of change for the dissertation.

When I was introduced to the topic of storytelling, I was very excited about it. I was fascinated by the idea of storytelling and how it could be used in the business context. And that everything made much more sense to me with the symbolic perspective.

The main focus of the thesis, upon the advice of the thesis committee, was changed to storytelling. Looking back at the process of doing the research, I now see this was one of the best pieces of advice I got.

After the initial thesis proposal, it was clear that the main contribution of this dissertation would come from the storytelling aspect of the topic rather than the change leadership. The change leadership construct was much more researched, developed, and tested compared to storytelling. I want to thank my progress committee for their great suggestion.

My ultimate aim was to take a few steps toward creating a unified theory of storytelling. I tried to explain why storytelling worked in the business context with the findings compiled from different disciplines such as anthropology, neuroscience, psychology, and many others. There were some fascinating theoretical findings and

similarities between the disciplines. For example, the similarity between the concept of strategic leadership (Boal & Hooijberg, 2000) and storytelling was truly fascinating. Figure 21 shows the similarities between the definitions of strategic leadership by Boal (2000) and storytelling.

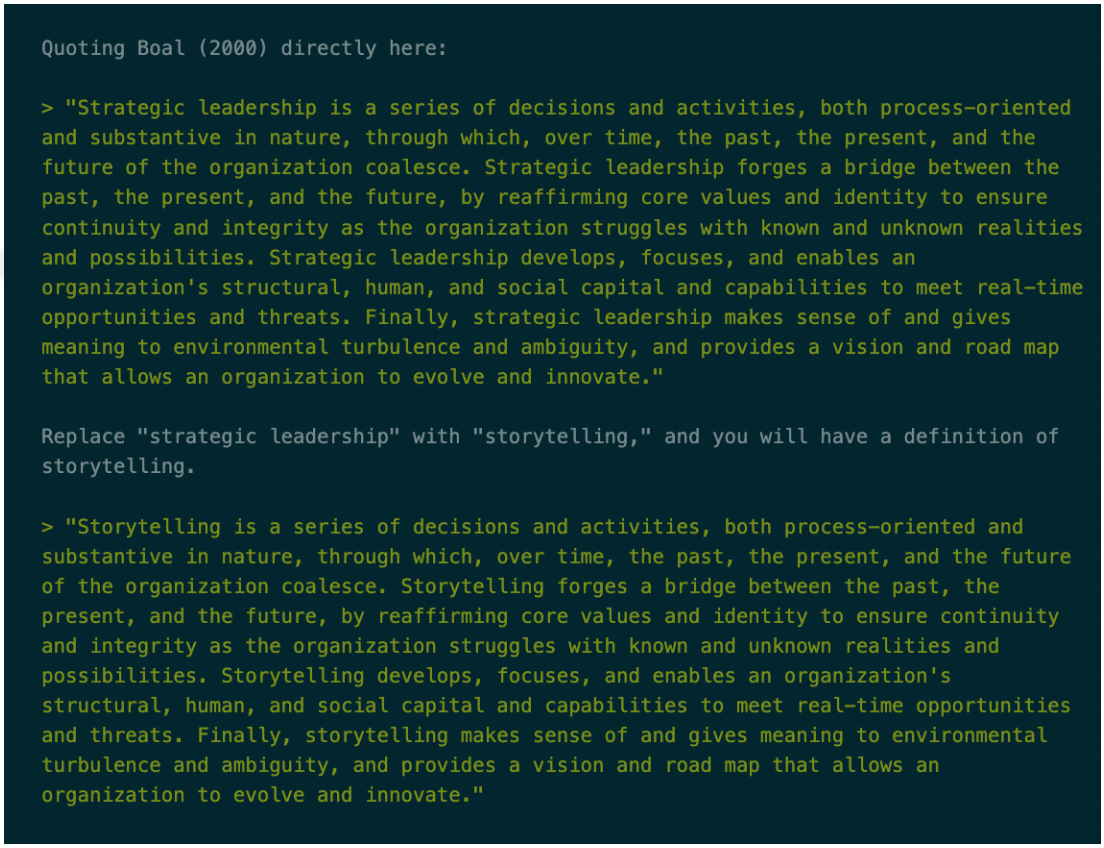


Figure 21. Similarities between strategic leadership and storytelling

My humble attempt to take the steps towards creating a unifying theory of storytelling was supported by a series of experiments that were conducted to show the effectiveness of this use.

In the end, I ended up with a piece of work I would argue that is more theoretical than it is practical (at least for now). Over time, I hope someone else (even from other disciples) will take my research and use it in more practical applications.

Since this work is about narratives, this thesis itself has the feeling of a narrative whilst it is an academic piece of work. This was a tricky balance to achieve since there are specific rules and conventions that academic writing has to follow.

E.2 Story of the case study and the stories used in experiments

E.2.1 Writing the case study

In September 2013, there was a case study writing workshop in Boğaziçi University taught by Gerry Yemen. I attended this workshop, and I was quite impressed by the way case studies can be used as teaching materials, especially in management studies.

I started writing case studies, ones with real companies/plots and fictional ones. Over the years, I wrote several of them. I decided to use one of them as a basis tool for my research. I thought it would be a good idea to use a case study that I wrote myself so that I can also change it to fit my needs in this research.

E.2.2 Choosing the topic of the case study

There's no particular reason for choosing the subject of the case study in the blockchain and finance domain. This could have been any topic and any field.

However, blockchain and cryptocurrencies were the hot topics of 2016 and 2017, and I was sure that would still be the case for several years. Since the topic was very new and hot, every piece of supporting information (the "non-story" bits featuring facts and figures) presented in the case study was also true. These facts were randomly gathered from the news and other resources. These facts would probably be outdated now. These sources include articles including "How blockchain is changing finance" and "How will blockchain change organizations" (Tapscott & Tapscott, 2017a; Tapscott & Tapscott, 2017b).

The struggle of the finance company reflected in the case, I thought, would also perhaps be experienced (and would soon be experienced) by many other finance companies. This made the case study quite relevant to study in the future by business administration/management students. Perhaps, the case study can be improved and can additionally be submitted for publication.

E.2.3 Choosing the story for the case study

For the case study I had written, I had to find a story that would fit perfectly into the context of the case.

I started skimming stories, reading and researching appropriate tales. In the end, I realized that there might not be a single story that I could use to cover all parts of the case study, but by taking several parts from many other stories, I could synthesize (write) my own story.

I had started doing this until my storytelling teacher (coach), Judith Liberman, advised me to use a specific story she knew that would perfectly fit the case. I followed her recommendation and used the story. You can find that story in the Appendix A.

In this regard, Liberman also advised me on several more things to keep in mind and be careful about while choosing stories for cases and real-life corporate struggles.

First of all, she advised me to try not to make the story didactic. So instead of focusing what the story is trying to say, I shall chose to focus on the sub-subjects of it. These sub-subjects are the notions that support and nurture the lesson of the main story.

For example, the subject presented in my case is change. Instead of presenting a story that will embed a change lesson, I chose to focus on sub-subjects such as bravery, confrontation, creativity, and exploration (of something new).

Liberman also advised that the story does not necessarily have to be about a hero (symbolizing - a leader) herself; it could well be about a kingdom (symbolizing - an organization). Or similarly, a kingdom where cowards (symbolizing - a problem/inefficiency) lived perhaps, and our hero might be willing to do something crazy and extraordinary (symbolizing - taking up the hard work or risk for accomplishing the new vision).

Price who feared tigers (Shah, 2008) was used.

E.2.4 Warnings about potential limitations

I was warned by my storytelling teacher that audio or video is not the correct medium to tell stories and it will dramatically reduce its effectiveness.

This advice was given in 2016, long before the COVID pandemic hit the world. Initially, I was planning to follow her advice and execute the experiments in real-world settings. However, I had to change my plans and execute the experiments online due to the pandemic and several other reasons (including cost, time, and resources). Details of these experiments were discussed in the methodology chapter of the thesis.

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