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Challenges of Transformational Leadership in the Digital Age:

The Role of Moral Trust in Maintaining Transformational Approaches

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Author: János Csombók

Abstract

In the Digital Age the world is experiencing an immense growth of advanced digital technologies such as robotics, big data analytics, virtual reality, or artificial intelligence. Hundreds if not thousands of new applications and social media tools are introduced every day changing how people gain and process information, how they communicate or learn but more importantly how people think and solve problems. These all present a huge challenge for all leaders especially senior ones. Thus, this dissertation reveals senior leaders' perspective to find out how digitalization of teamwork and decision-making changes trust relations at interpersonal level. Moreover, it sheds light on the role of moral trust on eliminating possible gaps in interpersonal trust. The research employs descriptive analysis of theoretical background and compares it to empirical data collected from practitioners; senior and junior leaders in multinational military environment at NATO´s standing and deployed HQs. Based on the findings, this dissertation offers a coaching tool which can be employed in designing leadership training or individual leadership coaching concepts.

Key terms: digitalization, digital transformation, full range of leadership, transformational leadership, interpersonal trust, moral trust, senior leader

Author: János Csombók

List of Acronyms

ACRONYM	MEANING
AJD	Allied Joint Doctrine
AJP	Allied Joint Publication
CHOD	Chief of Defense
COM	Commander
COS	Chief of Staff
COE	Council of Europe
CR	Contingent Reward
DCOM	Deputy Commander
DOTMLPF-I	**D**octrine, **O**rganization, **T**raining, **M**aterial, **L**eadership and education, **P**ersonnel, **F**acilities, **I**nteroperability
EU	European Union
FM	Field Manual
KFOR	Kosovo Forces
LF	Laissez-Faire
MBE-A	Management by Exception Active
MBE-P	Management by Exception Passive
MCDC	Multinational Capability Development Campaign
MLQ	Multifactor Leadership Questioner
NATO	North Atlantic Treaty Organization
NMR	National Military Representative
OCB	Organizational Citizenship Behavior
OSCE	Organization for Security and Cooperation in Europe
SHAPE	Supreme Headquarters Allied Powers Europe
TAL	Transactional Leadership
TL	Transformational Leadership
VUCA	Volatile, Uncertain, Complex, Ambiguous
4Is	The elements of Transformational Leadership: **I**dealized Influence, **I**nspirational Motivation, **I**ndividual Consideration, **I**ntellectual Stimulation

Author: János Csombók

TABLE OF CONTENTS

I. INTRODUCTION

II. THEORY

III. EMPIRICAL ANALYSIS

Author: János Csombók

IV. DISCUSSIONS, INSIGHTS AND RECOMMENDATIONS

Author: János Csombók

I. INTRODUCTION

1. Introduction

1.1. Framing the Problem

The fourth industrial revolution and the growing dominance of computer technology play an increasingly large role in our life. As of June 2022, 69% of Earth's population were on the internet, this number in Europe is 89.6% while in North America 93.4%[1]. The world is experiencing the growth of advanced automation, robotics, and the development of artificial intelligence. Hundreds of new applications and social media tools are popping up every day changing the way people communicate, learn, collaborate and, more importantly, the way people think and solve problems. These all provide the opportunity for everyone to work not harder but smarter to improve results. It is of crucial importance that leaders embrace this technological opportunity and understand the pace of change because it can lead to improved thinking and adjusted practice and with that to more effective leadership in the Digital Age (Sheninger 2019, pp.11-13). However, it is certainly easier said than done, because as we all experience it, this new computing technology, the innovative ideas, and the limitless access to information at all levels can create fears and misconceptions in any multinational organization including NATO. Moreover, it can create uncertainty in leaders especially senior ones because they did not grow up in the Digital Age but are still expected to be the agents of change. Thus, it is important that leaders understand the roots of these phenomenon and decrease uncertainty, they can do it by adapting methods of leadership and

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[1] Internetworldstats.com. 2022. World Internet Users Statistics and 2022 World Population Stats. [online] Available at: <https://www.internetworldstats.com/stats.htm> [Accessed 10 October 2022].

Author: János Csombók

coming up with shared visions to employ technology and innovative ideas to drive the change.

Transformational Leadership seems to be the best possible fit to achieve success in complex multinational organizations. As Bass & Riggio (2006) assert, it is because Transformational Leadership puts great emphasis on the intrinsic motivation of followers, and it fits better for leading complex multinational organizations where followers also want to be empowered and feel challenged. It is also greatly relevant for this research that Transformational Leadership is based on a mutually trusting relationship. This means that without trust between leader and follower, Transformational Leadership is not enabled, and leadership will be more transactional which has proven to be far less effective than Transformational Leadership (Bass & Riggio 2006, p.7). Another crucial aspect of trust, important for this research is, as defined by Luhmann (1968), that the complexity of modern society requires more trust because trust is an "effective form of complexity reduction" (p.6). This makes trust a delicate commodity of the Digital Age.

Considering NATO as a complex multinational organization of 30 member states and 20 partner nations, it is important to point out that transformational military leaders are challenged by not only the many different leadership cultures but also by digitalization of processes such as decision preparation, decision-making and teamwork. These challenges are compounded by the rather short deployment periods of leaders and followers, resulting in a constantly changing human make-up within standing but especially in deployed headquarters. These all have the potential to change relationship structures even in military environments, and they seem to compromise trust and with that Transformational Leadership approaches.

Considering all the aspects above, it is within the scope of this dissertation to research the effects of digitalization on trust relations between leaders and followers in NATO's Headquarters. Aiming to find out how

Author: János Csombók

digitalization of teamwork and decision-making shifts trust between trustee and trustor. The main objective of this paper is nevertheless the investigation how these processes challenge Transformational Leadership and whether moral trust can play a balancing role as a permanent enabler of Transformational Leadership. The perspective of senior leadership will mainly be scrutinized because they did not grow up in the Digital Age, but they are expected to be the drivers of change. On the one hand, based on the empirical evidence gained through the focus group discussions at SHAPE and HQ KFOR combined with the findings of a descriptive theoretical analysis, this dissertation aims to raise awareness of leaders of this phenomenon. On the other hand, it is also an objective of this work to provide a simple concept to identify senior leaders' digital awareness level and relation of digitalization to leadership approach. This simple tool is aimed to enable the identification of tailored objectives of leadership education and training.

As far as the existing trust related research is concerned, one can easily identify that it is quite extensive throughout all the disciplines such as psychology, economics, political science, anthropology, sociology and even biology. It will be shown as an essential social dilemma and as an unavoidable phenomenon in the understanding of social relations, political institutions, organizations, and in other specific areas. However, the research literature concerning trust and Transformational Leadership in military environment in connection with the challenges of Digital Age shows quite a deficit. Thus, this dissertation is particularly relevant in understanding, probably redefining the meaning of trust for Transformational Leadership in the Digital Age, especially but not exclusively in military organizations.

Author: János Csombók

1.2. Hypotheses and Research Limitations

In aiming to identify the challenges of Transformational Leadership in the Digital Age, this dissertation investigates the following hypotheses.

a) Digitalization processes combined with short deployment periods compromise interpersonal trust in NATO Headquarters and with that Transformational Leadership approaches.

b) The sacred moral trust in military has the potential to bridge the gaps in interpersonal trust caused by digitalization.

c) Digital innovations and technology can be effective assets in achieving the desired level of mutual trust between trustee and trustor when understood and rightly employed.

d) There is an urgent need in NATO and elsewhere to increase especially senior leaders' awareness of the effects of digitalization on trust relations in order to maintain transformational leadership and enable them to drive the change.

As the four hypotheses imply, this dissertation does not analyze all the levels of trust. It limits itself mainly to interpersonal trust and to organizational trust. It focuses mainly on how digitalization affects trust between trustee and trustor in the military environment at NATO Headquarters. This paper brings into focus the perspective of senior leaders who were not born in the Digital Age, but they should and are expected to drive the change. This research aims to raise leaders' awareness concerning the challenges of Transformational Leadership in the Digital Age in order to decrease uncertainty and misconceptions, and in order to create trustworthy relationships and maintain a Transformational Leadership approach by understanding and using innovative technology.

Author: János Csombók

1.3. Structure of the Dissertation

Firstly, after framing the problem, defining the objectives and limitations of this research, it provides a brief overview of the state of the art by summarizing the existing literature on trust, digitalization, and Transformational Leadership.

Secondly, the dissertation undertakes a thorough analysis of the theoretical background to describe the knowledge needed to provide theoretical evidence to prove or disprove the set hypotheses. In this chapter, the focus lays on characterizing the main features of digitalization processes. Then the dissertation deals with the full range of leadership focusing on Transformational Leadership and the so called 4Is. This latter stands for the elements of Transformational Leadership, namely Idealized Influence, Inspirational Motivation, Individual Consideration, and Intellectual Stimulation. The next sub-chapter deals with aspects of trust providing a contemporary sociological review and essential knowledge concerning levels of trust. The last sub-chapter of the theoretical background describes the special role of trust in military organizations to complete the theoretical basis of this dissertation.

Thirdly, the research takes hold of the inventory of digitalization in military organizations. This chapter sheds light on how digitalization affects teamwork, decision-making and, this, the organizational culture in a military environment.

Fourthly, the paper provides an empirical analysis by describing the methodology of data collection and data analysis. It then summarizes the collected and cleaned empirical data on the so called 'sacred' moral trust vs. digitalization at NATO's standing and deployed Headquarters. The author, by extending his own participant observations[2], collects data in the framework

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[2] The author of this dissertation during his 35-year military career gained leadership experience at tactical, operational, and strategic levels. The main inspiration for this research

Author: János Csombók

of Focus Group Discussions organized with senior and junior leaders at SHAPE and KFOR HQ. The aim is to find empirical evidence for the questions of how digitalization processes change trust between leaders and followers and whether trust is eroding through the process or not. It is also crucial to find out how the changing trust relations are affecting the leadership style and what ways and means are out there to maintain a transformational approach. A further aim is to define the need for raising awareness and initiating changes in leadership training to sensitize especially senior leaders on the effect of digitalization on Transformational Leadership. To achieve the defined objectives of the focus group discussions the author developed guiding questions as an instrument to ensure the smooth conduct of a semi free flow round table talks with senior and junior leaders of the mentioned Headquarters.

Fifthly, after completion of the focus groups discussions, the next chapter includes a comparative analysis of the main findings of the focus group discussions and the scholarly literature on how digitalization has caused changes in both interpersonal and organizational trust and affected the Transformational Leadership approach.

Sixthly, the paper aims to find out, based on scholars' findings and the gained empirical evidence, how trust can be a mechanism to deal with the complexity of the Digital Age. Moreover, it asks whether moral trust can bridge the gaps in interpersonal trust caused by digitalization and thus aims to facilitate Transformational Leadership approach.

Before concluding, this dissertation points out the importance of digitalization's effects on Transformational Leadership and identifies possible ways and means to increase senior leaders' awareness of this phenomenon. It also aims to develop proposals for NATO and its member states to initiate adjustments of their leadership training. Finally, the research aims to provide

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was, however, his almost four-year deployment at SHAPE and his one-year deployment as Deputy Commander of the NATO KFOR operation in the rank of Brigadier General.

Author: János Csombók

a simple tool for the described purpose in form of a concept to measure leaders' digital awareness and their level of knowledge about digitalization effects on the leadership approach.

2. Literature Review

The central topic of this dissertation is the possible erosion of trust through the digitalization of teamwork and decision-making processes and its effects on Transformational Leadership in multinational headquarters. It is important to understand the effects of digitalization especially for senior leaders who define company objectives and make strategic decisions and thereby drive transformation. Thus, the purpose of this dissertation is to find evidence of digitalization effects on trust and with that on Transformational Leadership and to find possible solutions in order to keep leadership transformational despite the ever-changing human make up and the possible gaps in interpersonal trust in multinational military headquarters. The question is, how far at the macro-level can moral trust serve as a bridging asset closing the gaps in interpersonal micro-level trust. This is a significant current challenge in all the global multinational organizations and especially in military headquarters, whereas trust has a much higher importance than in any other organization.

As far as the overall trust-related research is concerned, one can identify extensive research on it throughout all the disciplines such as sociology, psychology, political science, economics, anthropology, and biology. However, only few researchers such as Deluga (1995), Avolio and Kahai (2003) and Botsman (2018) have taken into consideration how digitalization changes trust relations and how this affects Transformational Leadership. This topic in the military environment shows also clear signs of research needs.

Author: János Csombók

The research on trust expanded rapidly in the 90s and the following decades. Putnam in the discussion of social capital (1993, 2000) moved trust into the center of positive social behavior such as voluntary contribution or civic participation. A certainly rational approach to trust stems from the economist approach. They found that trust is based on exchanges between humans, and that negative experiences directly lead to the withdrawal of trust (Cook and Cooper 2003, p.213). Some scholars see trust as a psychological disposition and something based on biological traits, meaning that it is very complicated to change (Uslaner 2001; Hayes 2018; Mondak 2018). Many recent studies have focused on the role of trust in the Digital Age. They define digital or distributed trust or even the role of trust in virtual teams (DasGupta 2011; Meyer 2019). They analyze the interrelation of macro and micro level trust in the multinational arena; but only a few focus on military organizations e.g., Deluga (1995). Most of the existing literature defines trust as a highly important social dilemma and necessary phenomenon in the understanding of political institutions, social relations, organizations, and other specific areas. The broad range of social life from buying a used car up to international relations where trust plays a role made trust a fragile but essential commodity. With this it became a favorite topic of social research, especially at the end of the last century. During this period political affairs, economic relations, organizations, and the internet drew the special attention of scholars such as Gambetta (1988b), Ebert (2007) or Bachmann and Zaheer (2006, 2008).

However, since this dissertation topic concerns moral and interpersonal trust the literature review focuses on research in social and political sciences. Moreover, it deals mainly with research conducted in the Digital Age starting in the late 80s when the internet started to gain popularity, but it is certainly useful to look back at the classics too. Only a few sociologists predicted that trust would be needed in modern societies. They considered it as a 'state of mind'. Simmel was the only scholar in classical sociology interested in trust research. He suggested that trust would be crucial in everyday interactions.

Author: János Csombók

Before trust became a buzzword for social scientists, there were theoretical developments made in the post-modern society distinguishing interpersonal trust and system trust. The main researchers working on these terms were Antony Giddens (1990), James Coleman (1990) and Niklas Luhmann (1979). The latter together with Jürgen Habermas were the most influential German social scientists of the twentieth century. Luhmann is often referred to as a theorist of society. It is no wonder he wrote around 500 articles and more than 70 books such as Trust and Power (1979) or The Differentiation of Society (1982). Nevertheless, beside his universal sociological approach he was a meaningful organization theorist too. His key question was how social systems' structures can carry out the function of reducing complexity (Seidl & Mormann 2015, p.7). This question gained importance in the 21st Century because the world became faster paced and more complex than ever before. In his early works Luhmann described trust as a social mechanism that fills information and knowledge gaps, enabling organizations to establish more complex structures and speed up processes. In this respect he defined trust as an "effective form of complexity reductions." (Luhmann 1979, p.8). He developed the theory that differentiation can be made between personal trust and system trust. However, he emphasized that organizational trust is not based on personal trust but rather on official channels and working procedures (Seidl & Mormann 2015, p.9).

Trust is a thriving research field but, interestingly, scholars in North America and Europe seem to be talking past each other. However, researchers at both sides of the Atlantic all draw on the classics such as Simmel or Luhmann (Bachmann & Zaheer 2006, p.3). In the 80s researchers put risk in the limelight of social and organizational theory. However, Beck (1986) pointed out that we live in a society where trust defines our well-being, thus academics should theorize it and draw attention to it. Giddens (1990) also argues that collective trust in experts is what modern societies are built on. One of his examples he refers to is, the public trust in air traffic control system.

Author: János Csombók

Without trusting in this system and its professional specialists in it people could not travel around the world. Ergo we would know much less about other cultures and lose many business opportunities resulting in a decrease of our living standards.

Broadly generalized, one could say that European researchers such as Bachmann, Beckert or Casson, are more theory driven and more prone to connect their ideas to classical theorists. U.S. researchers like Bromiley, Bowie or Bicchieri, on the other hand, are more empirically focused referring more to current literature. This difference is certainly not optimal considering the entirety of trust research. Bachmann and Zaheer (2006) attempted to draw together these different styles on trust research by inviting the most prominent European and North American researchers to publish in the Handbook of Trust Research (2006). This handbook summarizes the trust research from the micro, or individual level up to the society and economy level.

Considering the topic of this dissertation it seems appropriate to make a deeper dive into micro-level and organizational trust research and summarize relevant literature based on my research objectives. McKnight and Chervany
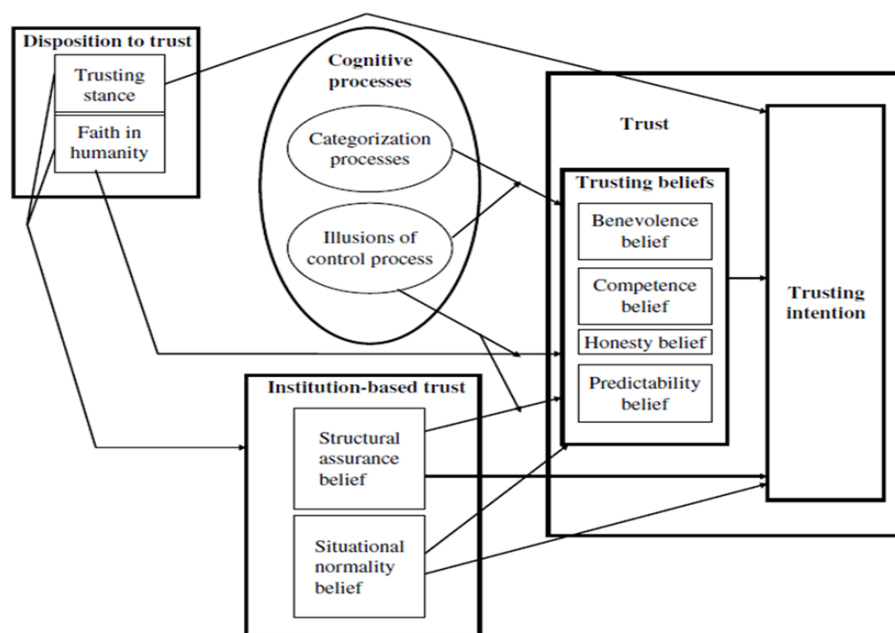

Figure 1 – McKnight et al., 1998 Initial Trust-Building Model

Author: János Csombók

together with Cummings (1998) summarized the key challenges of initial trust formation and they developed a model for it (see figure 1).

While they mainly discuss the inter-relatedness between different types of trust, they also deal with the relation between trust and distrust based on their trust formation model. The McKnight et al (1998) model offers factors and processes by which initial trust is built. This model has two interpersonal trust concepts: trusting intentions and trusting beliefs. It can help one to understand the dynamics and sociology of interpersonal trust relations in a deployed NATO headquarters where the personal constantly change. Assuming that others are trustworthy, disposition to trust (Rotter 1971) and institutional trust are the key factors which influence interpersonal trust (Shapiro 1987; Zucker 1986). They also found out that cognitive processes such as reputation inference, in-group categorizing – stereotyping, and the illusion of control have effects on initial trust. This model, however, is based on many trust-researchers' work such as Barber (1983), Gambetta (1988), Kramer (1994), an early model of Ring and van de Ven (1994), Mishra (1996), and Bachmann & Zaheer (2006, p.45-46). The model of initial trust building known also as MCC98 has been employed where initial trust building is highly important mainly in three domains namely organizations, virtual teams and in e-commerce. In 2001 McKnight and Chervany (2001a:42) expanded their theory by formulating the "grammar" of trust making the theory more practical. They assert that "trust is like a sentence, with a subject (trustor), verb (trust), and a direct object (trustee)." They argue that the direct object is the one which determines the type of trust. Namely, if it is a person then we talk about interpersonal trust, if it is an institution then it is institutional trust and finally, if it is the other people the construct will be the disposition to trust.

In recent literature, one must include Rachel Botsman (2018) one of world's well-known experts on trust. In her book *Who Can You Trust*, she asserted that we are at the beginning of the third trust revolution in humankind's history. As she theorizes her bold claim, she emphasizes that the

Author: János Csombók

history of trust includes three chapters. The first was local trust this during which people lived within local boundaries of small communities. The second chapter was institutional, a sort of intermediate trust in the Industrial Age. Trust here ran through carefully written contracts and courts and as she asserts it: "freeing commerce from local exchange". The third chapter is distributed trust in the Digital Age (Botsman 2018, p.7). She explains this as "Trust that flows laterally between individuals enabled by networks, platforms and systems." (Botsman 2018, p.264). She also provides a remarkably simple and concise definition describing trust as "*a confident relationship with the unknown*" (Botsman 2018, p.264). She argues that distributed trust, shaped and reshaped by people needs, can provide a successful path forward for governments, media, and business. (Botsman 2018, p.259).

It is important to analyze trust research in the context of a military environment. The risk and dependence by trusting somebody have a much higher significance in the military because in this organization it is often the case that soldiers need to trust each other with their lives. Military literature such as doctrines and field manuals deal with trust as a central topic. The U.S. Army Leadership Field Manual (2006) simply emphasizes: "Command is about sacred trust" (US Army FM 6-22, p.2-3). This quote perfectly defines the significance of trust in leading military organizations. This field manual also asserts that military units and headquarters are composed of teams and, as well as teams of teams. Thus, this dissertation´s analysis of digitalization´s effect on teamwork is especially significant. Moving on to consider trust-related research in the military it is worth to quote the German Armed Forces Manual on Leadership and Civic Education which states that trust is the most important basis for human interaction[3]. It bonds all ranks especially in wartime situations. In order to gain trust, leaders should have a high level of

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[3] The original Quote in German: „Vertrauen ist die wichtigste Grundlage für menschliches Miteinander und Kameradschaft..." (Zentrale Dienstvorschrift A-2600/1, 2014, p.12).

Author: János Csombók

empathy and they should know the human being (*Zentrale Dienstvorschrift* A-2600/1, 2014, p.12).

Since NATO is the organization in subject, it seems necessary to analyze its trust related literature. In NATO leadership doctrines, trust is defined as the pre-requisite of mission command. The military version of the notion of trust is as follows: "Trust is the total confidence in the integrity and ability and good character of another." (NATO AJP-01, p.6-4). The doctrine also points out that trust is the most crucial constructing element of effective teams.

Beside doctrines, retired generals, and officers with vast leadership experience, especially in the USA, provide a valuable contribution to the trust-related research in military. McChrystal et al (2015) for instance in their book *Team of Teams* (2015) went on to define "*new rules of engagement for a complex world*". He points out based on his experience as commander of the U.S. forces in Iraq and Afghanistan, how organizations need to "reinvent themselves" to achieve objectives. He also found out that organizations in order to adapt to new situations on the market or in the battlefield need to master "the flexible response that comes from true teamwork and collaboration" (McChrystal et al. 2015, p.7). Moreover, organizations in today's complex world "must shift from efficiency to sustained organizational adaptability" that requires a strong shift in organizational models and grave changes in leadership styles. He concludes that this dramatic shift is possible in organizations, but agile adaptability is certainly limited to small teams. By identifying the traits of adaptable teams, he lists trust in first place followed by shared awareness, common purpose, and the empowerment of team members to act (McChrystal et al. 2015, p.8-9). Another ex-military Marine Corps officer and highly decorated combat leader Mike Ettore wrote the book *Trust-Based Leadership* (2019). Operationalizing his two decades of U.S. Marine Corps leadership experience, he attempts to help today's leaders to become 'World Class Leaders' as he puts it. He describes the Marine Corps fundamental trust-based concept of leadership and points out that it can be adapted and utilized by

Author: János Csombók

business leaders too. He calls himself not a leadership expert, but an expert leader based on his 40 years of "hands-on-in-the-trenches" experience in leadership. He also points out that "Being a leader is not something you do; it is who you are." (Ettore 2019, p.24). Ettore emphasizes that Marine Corps ideals such as integrity and responsibility as well as the special moral trust and confidence between leaders and followers can successfully be adapted by any company and business leader. Like in the Marine Corps every leader should lead by example and treat followers with respect and care (Ettore 2019, p.81).

In sum, the existing trust-related research is fairly extensive throughout all the disciplines such as psychology, economics, political science, anthropology, sociology and even biology. Significantly, trust appears in the disciplines of sociology and political science as an essential social dilemma and as a crucial phenomenon in the understanding of social relations, political institutions, organizations, and other specific areas. However, the trust-related research literature in the military is limited to doctrine and a handful of military researchers. In conclusion, it is clearly an under researched area.

Turning to look at literature in the civilian sphere on Transformational Leadership, one recognizes that it is a relatively new concept in the extensive research. James MacGregor Burns (1978) described the concept "Transforming Leadership". To him, transforming leadership is when trustee and trustor engage in a way that they raise one another to higher levels of motivation and trust (Burns 1978, p.20). However, this initial theory was quite abstract and open to interpretation because he mainly described leadership actions and effects on trustors. Bernard M. Bass (1985) worked on and further extended Burn's theory by defining the characteristics and behaviors of leaders (Bass 1985 p.8).

Within the literature on Transformational Leadership, Bass, and others such as Ronald E. Riggio became the most prolific scholars of the topic. Bass defined the domains of Transformational Leadership around the so called 4Is namely inspirational motivation, idealized influence, individual

Author: János Csombók

consideration, and intellectual stimulation. Bass also managed to establish a tool in form of the Multifactor Leadership Questionnaire (MLQ) to measure how far leaders are transformational. Edgar H. Schein (1985) researched Transformational Leadership effects on organizational culture. He suggests leaders to employ a mechanism to develop organizational culture.

Comprehensively exploring the existing research on leadership, one sees that the Bass line of research served as the basis and departure point for many other studies. Bass' research usually compared transactional and transformational leadership along the variable's satisfaction, effectiveness, and extra effort. The result from other studies usually completes Bass´ findings. For instance, researchers such as Moorman et al (1993) and Bennis & Nanus (1985) described vision as an element of transformational leadership although it was not specifically contemplated by Bass. They combined vision with decision influence, visibility, and innovativeness to describe transformational leaders. Tichy and Devanna (1986) employed the triangle of identifying the need for change, creating a vision and the implementation of the change (Gasper 1992, p.113-115). Nancy Roberts (1985) went on to define the difference between transformational and transactional leaders as the following: while the latter live in the given organizational culture transforming leaders strive for changes in it (Roberts 1985, p.1). In general, researchers analyzing Transformational Leadership have usually used historical exposes, interviews, and questionnaires.

After reviewing trust and TL related literature, now I will analyze literature concerning digitalization and its effects on trust in the military context. Dealing with NATO and its research on digitalization effects on leadership one must look at NATO's strategic commands namely the Allied Command Transformation (ACT). This command identifies the future military context and challenges which cannot be won with today´s or yesterday´s skillset, processes, and technology. Under "skillset" we need also to understand the leadership methods. This Command is responsible to ensure

Author: János Csombók

interoperability of the 30 NATO member states and gives structure and priority to NATO through NATO Defense and Capability Planning. It also applies innovations to leverage ideas, procedures, and technologies by bringing together an extended network of industry, academia, and military. By defining the future challenges, ACT predicts that the Digital or Information Age will force a transformation of how organizations will be structured, managed, operated and how decision making will be facilitated. Concerning the latter, importance will come in how decision rights are allocated, what will be the pattern of interaction amongst different entities, and how information is disseminated. NATO military leaders will have to lead complex operations in an innovative and creative way. However, modern C2 systems and innovative technology will support the leaders in timely decision making and the traditional boundaries between command levels will be much more blurred. NATO ACT works together with researchers and scientists from the NATO member states and partner countries in order to enable the Alliance to adapt and keep it fit to meet the challenges of the 21st Century.

One of NATO's meaningful research organizations is the NATO Science & Technology Organization. Their comprehensive assessment paper *Science and Technology Trends 2020-2040* made a fairly significant effort to define the impact of the next 20 years' Technology and Science development on NATO. This research asserts that during the next 20 years, the four overarching characteristics of intelligent, interconnected, distributed and digital will define military technologies. Under the characteristics "intelligent", they understand, amongst others, the exploitation of AI to provide "knowledge-focused analytic capabilities". By "interconnected" they expect that the network of physical and virtual domains will be exploited. "Distributed" means the employment of "decentralized and ubiquitous large-scale sensing, storage, and computation to achieve new disruptive military effects". "Digital" is an important characteristic to "digitally blend human, physical and information domains to support novel disruptive effects." (NATO S&T Organization, p.6). They

Author: János Csombók

conclude that NATO must develop a new strategy of technology within the context of evolving geopolitical, military, and geographic domains, which are in turn driven in some measure by increasingly intelligent, interconnected, distributed, and digital technologies (NATO S&T Organization, p.46). This assessment, however, does not include the implications for leadership which is an essential part of NATO military capabilities.

The Multinational Capability Development Campaign (hereafter: MCDC) is a US led platform, which involves 23 other nations. It deals with the enhancement of collaboration amongst nations´ armed forces to provide multinational concepts for capability development and aims to close capability gaps in multinational military operations. MCDC aligns under the above-mentioned NATO ACT Warfare Development Imperative (WDI) Integrated Multi- Domain Defense. This initiative published research on Future Leadership (2020). This paper points out how important it is for military leaders to understand the challenges of the 21st Century amongst them digitalization. Because these developments shape the way we think and act, it is crucial to keep thinking effectively. However, humans are hampered by cultural inertia, as well as self-deceptive inconsistencies and contradictions. And all these put at risk our ability to rethink or at least challenge leadership practices of the past and present. Thus, it is fundamental for military organizations to prepare their leaders to meet the challenges of the highly complex operating environment. The digital battlefield is definitely the new operating environment. This research emphasizes the urgent need for all military leaders to examine and re-think all aspects of leadership in order to gain a better understanding of the leadership implications of the so called VUCA[4] environment and the growing use of artificial intelligence technologies in decision preparation and decision-making processes (MCDC 2020, p.5).

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[4] The future operating environment is described by NATO as, "VUCA", meaning Volatile, Uncertain, Complex and Ambiguous.

Author: János Csombók

The literature mostly essential for the research topic of this dissertation contemplates leadership and digitalization. Digital Age technology gravely affects organization structures, but structure is transformed only with help of leadership. Thus, technology and leadership have a recursive relationship (DasGupta 2011, p.2). Following this line of argument, one should consider E-leadership literature which overwhelmingly drew scholars' attention and became the new paradigm of leadership during the last two decades. Avolio, Kahai, and Dodge (2000) in their article first defined e-leadership characteristics in organizations. They analyzed the emerging new context for leadership: digitalization. They defined e-leadership as a social influence process mediated by advanced information technology (hereafter AIT). They also found that e-leadership occurs at all levels of hierarchy involving both one-to-one and, also one-to-many interactions using electronic media. Kissler (2001) attempted to find an answer to the question what kind of leadership e-business requires. He reviewed historic drivers and the behavior of leaders of successful companies such as British Airways or Dell Computer. He examined how leaders handled discontinuous change and identified some e-leadership attributes such as quick adaptability, flexibility, ability to work for several bosses at one time. Annunzio (2001) emphasized inter-generational cooperation where e-leaders need to pay attention and need to adapt to the totally new rules of Digital Age competition. Avolio and Kahai (2003) researched how technology affects leadership in organizations and how e-leadership impacts followers and teams. They asserted that e-leadership is not an extension of traditional leadership but that is a fundamentally new way leaders and followers interact within the organization and between organizations. Avolio, Walumba, and Weber (2009) found that virtual teams are challenged by the size of the sphere of influence which can range over multiple time zones and local work which needs immediate attention. In these cases, leaders tend to pursue local priorities. Thus, it is important that leaders have access to up-to-date integrated hardware and software in order to keep

Author: János Csombók

the right priority order of business. They also identified some common questions one of these is significant here: "What is the effect of e-leadership on trust formation?" The effects of digital technology on leadership have been explored by Pulley and Sessa (2001), they defined five e-leadership challenges. These are swift and mindful; top down and grass roots; individual and community; flexible and steady; details and big picture. Their proposed solution lays in making sense of the challenges and the participation in leadership at all levels. Their conclusion is that "the greatest e-leadership challenge is how to make individuals work collectively to create a culture that allows all the voices of leadership to be heard." (Pulley and Sessa 2001, p.229).

Considering scholars' findings on Leadership in the Digital Age, one can conclude that they agree on the fact that the fundamental leadership objectives are the same. However, a new medium has arisen to support the achievement of objectives and to address issues such as vision, inspiration, and the maintenance of trust between trustee and trustor. E-Leaders need to reach the same goals but in computer-mediated environment often with virtual teams scattered around the world in different time zones. This new paradigm provides a range of new challenges and opportunities. There seem to be no great disagreement in the research community on e-leadership, there are only different research foci and approaches. However, scholars need to focus on this new field, as well as the under-researched link between leadership studies and digitalization.

In sum, examining the research on the effect of digitalization on trust relations, one sees that it is a thriving research field, but little research has been done concerning the military context. Considering the special meaning and role of trust in military it is necessary to take stock of digitalization effects on trust relations and find methods to keep leadership transformational.

Author: János Csombók

II.THEORY

3. Theoretical Background

Based on the review of relevant literature now I will focus on the assessment of the existing concepts and theory of TL, digitalization and its effects on trust relations and leadership approach. The aim of this chapter is to find theoretical evidence concerning the set hypotheses and with that to develop the theoretical basis to test its empirical consequences in the next chapter.

3.1. Relevant Features of Digitalization

Before moving on to define the relevant main features of digitalization it is constructive to create some clarity concerning terminology such as digitization, digitalization, and digital transformation. However, as to the understanding and right usage of these hype terms, it does reign confusion in the work life and even in the related literature. These terms have distinct meanings, and it is important to enable the reader to make the distinction. The IT Dictionary of Gartner defines **digitization** quite clearly as "the process of changing from analog to digital form", or "digitization takes an analog data and changes it to a digital form" (Gartner IT glossary). Simple examples of digitization are the converting of handwritten or typewritten documents to digital text or digitizing a VHS tape, which can be used by computing systems. However, it is key to understand that it is the information that will be digitized not the process itself because digital process needs digital information.

As to **digitalization** the Gartner IT Glossary asserts that *"it is the use of digital technologies to change a business model and provide new revenue and value-producing opportunities; it is the process of moving to a digital business."*. From the

Author: János Csombók

definition it becomes evident that here, unlike digitization where the date is digitized, the process will be digitized, and this is what professionals call digitalization.

A further perspective of digitalization is assessed by researchers of the University of North Carolina School of Media and Journalism. They refer to digitalization as "the way in which many domains of social life are restructured around digital communication and media infrastructures." Via this process both work and private life become digitalized. (Bloomberg 2018, p.3). Digitalization also means the adoption of innovative digital technologies across human and societal activities. Here, examples are the digitalization of marketing or the government. All in all, digitalization is understood as the way moving forward to digital transformation by leveraging digitized data and process. Digitization and digitalization are two important terms unfortunately often used interchangeably in a wide range of literature. The above description provides some clarity for differentiation and proper use of the different terms.

In order to achieve even more clarity, it is also important to look at the term **digital transformation**. As the word suggests, digital transformation is not something that companies can introduce as discrete projects. Digital transformation usually includes several digitalization projects, but it is more than the sum of digitalization projects. It requires companies to better handle change and making it the most crucial competency of any enterprise. In sum, as Bloomberg asserts, "we digitize information, we digitalize processes and roles that make up the operations of a business, and we digitally transform the business and its strategy." (Bloomberg 2018, p.5). It is important to point out that without digitization of paper and processes there is no digitalization and with that no digital transformation. As to the source of confusion in these terms it is important to note that the expression of digital transformation was earlier used for the process of digitizing information. However, digital transformation, as we use it today, is much broader than digitalization. It

Author: János Csombók

requires the employment of more bridges in a comprehensive digital transformation strategy. Meaning that, digital transformation is a company-wide phenomenon. Summing it up, one can say that digital transformation needs digitalization on the way to digital capabilities and it requires digitization of information. Since the glue of digital transformation and of digitalization is certainly the digitized data, information, which leads to model changes in business (Bloomberg 2018, p.6-8). The confusion about the hype terms of digitization, digitalization and digital transformation goes back to linguistic too, because for instance in German or in Hungarian the word digitization doesn´t exist. Instead, often incorrectly, the word digitalization will usually be employed. Moving from key terminology, it is appropriate to analyze relevant theory and the significance of digitalization.

As far as the relevant features of digitalization are concerned, it seems productive to have a closer look from the NATO perspective and answer the questions of why and whether digitalization matters for NATO. As this dissertation deals with the question of how digitalization effects teamwork and decision-making processes it is certainly constructive to examine the issue on these two key areas of digitalization. However, the question remains: why and whether digitalization matters for NATO? The answer is without any doubt, yes. NATO as all big international organizations and companies faces the challenge of the Digital Age, with digital technology as the defining feature of the upcoming decades. In order to win the conflicts of the future NATO needs to "reconcile conventional diplomatic and military power with data as a strategic capability." (Reynolds & Lightfoot 2020, p.2). It means NATO, such as other companies, needs to harness digital transformation. Researchers identified seven disruptive technologies which are relevant to the organizational and operational effectiveness of NATO. These technologies are: "artificial intelligence, autonomy, quantum technology, space technology, hypersonic technology, biotechnology and human enhancement, and novel materials and manufacturing." (Reynolds & Lightfoot 2020, p.2). They also

Author: János Csombók

identified that without the intermediary step of digitalization the strategic advantage cannot be realized. This means that if the listed disruptive technologies are the locks for NATO's strategic superiority, then digitalization is the key for it. Digitalization can clearly improve NATO's ability to effectively gain and process information in support of an up-to-date situational awareness even beyond its traditional, functional, and regional expertise. And the employment of digital innovations significantly improves its decision-making capability. Thus, one could declare that decision making is the number one beneficiary of digitalization. It is also crucial that digitalization reinforces human decision-making power and does not reduce it. Therefore, failure to digitalize would decrease NATO's ability to maintain appropriate situational awareness and thus decrease understanding of the strategic context. NATO can increase its strategic advantage by harnessing disruptive digitalization, increasing creative thinking, and employing new technologies over legacy capabilities. Reynolds & Lightfoot identified five game changers namely: Artificial Intelligence and Machine Learning (hereafter: AI/ML), data factory, footprint and reach, staffs and culture, a new(ish) way of war. However, I will only focus on AI/ML and staff and culture which are particularly relevant for the research topic. Since AI/ML can expand human insight beyond imagination, preparing and operating in crisis scenarios without it would look like letting soldiers fight blind, deaf, and dumb. (Reynolds & Lightfoot 2020, p.2-4). The game changer staffs and culture is highly relevant because it is perfectly clear that NATO needs digital talents in its ranks; digital transformation cannot be achieved without the relevant digital competencies. In order to gain and maintain these competencies there is a need to change in talent acquisition and in policies such as design thinking, research and innovation, flatter hierarchy according to the proposals made by digital professionals. (Reynolds & Lightfoot 2020, p.2-4). I would extend these findings with improving digital awareness of senior leaders in the framework of leadership training and education.

Author: János Csombók

In sum, as Sheninger (2014) asserted digitalization is a difficult phenomenon to explain because the properties of it are cross-cultural, interdisciplinary, and virtual as well. Furthermore, it is not a miracle cure, but it is surely the key to enable NATO and other multinational organizations to meet the challenges of the coming decades. Thus, the digital maturity of senior leaders seems essential because traditional ways and understanding are not sufficient to drive the digital change. In the next sections, this dissertation deals with the full range of leadership to provide a departure point to further analysis of the interrelation between leadership research and digitalization.

3.2. Full Range of Leadership

Before moving on to define transactional and transformational leadership it is constructive to define the term "full range of leadership", as depicted on figure 2 below.
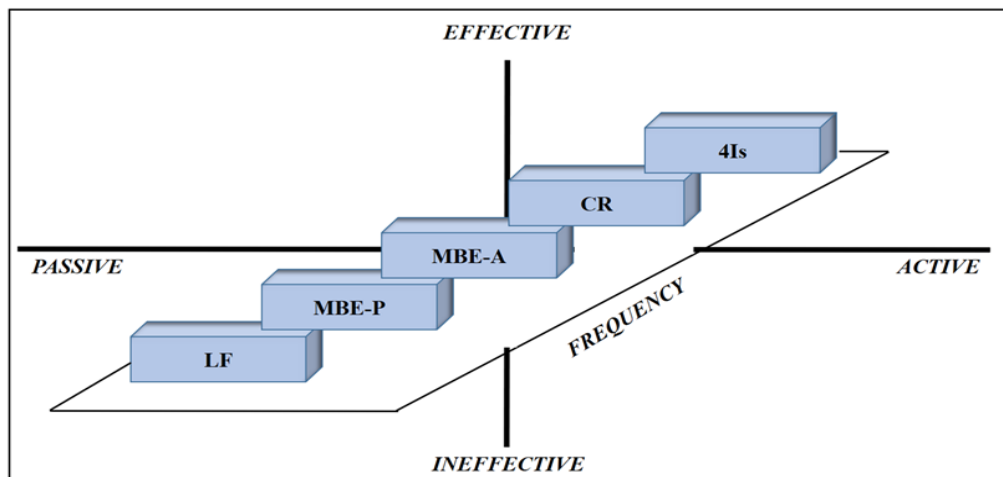

Figure 2 – Model of the Full Range of Leadership: Optimal Profile[5]

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[5] Bass et al. 2006: Transformational Leadership Second Edition, by Taylor & Francis Group, LLC, (p.9)

Author: János Csombók

This is a clear overview of the optimal profile of the full range of leadership described by Bass & Riggio (2006). It comprises the different leadership styles from non-leadership (LF) up to the 4Is on the effectivity and activity coordinates. The fact that Bass (1990) has proven in his research, "Organizations whose leaders are transactional are less effective than those whose leaders are transformational" (Bass 1990, p.22) can clearly be identified on the graph. The full range of leadership model also includes several transactional components which along with the transformational leadership 4Is will be introduced in the following chapters.

3.2.1. Transactional Leadership

To understand Transactional Leadership (hereafter: TAL), one should recall the work of James MacGregor Burns (1978) who identified two basic types of leadership – transactional and transformative. According to his view, the connection of leaders and led are mainly transactional. It means that "leaders approach followers with an eye to exchanging one thing for another: jobs for votes, or subsidies for campaign contributions" (Burns1978, p.4). He explains these transactions are the foundation for the relationship between leaders and led. Each side in this relationship is aware of the other's attitude and power. Till the end of the bargaining process their purpose is clearly related. Along this process, leadership takes place, but this does not connect leader and led aiming to act in the name of a higher purpose (Burns 1978, p. 19-20).

The dimensions of TAL have also been defined by Bernard M. Bass (1985). In his opinion, passive or active management by exception and contingent reward are the dimensions of TAL. The latter is when the expectations of leaders will be met by the led in order to gain some reward (Bass & Riggio 2006, p.8-9). As far as the passive management by exception is

Author: János Csombók

concerned, leaders do not act until meaningful problems occur. These leaders act according to the good old motto „*If ain't broken don't fix it."* (p.20). Active management by exception, on the other hand, means that principals monitor and anticipate possible problems and are ready to introduce the necessary measures to fix them.

Transactional leaders employ disciplinary threats to achieve higher performance, but this method can be highly counterproductive in the long-term view (Bass 1990, p.20-22). In organizations where clear rules and regulations are employed such as the military, even management by exception can sometimes be successful (Bass 1990, p.30). Thus, TAL could also be relevant for this research since it can be recognized as the opposite of mission command sometimes called as the order-type command mainly employed in non-democratic countries´ Armed Forces. This research, however, limits itself to transformational leadership because this is the widely employed leadership method in democratic countries.

3.2.2. Transformational Leadership and its 4Is

The first researcher describing the so called "transforming leadership" was James MacGregor Burns in 1978. He did not used the term transformational leadership. He asserted that transforming leadership "occurs when one or more persons engage with others in such a way that leaders and followers raise one another to higher levels of motivation and morality" (Burns 1978, p.20). According to him TL causes great changes of leaders' and followers' lives as well as organizations too. It is not like in TAL where a give-and-take transaction happens between leader and follower. It reshapes perceptions and values, as well as the expectations of followers. TL is certainly based on leaders' ability and traits, and it encourages change through leading by example. A transformational leader articulates a clear vision and objectives

Author: János Csombók

which challenge followers. As Burns found, transforming leaders strive for changes in organizations while transactional leaders tend to live in the given organizational culture (Roberts 1985, p.1).

The American theorist Bernard M. Bass (1985) further refined the theory of Burns (1978). Unlike Burns, he argues that leadership can simultaneously be transformational or transactional (Bass, 1985, p.8). He also established a way to evaluate transformational leadership. He found that TL can be measured through measuring the level of influence a transformational leader can achieve on the led. Under transformational leaders, subordinates feel loyalty, respect, and trust. It results in well-motivated followers who are willing to work beyond expectations. It occurs because transformational leaders communicate a clear vision and inspiring objectives and through that they provide followers a new identity in the organization. According to Bass the 4Is - inspirational motivation, idealized influence (earlier also referred to it as charisma), individual consideration and intellectual stimulation - characterize Transformational Leadership. Bass and Riggio (2006) developed transformational leadership further by employing real examples of real leaders. They describe in their book of <u>Transformational Leadership (second Edition)</u> neutralizers and enhancers of TL and its possible substitutes too. Concerning the latter, they define among others transformational teams and organizational culture with transformational characteristics as possible substitute for TL. Extensive training and education of followers is also a substitute for TL because these employees or even staff officers in military need less direct supervision. Bass also suggests that transformational teams generate extra effort and satisfaction which is usually expected from transformational leadership. It means that "transformational leadership can be shared among the team members" (Bass & Riggio 2006, p.217). In military teams the mutual support of members and the common history of success means that the appointed formal leader might find sufficient member self-esteem without any actions taken by the leader (Bass & Riggio 2006, p.219-

Author: János Csombók

220). The authors also developed and clearly defined the four components of TL. The first element is **Idealized Influence**. It is when leaders behave in a way that enables them look like a role model for their followers. In the US military as well as NATO it is referred to "lead by example". In the German Armed Forces leadership model, it is called "*Führung von vorne*" meaning quite the same. Two aspects are relevant regarding this component of TL. On the one hand, it is leaders' behavior and on the other hand followers' attitude toward their leaders. These aspects are quantifiable and thus measurable and can be employed as samples in the Multifactor Leadership Questioner which has been developed by Bass & Avolio (2000) to create a tool to measure the effectiveness of transformational leaders. Their tool was based on leaders' traits with idealized influence who have the willingness to take risk and they are consistent, as well. Trustors can rely on that they are always doing the right thing. Finally, high standard ethical and moral behavior are vital traits of these leaders (Bass & Riggio 2006, p.6). Michael Fullan in his book: <u>Leading in a Culture of Change</u> (2020) provides an interesting aspect with relevance for idealized influence. He describes a so-called pacesetter leadership style which employs the principle "Do as I do, now". These leaders clearly set too high of standards of performance causing that followers get overwhelmed leading to a high probability of burn out. This kind of leader is obsessive to perform better and faster. We might believe that such an approach leads to improved results. In fact, the opposite happens because this leadership style destroys the organizational climate through eliminating morale. Thus, the pacesetter often ends up as a lone ranger because followers stop following. Considering this aspect, it is important to put emphasis on the idealized influence where leaders lead by example finding the ideal pace not to overwhelm but to empower followers (Fullan 2020, p.3-4).

The second component of TL is **inspirational motivation**. According to Bass & Riggio "Transformational Leaders behave in ways that motivate and inspire those around them by providing meaning and challenge to their

Author: János Csombók

followers' work." (Bass & Riggio 2006, p.6). By employing behavior which inspires, team spirit will be strengthened – something which has high relevance along with trust in the military environment. Leaders take followers with them by envisioning a highly positive future and communicating clear expectations. The two already described components, idealized influence, and inspirational motivation, when combined facilitate charismatic-inspirational leadership (p.6).

Intellectual stimulation, the third characteristic of TL, is described by: "Transformational Leaders stimulate their followers' effort to be innovative and creative by questioning assumptions, reframing problems, and approaching old situations in new ways." (Bass & Riggio 2006, p.7). A crucial aspect of this is that followers' mistakes will be tolerated and not criticized publicly. Subordinates should be effectively encouraged to bring up innovative ideas and solve problems creatively. It is crucial that leaders do not criticize the fresh ideas because they are not in line with their own (Csombók 2020, p.17).

Individual consideration is the fourth component of TL. It is practiced by paying special attention to all followers as individuals. Moreover, leaders need to act as mentor and coach for associates by creating a supportive environment and new learning opportunities. It is of high importance that leaders are fully aware of followers' individual differences in skills and abilities. For example, one associate might need more guidance and the other one might need higher autonomy to achieve results. The operationalization of individual consideration is achieved in two-way communication by employing "management by walking around". It is of utmost importance that leaders carefully listen to their followers aiming to understand their problems or even the new ideas they wish to put forward (Bass & Riggio 2006, p.7). The interaction with associates needs to be personalized in that leaders remember previous talks as well as issues and concerns. The whole individual person should be recognized and not only the employee or subordinate. Effective

Author: János Csombók

listening from the side of leaders is of grave importance in employing individual consideration. Leaders also need to take time to contribute to the development of followers as coaches or trainers (Csombók 2020, p.18). This component has a special meaning in the military considering the research results of Sosik et al. (2018). They conducted research in the US Air Force to discover new opportunities for military leaders to be effective. They proved that among the 4Is, individual consideration leads best to building mutual trust.

As to leadership in military, the situation dictates the appropriate leadership style along the full range of leadership. However, this dissertation examines mainly leadership in headquarters and staffs where transformational leadership seems to be highly effective but certainly challenged by many factors such as digitalization and the ever-changing human make up of them. Thus, it is necessary to have a closer look at the defined and probably indoctrinated leadership styles of different NATO members and NATO itself.

Innere Führung which is the Leadership and Civic Education Model of the German Armed Forces, describes that, on the one hand, sub-leaders or followers are given the freedom to contribute with their individual skills to mission success. On the other hand, the delegation of decision-making authority and the freedom of action to lower levels provide sub-leaders the initiative which enables them to react appropriately to the constantly changing tactical situation on the ground. This doctrine also stresses that mutual trust between leaders and followers is an essential pre-requisite. The requirements of leadership in the Bundeswehr includes strong character, exemplary attitude to duty fulfillment, special bravery, a high portion of social sensitiveness, great communication skills and finally, a strong will to accept responsibility. After thorough analysis of this concept, it becomes clear that the four components of transformational leadership are perfectly included in the German leadership philosophy known as *Auftragstaktik*. Therefore, the German Armed

Author: János Csombók

Forces Leadership Concept is an example of transformational leadership even if not so defined. (Csombók et al. 2020, p.18).

For the benefit of this dissertation, it is important to note that transformational leadership can be learned as put forward by Bernard M. Bass (Bass 1990, p.27). Thus, it should be a crucial part of the leadership development in any organization including NATO. It carries real value considering the proven fact that "Organizations whose leaders are transactional are less effective than those whose leaders are transformational (Bass 1990, p.22).

In the implementation of transformational leadership, one must quote Professor Waldemar Pelz. He provided the core guiding question: "How can leaders achieve that, employees stay loyal, they are ready to take responsibility, willing to improve team spirit, act with self-discipline, and they answer change by willingness to learn and keep engaged?[6]" (Corinna von Au 2016, p.94). In his findings, this question cannot be answered in today's complex world by means of a transactional approach. As he asserts, transformational leadership aims to change behavior of trustors and by answering the guiding question above, leaders can successfully employ the concept of transformational leadership. One of the most effective ways to change or influence employee behavior is through the example of leaders. As to his further findings, leaders should inspire and challenge their associates to be more autonomous and at the same time, they also need to achieve a solid base of trust supported by fair communication (Corinna von Au 2016, p.94).

To set the stage for the empirical analysis of transformational leadership in the Digital Age, one must describe the directions of critical analysis and further development of the concept of transformational leadership as detailed by Bass and Avolio (1994). The finding and ideas of Gary Yukl (2013), Dean

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[6] The original Quote in German reads as follows: „Die Kernfrage lautet: Wie kann man erreichen, dass Mitarbeiter loyal sind, gern Verantwortung übernehmen, Teamgeist entwickeln, Selbstdisziplin zeigen und auf Veränderungen mit Lernbereitschaft und Engagement reagieren? ".

Author: János Csombók

Cleavenger (2012) and Janice Beyer (1999) are relevant too since they point out some of the missing elements and weak points of the 4Is. On the one hand, they argue that some of the success promising competencies have been disregarded and on the other hand there is an overemphasis of heroic conceptions of leadership. Yukl states it as follows: "a bias toward heroic conceptions of leadership." (Yukl 2013, p.321). They argue that promotion of common values and beliefs of an organization or community are more important than charismatic or visionary leadership. Common Values possess a key role in changing organizations and their culture. Burns (2003) argued a similar way from a social perspective by stating that:

> "Values are power resources for leadership that would transform society for a fuller realization of the higher moral purposes. Of all these functions, the mobilizing and kindling power of transforming values is the most essential and durable factor in leadership." (Burns 2003, p.213).

Thus, it is essential that leaders embody the authenticity and confirmability of these values in the framework of their example function. This means that transformational leaders need to live these values. Based on the above critical thinking and findings, **the 4Is can be extended by three further competencies**: **communication and fairness, managerial attitude, and volition**. As to the first, leaders need to ensure that the human interaction is based on fair game rules and on constructive values such as transparency, candor, and sincerity. Managerial attitude for leaders means that thinking and acting should focus on chances, risks, and their consequences. In this respect they need to support change and improvement initiatives. Under volition they understand that words should be followed by actions. These explained three additional elements of transformational leadership have been crystalized through extensive interviews of CEOs of leading small businesses. The above described 4Is extended by the three additional elements can effectively be employed to measure transformational leadership competencies. (Corinna von Au 2016, p.99-100).

Author: János Csombók

Conclusively, transformational leadership competence is needed to achieve mutual trust, loyalty, intrinsic motivation, team spirit and organizational citizenship behavior (hereafter: OCB). These competencies are practiced in most of the organizations as it has been proven through many empirical studies. **Thus, the departure point of this dissertation is that transformational leadership is the most effective leadership approch in leading highly complex multinational organization.** The next chapter deals with important special aspects of leadership in the Digital Age will show senior leadership´s need for digital awareness.

3.2.3. Special Characteristics of Leadership in Military

It is often argued that military leadership is quite like conventional or civilian leadership, but researchers also agree that it is also "a species of its own". (Soeters et al. 2010, Preface). Therefore, conventional leadership theory can be employed, but it certainly needs to be contextualized. Before turning to describe the special characteristics of leadership in military, it is necessary to analyze the special features of military organizations as departure point.

An organization is a relationship-framework as defined by Louis A. Allen in the book <u>Management and Organization</u> (1958). It is a human association to achieve common objectives and purpose. Moreover, it is a framework of the process aiming to identify the right grouping to do the work, to define and delegate responsibility and authority and, finally, to establish relationships to accomplish objectives (Allen 1958, p.302). Ergo, to compare organizations it is necessary to consider purpose, responsibility/authority, process, and relationship. To analyze Military as a relationship-framework, it is essential to understand that it is an organization with two different realities. One deals with *cold* peace time conditions preparing the organization for another reality where military operates in *hot* conditions namely crisis

Author: János Csombók

management, peace support or war scenarios. In *hot* scenarios, the military employs violence on behalf of the state. This makes military organizations certainly exceptional. Only the police are similar in this respect. There are two characteristics which best define the differences between military and civilian organizations. One is the steep hierarchy; there is the chain of command with clear coercive power coming from above and it is accepted by all. It is made visible through rank insignias on the uniforms. Hierarchy is also necessary because there is a strong need for unity of command and mutual understanding of the mission and precisely coordinated actions to achieve military objectives. The second important characteristic is the high level of discipline in accepting authority, compliance with rules and orders, along with overt punishment in case of any disobedience. It is also worth mentioning that in military organizations personal life overlaps with military communal life, thus transforming a military job into a part of everyday life.

Historically, military organizations served as role model in the development of organization and leadership theory. Up to the industrial revolution they were the most advanced organizations. A notable example is the small book written more than 25 centuries ago by the Chinese General Sun Tzu titled The Art of War. This book remains the best-selling book on the theory of managing organizations. Furthermore, Max Weber, the German sociologist and father of bureaucracy concept, developed his ideas by analyzing processes in the Armed Forces of the Roman Empire. The military today serves as a role model for leadership in extreme environment and circumstances. Despite these facts, scholars pay little attention to the military. Rather they research and collect data on civilian companies such as the automotive industry or information and communication technology firms. In this regard, this dissertation helps to fill a research gap.

Another essential characteristic of the military is that it belongs in the realm of politics. The military serves the executive power in modern democratic societies in the field of security and public order. This is perfectly

Author: János Csombók

described by Carl von Clausewitz most famous quote: "War is not a mere act of policy but a true political instrument, a continuation of political activity by other means.". This means that war is a political choice, and the military is only as good as the countries´ political masters. Thus, military success is influenced by the quality of decision-making made by political leaders. It is also a fact that military operations are always about dealing with complexities of politics. (Soeters at al. 2010, p.1-3). The military does not have to prove daily its existence on the market in the supply and demand relation. However, as a collective good military supply also meets demand in an indirect way. Military operations are seemingly priceless, but they are not. The lack of a real market and an understanding of costs means that military people are more focused on operations than on budget. However, the author of this dissertation based on his leadership experience gained on operations does not agree with researchers´ (Mol and Beeres 2005) opinion that military leaders do not have interest in running the organization in an effective and efficient way. It is the other way around because in the military, resources are always scarce, and leaders need to work with what they have. It applies even more in an operation where there are poor conditions, lack of services and infrastructure. It means that military leaders and teams are forced to be creative and come up with solutions in any possible scenarios because it could cost lives. In this respect we can recognize that it is probably not supply and demand that dictates behavior, but instead circumstances and the existing resources. Bureaucracy, however, of which military organizations are a prime example, often hampers the support of military forces in operations. For example, during the wars in Afghanistan and Iraq this bureaucratic mindset and the rigid practices of procurement hampered the quick development and procurement of technology to counter improvised explosive devices and build mine-resistant combat vehicles, as former Secretary of Defense Robert Gates states in his analysis, (Gates 2009). This makes it difficult for military organizations to

Author: János Csombók

adapt to diverse challenging scenarios. At the end, the units on the ground suffer and they are forced to find improvised solutions.

Probably the most important feature differentiating military organizations from civilian ones is the right to use violence. In this respect, legitimacy is key to "keep a peaceful mind when getting involved in violent actions." (Soeters at al. 2010, p.6). The support of the public at home and thus from the international community provides legitimacy to operations. Fear which exists even in military suppresses the use of violence. Thus, it is crucial to contain the emotional impact of violence through instilled rules, and drills. These can decrease the unnecessary violence and the possible mental health problems during and after the operations. In general, the military today prefers employing from a distance, conducted by flying assets like bombers, fighters, or drones. These means certainly create the potential of collateral damage which may lead to a circle of violence, creating additional problems in the future. Thus, military organizations need to control violence and create mechanisms to deal with its effects. These special characteristics of a military organization demand and define the applied leadership approach.

The above description of the special features of military organizations provides a good basis to identify the main characteristics of leadership in the military focusing on standing and deployed military headquarters. As one sees, military leaders are acting under extreme pressure because the purpose of military organizations has nothing to do with achieving higher profits but rather with separating warring parties, providing a safe and secure environment, or even defeating enemy forces or insurgents. This means that in direct or in indirect ways, military leaders at all leadership levels must make decisions in chaotic and dangerous situations where lives are or can be at stake.

Recalling the examples of rigid bureaucracy in procurement, the strategic level struggles could affect the tactical level on the ground in Iraq or Afghanistan. Clearly this is the case because without the mine-protected

Author: János Csombók

combat vehicles or the right jammer, soldiers' lives were endangered every day. Another defining perspective is that the operations nowadays are wars or peace support operations where soldiers need to take the moral high ground too. It means that while they fight, they need to keep the right attitude and behavior to win hearts and minds of local population. These can be seen as "psycho-cultural" wars. Thus, leading military organizations demand leaders who are perfectly prepared to face ambiguous situations and the dangers of combat. Furthermore, military leaders should be able to effectively communicate mission objectives, stimulate subordinates' intellectual capabilities, increase their intrinsic motivation (Soeters et al. 2010, p.123). As Joseph C. Rost (1993) asserts, purpose and objectives are a given in military organizations. These come from the superior headquarters. It is however of upmost importance that subordinated command levels develop their own objectives and tasks and these should be forged in the leader-followers relationship. This relationship should permit followers to influence leaders making the decisions and objectives mutually agreeable. (Rost 1993, p.120).

From above, one can conclude that the model of transformational leadership, team leadership, authentic leadership or super leadership where mutual trust between leaders and followers is key, provides the right leadership approach to lead military organizations such as SHAPE or NATO KFOR HQ. There is no doubt that some scenarios may call for the employment of transactional leadership approaches. It is also important that without a high level of organizational citizenship behavior of leaders and subordinates, military organizations cannot be effective. Therefore, the next sub-chapter deals with its basics and significance.

Author: János Csombók

3.2.4. Organizational Citizenship Behavior

Transformational Leadership approach with its 4Is can encourage Organizational Citizenship Behavior but what is it exactly, why is it necessary for effective organizations and transformational leaders? In general terms OCB is the collection of behaviors that "goes beyond the call of duty" (Tambe & Shanker 2014, p.1). It is an extra-role behavior – as Dennis W Organ (1988) asserts – which is formally not part of the job description of followers, but it provides incredible support to the success of organizations of any nature. Organ (1988) calls it as "the good soldier syndrome". Committed employees exhibit these behaviors by being punctual, volunteering for additional jobs, refraining from complains and by helping others. It is important to note that this way of doing the job is not directly linked to any reward system and it is not demanded by force, it stems from intrinsic motivation. These members of organizations can be described along five basic traits: **sportsmanship, altruism, conscientiousness, courtesy, and civic virtue** (Organ 1988, p.3-4). A short description is due, to understand these traits. Sportsmanship is the behavior when someone is willing to tolerate non-optimal circumstances without complaining about it. Altruism is behaving discreetly in helping other members solve problems relevant for the achievement of objectives of the organization. Conscientiousness is obeying rules and going the extra mile, performing beyond expectations. The 4th trait is courtesy, which is a member´ discretionary behavior that causes significantly fewer work-related or unnecessary problems. The final trait is civic virtue, it means feeling responsible for the success of the company and participate accordingly (Podsakoff et al. 1990, p.116). As a result of this characteristics, an organization which has OCB tends to be more successful and prosperous. The "good soldier syndrome" of followers can certainly provide an immense contribution to the success of companies. This explains exactly why this topic is in the focus of researchers and organizational scholars. As Organ (1988) argues, OCB cannot

Author: János Csombók

be demanded, and it is not linked to any official reward system, but it certainly does not go unrecognized. It usually plays an important role in performance evaluations or promotions. Organ (1997) in his further research refers to it as "the enhancement of the social and psychological context that support task performance" (Organ 1997, p.90).

As described in earlier chapters, military organizations are species of their owns. In the military the core business can be described as a permanent need of mission (task) accomplishment. It is supported by strict hierarchical structures, discipline, and strong commitment – the origin of the "good soldier syndrome". Moreover, military organizations need to achieve objectives without across-the-board consensus, something reinforced by a high level of power distance (Smiljanic 2016, p.26). Military organizations, like civilian ones, need to be able to adapt to the challenges of Digital Age. Focusing on the military, it is important to emphasize that the VUCA security architecture of the 21st Century poses significant organizational adaptation challenges. Leaders, especially senior ones must drive the change and the adaptation process to ensure that military organizations are able to accomplish any mission. The organizational culture of military is based on traditions and customs which have evolved throughout the history of humankind. Within this culture, the common values and norms have grown to a strong institutional ideology. Thus, it is necessary to take a closer look at relevant primary sources and doctrines to find evidence whether OCB can be considered as the norm in military organizations.

Starting with the USA the largest NATO member state, its US Army Field Manual on Leadership describes seven values which should be developed in leaders and followers alike in army organizations. These seven values are Loyalty, Duty, Respect, Selfless service, Honor, Integrity, and Personal courage. It is certainly on purpose that if one reads the first letters – purposefully written with block letters – the abbreviation LDRSHIP comes out. In this manual, loyalty is defined as "true faith and allegiance to the U.S.

Author: János Csombók

Constitution, the Army, the unit and other soldiers" (US Army FM 6-22, p.4-2). Leaders need to instill and earn loyalty by training their soldiers in a properly, treating them fairly and by living out the Army values themselves. Duty means everything which is required by law, orders, and regulations. Concerning respect and selfless duty, which are fundamentally evident, it is especially important that the manual states that "people are the most precious resource" (US Army FM 6-22, p.4-3). The Field Manual often quotes famous charismatic leaders. Honor, for instance, is described by the following quote from George Washington: "War must be carried on systematically, and to do it you must have men of character activated by principles of honor" (US Army FM 6-22 2006, p.4-6). Integrity, according to this Field Manual, means always doing what is morally and legally right. Finally, personal courage is to have the ability to face fear and danger which can be moral or physical (US Army FM 6-22, p.4-7).

The German Bundeswehr has its *Innere Führung* which correlates with Leadership Development and Civic Education. It requires soldiers to be faithful and conscientious, brave, comradely, and caring, professionally qualified, disciplined, willing to learn, fair, tolerant, truthful, open to other cultures and finally morally judgmental. Interestingly, the title of this Manual carries the terms Self-Evidence and Leadership Culture[7]. It stresses that the listed traits should be self-evident (*Zentrale Dienstvorschrift* A-2600/1, 2014, p.10.). Comparing those traits of OCB with the listed traits of German soldiers "it can be stated that OCB has long been coded as the norm in the German Armed Forces" (Csombók 2020, p.32).

In conclusion, it can be identified that in the US Army and the German Bundeswehr traits of OCB are defined and will be considered as self-evident. They serve as basic values and norms in the organizational culture (Csombók

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[7] The title is: *Innere Führung - Selbstverständnis und Führungskultur.* It translates to Leadership Development and Civic Education – Self-evidence and Leadership Culture.

Author: János Csombók

2020, p.31-33). Moreover, these findings lead to the conclusion that military organizations cannot function without OCB (Sharma 2014, p.98-99).

What does OCB look like in the multinational framework of multinational headquarters or in operations? A multinational organization´s key to success is interoperability which certainly has technical and human domains as well. Within NATO, one sees 30 member nations (soon 32) and 20 partner nations working together to accomplish the mission. Although technical interoperability is an issue, for this research the human interoperability has far more relevance. To understand this, a good departure point is to examine how NATO understands the term interoperability:

> "The ability of systems, units, or forces to provide services to and accept services from other systems, units, and forces and to use these services so exchanged to enable them to operate effectively together." (AAP 6, p.2-I-8).

The construct of a multinational military headquarters standing or deployed are special socio-technical make ups. Within these constructs organizational structures such as personnel and processes interact with technology aiming to deliver necessary results (Stewart et al. 2004, p.3). It can only work when military leaders and followers of different nations speak the same language and have the same understanding based on common values and norms. In conclusion, in military the organizational scene is perfectly set for OCB. It does not mean that there are no existing gaps in interoperability. Empirical experience shows that these gaps are present. Thus, military leaders have the great challenge of finding ways and means to close these gaps in the human domain employing all the 4Is of Transformational Leadership and motivate followers and subordinate commanders, coming from any nation.

Author: János Csombók

3.3. Aspects of Leadership in the Digital Age

Before moving on to examine aspects of Leadership, especially in military, in the Digital Age, it is important to understand and take a closer look at the attributes of a future force. Ray Kurzweil the well-known computer scientist, futurist and AI practitioner estimated the advance of technology. He expected that between 2000 and 2007 technology will advance 1 million times. By employing his "Law of Accelerating Returns" he came to the result that over the next thirty years it will advance a billion times. He theorizes that during the twenty-first century we will experience some 20,000 years of progress. His calculation is based on the innovation rates of the past. He also predicted that in 2020 a computer bought for $1000 will have the computing power equivalent to the power of the human brain. That prediction became reality. He also estimated that in 2045 the $1000 computer as non-biological intelligence will be more powerful than every human combined (Kurzweil 2006, p.127). By considering this research it is evident that digitalization is like a tsunami which will sooner or later with high certainty hit all the segments of private and work life.

This study emphasizes the scope and importance of leadership in the Digital Age. It is thus essential and urgent to examine the social aspects of digitalization to enable the realization of the entire positive potential of it. It is also evident that analyzing leadership as a social phenomenon and aiming to adapt it to the challenges of Digital Age is of key importance. One of the essential aspects is emphasized by Meier et al. (2017), namely "networks seem to gain the upper hand over the classical hierarchy" (Meier et al. 2017, p.103). The scarce literature concerning leadership in the digital age focuses not on charismatic leadership (Bass & Riggio 2006; Yukl, 2012) but rather on leadership as permanent interaction between trustor and trustees, stakeholders, and customers (Sergi et al. 2012, p.403). The new trend in understanding leadership is "peer-like and collaborative" (Meier et al. 2017, p.

Author: János Csombók

104). It is even called as plural leadership. People sharing the same work have leadership beliefs and practices; beliefs are disposition to behave, and practices are the operationalized beliefs. The important aspect is that these beliefs and practices are not prerogatives of leaders but rather established collectively among people who work together like a team (Meier et al. 2017, p.103-104).

In order to analyze of leadership aspects in the Digital Age, it is necessary to characterize and better understand digitalization. Khan (2016) identified six characteristics of digitalization relevant for leadership. The first one is **interconnectedness** which enables the rapid sharing of knowledge and practical procedures and through that an increased productibility and sustainability in businesses. It also drives creativity and innovation and participation in unstructured settings. The second characteristic is the **abundance of information and the diminishing time lag**. The embodiment of this can be observed in the shortening timeframes for decision making, the increased speed of information and the changing forms of interaction. These all will be enabled by smart phones tablets and social media. The third relevant feature of digitalization is **increased complexity and transparency**. Organizations will be more and more complex and the ability to manage the transformation, a higher level of transparency is needed. It means that complexity can be decreased by increasing transparency. The fourth trait of digitalization is **hierarchy removal and the diminishing personal barrier**. A good example for this in business is the reversed mentoring. This means that senior leaders and top managers learn from junior leaders because the latter understand quicker and find easier answers for the challenges of digitalization. This is a strong divergence from traditional professional and personal barriers. The fifth defined characteristic of digitalization is that it is a **decision enabler and integrity enhancer**. It goes without saying that it enables faster decision-making at all levels. With all the features described above, digitalization alters personal integrity making mutual trust a very significant

Author: János Csombók

factor for instance in selecting possible business partners. The sixth feature of digitalization is the **humanizing effect**. It clearly enables humans to interact, communicate and interlink easier via virtual platforms in an increasingly authentic and intuitive way. It is important to note that the defined six characteristics are generalized and complementary to each other. However, they provide a useful theoretical tool to better understand the effects of digitalization on transformational leadership. (Khan 2016, p.17-19).

Next the six characteristics of digitalization must be connected to the 4Is of transformational leadership. The first component of TL is idealized influence. Digitalization clearly supports transformational leaders by providing many platforms to influence and encourage followers. One can identify that idealized influence remains a very important component of TL however the manifestation takes a new form. The increasing transparency and the abundance of information forces leaders to find alternative ways to remain idealized influencers (Westerman et al. 2015, p.217). Transformational leaders need to remain inspirational motivators. They achieve it by increasing team spirit and using techniques to help followers understand the higher purpose. Digitalization enables more timely and accurate decision making and increases transparency. Through this it also empowers the motivational range of leaders by employing technological means. These means can simplify the communication of higher purpose and the process of motivation. They contribute to co-creating the vision with followers and the followers´ understanding. The next component of TL is intellectual stimulation. Flattening hierarchy and the removal of personal barriers through digitalization contributes to real-time discussion and implementation of tasks. Intellectual stimulation becomes part of the co-created process of decision preparation and decision-making process within the organization. Individualized consideration enabled by digitalization becomes a possibility such as in team sports meaning that each member of the team can be heard and challenged, enabling them to grow. Transformational leaders need to

Author: János Csombók

master the jump from being a distant mentor to operating on a more equal level and dare to show vulnerability for instance by admitting their lack of digital competency. Today´s senior leaders should act wisely and instead of acting from the position of influence and strength they should admit their weakness. In this case mentor and mentee can master the lack of digital competency and increase mutual trust. The next chapter attempts to shed light on the importance of trust from a contemporary sociological perspective.

3.4. A Contemporary Sociological Review of Trust

"Sociology is the story of people´s lives, whose telling can be deliberating" as Agger describes it in his book of <u>The Virtual Self: A Contemporary Sociology</u> (2003). He further elaborates that it is not a pure autobiography but a "conceptual work of connecting self and social structures imaginatively" (Agger 2003, p.5). It is about understanding one´s life in terms of different social forces constructed by members of society who interact in private and work life and produce different discourses. One of the most important discourses is the internet (Agger 2003, p.5). The generation born during the last decade of the Twentieth Century is the first generation of the virtual self. This is important for leadership because members of this generation are the current junior leaders in our wired society. They have a totally different understanding of trust by connecting, communicating, learning, working, and spending spare time. While understanding traditional sociology dealing with the self, society, and culture, it is my aim in this chapter to review trust nested in contemporary sociology where not only the real-self but also the virtual-self connects to the world.

Trust is an under-theorized concept in classical sociology. However, at the beginning of the Digital Age in the late 80s sociologists started „to treat trust as a sociological topic" (Lewis & Weigert 1985, p.1). Looking at trust from

Author: János Csombók

the sociological perspective, it must be conceived as a collective attribute which is applicable to human relations rather than individual psychological states (Lewis & Weigert 1985, p.1). Luhman (1979) for instance predicted the role of trust as a social mechanism filling gaps in information and knowledge thereby enabling organizations to build more complex structures and faster processes. Observing trust, in this context, it becomes evident that it serves as a tool of complexity reduction (Luhmann 1979, p.8). Therefore, trust is a very important commodity of the Digital Age especially if it helps in finding answers to current leadership challenges caused by digitalization. Brené Brown (2018) in her book titled <u>Dare to Lead</u> went on and stated, "no trust no connection" (Brown 2018, p.222). This leadership approach with no connection to followers can only be Laissez Faire which is proven to be the least effective or even ineffective approach. Brown´s statement could even be translated as "no connection no leadership".

"Trust is the chicken soup of social life", as Uslaner (2001) defines it (Uslaner 2001, p.1). Perhaps true but to establish a beginning point for the contemporary sociological review of trust we must have a closer look at more scientific trust definitions. Before doing so we must admit that a commonly recognized definition of trust does not exist. Basically, each discipline works with slightly different definitions.

Here we deal primarily with the sociological angle as the most important from the perspective of the research of transformational leadership. The Oxford English Dictionary defines it as "the firm belief in the reliability, truth, or ability of someone or something" (Oxford Dictionary of English 2010, p.1908). A rather practical contemporary definition of trust is established by Charles Feltman (2021). He defines it as "choosing to risk making something you value vulnerable to another person's actions". He describes distrust as "what is important to me is not safe with this person in this situation (or any situation)" (Feltman 2021, p.9). Brown (2018) provides the significance of trust by stating that "trust is the glue that holds teams and organizations together"

Author: János Csombók

(Brown 2018, p.222). This means that when we fail to pay attention and work on trust, it will affect individuals, teams, and organizations´ performance. Thus, trust is not a ´nice-to-have´ thing, it is a ´must-have´, and necessary for achieving elite performance. Unfortunately, quite many leaders disregard trust, believing that it is a soft or secondary competency. As two successful leaders Covey and Conant described it in their Harvard Business Review article: "Without trust every part of your organization can fall literally in disrepair. With trust, all things are possible." (Brown 2018, p.223).

Thus, as trust is a must-have, it is certainly imperative to find the specific behaviors that facilitate or inspire trust at micro (interpersonal) and at macro (organizational) level. At the micro level, Brené Brown (2018) identified seven behaviors that are needed to inspire and build trust, named the BRAVING inventory. This acronym refers to the behaviors: *Boundaries, Reliability, Accountability, Vault, Integrity, Non-judgement,* and *Generosity*. Amongst these behaviors there are a couple they seem obvious but also some that need clarification. The first one (*Boundaries*) means know your boundaries and respect it and if you are not sure about them, ask. The second one (*Reliability*) is to be aware of your competencies and limitations and to not over-promise. Always do what you say you will do. The third one (*Accountability)* is about owning your own mistakes, dare to apologize and make amends. The fourth one (*Vault*) means do not share experience or information that are not yours to share. Respect the confidentiality of information about persons. The fifth behavior is I*ntegrity*, it is about "choosing courage over comfort" and choosing to live your values not only profess them. The sixth element (*non-judgement)* is about talking to each other about how you feel or what you need without judgement, and we can ask each other's help without being judged. The last component (*Generosity*) means you need to be ready for generous interpretation of intentions, actions, and words of others. (Brown 2018, p.225-226).

Author: János Csombók

Here we turn back to Feltman´s (2021) description of trust: "choosing to risk making something you value vulnerable to another person's actions". He developed this to learn how to build trust at workplace. Thus, it is appropriate to look at it closer. We make vulnerable things ranging from promotion to these we hold dear, or our beliefs or our good name. In his view whatever we choose to display and make vulnerable to others´ actions, we do it because we want to achieve something together which we cannot accomplish alone. And we only withdraw trust when it is betrayed. Considering trust between leader and follower, Feltman (2021) points out that building trust is certainly a two-way street meaning that "you may be trustworthy but if you do not extend trust to others, none is built." (Feltman 2021, p.10). This statement is based on his research findings showing that the problem usually starts with leader's lack of trust in members of their team. In this context it is of key that "building trust is a competency, a set of skills that can be learned and improved." (Feltman 2021, p.9). Therefore, it is of high importance in leadership training to better enable leaders to build trust and with that to strengthen their transformational leadership approach. Because, as identified in earlier chapters, without trust there is no transformational leadership approach. As Nancy Settle-Murphy a virtual workplace expert points out in her cover page quote on Feltman´s book, building and maintaining trust is very challenging especially in the Digital Age where leaders and team members work and meet increasingly in virtual space. Feltman (2021) created not only theories, but he provides great tools for leaders on how to be trustworthy and ways to maintain and improve trust at interpersonal level. According to his research findings, trustworthiness is defined by four key distinctions namely *care, sincerity, reliability*, and *competence[8] (See figure 3 below).*

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[8] Figure 3 - Feltman 2021: The Thin Book of Trust: An Essential Primer for Building Trust at Work (Second Edition), (p.1)
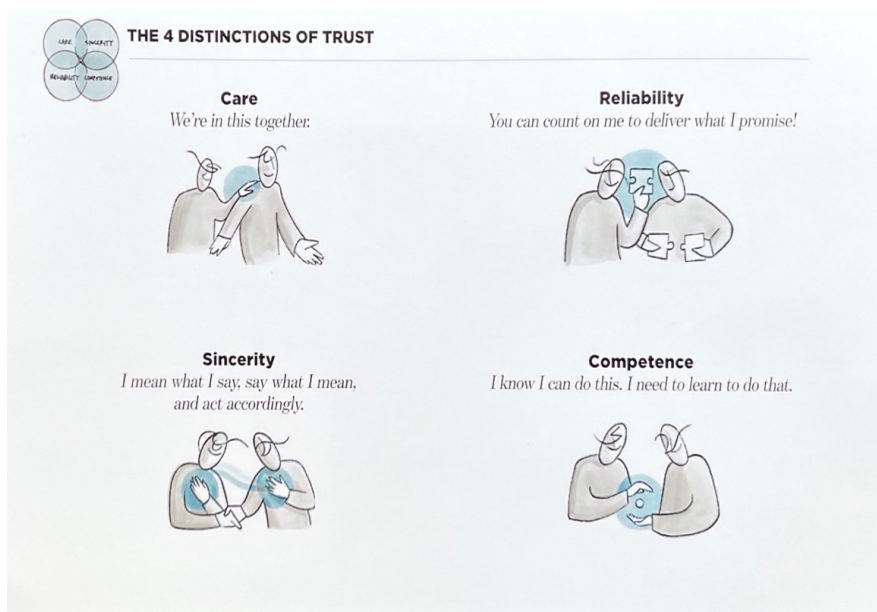
Author: János Csombók

Figure 3 - Feltman's Four Distinctions of Trust

To find out what is hampering leaders´ trusting others we need to assess these attributes. This also works in identifying how trustors are judging trustees' trustworthiness. To properly understand and address trust one should analyze distrust too. The latter is the opposite of trust and means "distrust is a choice not to make yourself vulnerable to another person´s actions" (Feltman 2021, p.11). The two analyzed examples are useful to widen the horizon on the meaning of trust and bring theory closer to practical employment.

Aiming to provide further assessment on interpersonal and organizational trust, I will compare Brown´s BRAVING inventory and Feltman´s four key distinctions of trust behaviors and analyze whether they can be valid in military and moreover, whether these behaviors can be found in NATO and its member nation´s armed forces doctrines.

While Brown´s BRAVING inventory provides a set of behavior that increases trustworthiness, Feltmann developed a practical tool with four distinctions along which trustworthiness can be defined. The latter provides a framework in support of trust building as a workplace competency. It

Author: János Csombók

provides a tool to conduct a reality check of leaders´ trustworthy behavior and gives the tool of trust check which certainly can be employed in the leadership training and in everyday work, as well. However, if we compare the BRAVING inventory and Feltman´s four distinctions of trust we certainly will find a perfect overlapping of the areas of trustworthy behavior. For instance, reliability is defined by both scholars as "you can count on me as a leader, I always deliver what I promise". By Brown reliability includes competence meaning that one should know their competences and not over promise. Feltman's sincerity is broadly defined by: "I mean what I say, say what I mean, and act accordingly." (Feltman 2021, p.25). It includes Brown´s defined behavior of accountability, vault, non-judgement, and generosity. As far as integrity is concerned, being always ready to "choose courage over comfort" is included in Feltman´s reliability. Further, Feltman defines care as the most important for building trust. Looking at the 4Is of TL defined by Bass it is important to note again the findings of Sosik et al. (2018) where they concluded that in the military environment individual consideration contributes mostly to building lasting mutual trust. Furthermore, individual consideration can be identified as part of care. Conclusively, care is not only in military environment but also in civilian companies considered to be the most important competence and behavior of leaders in achieving a higher level of mutual trust, enabling the transformational leadership approach.

The previously quoted German Bundeswehr Leadership Development and Civic Education expects soldiers to be caring & comradery, brave, faithful & conscientious, professionally qualified, disciplined, willing to learn, truthful towards themselves and others, tolerant, fair, morally judgmental, and open for other cultures. These norms are expected to be self-evident as even the title of this doctrine refers to them (*Zentrale Dienstvorschrift* A-2600/1, 2014, p.10). Looking at the norms and the expected behavior we can find all the parts of Feltman´s four distinctions of trust such as care, reliability, sincerity, and competence. The seven values the U.S. Army doctrine mentions under the

Author: János Csombók

acronym LDRSHIP described in previous chapters also overlap fully with Feltman´s four distinction of trust. Here the research subject is NATO, and in its doctrines, trust is understood rightly to be the pre-requisite of mission command which is the term for TL in military. The NATO Allied Joint Publication 01 (2010) (hereafter: NATO AJP-01), defines trust as the "the total confidence in the integrity, ability and good character of another" (p.6-4). Trust is the key to build effective teams. Moreover, trust provides the freedom to transformational leaders to seize initiative in difficult situations and it is built on mutual confidence, which emanates from the ability and capability of the team members (p.6-4).

After this brief analysis of the primary military sources one can identify that Brown´s BRAVING inventory and Feltman´s four distinctions of trust are defined in NATO and the selected member nations' doctrines. This means that the doctrinal background exists for trustworthy behavior and transformational leadership. The next sub-chapter provides theoretical background of digitalization effects on trust.

3.5. Trust and Digitalization

This sub-chapter deals with the significance of trust and trust building in the Digital Age. First, it provides basic theory on the forms and dimensions of trust to use it as departure point to analyze the interrelation of digitalization and trust at interpersonal and organizational level.

3.5.1. Forms and Dimensions of Trust

The elusive and complex notion of trust and trustworthiness requires a research methodology that reflects rather many facets and levels of trust. In

Author: János Csombók

this sub-chapter I will deal with interpersonal and team level trust and partly with organizational or institutional trust. Since it has less relevancy for this dissertation I will not deal with trust between organizations. The aim of this chapter is to find commonalities and differences between civilian and military organizations´ micro- and macro-level trust.

Scholars tend to agree on the following definition of trust which I will use to understand the dimensions of trust. "Trust is a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another. "(Rousseau et al. 1998, p. 395.). Researchers from across various disciplines share the assumption that trust is not a behavior. Rather it is a psychological condition that results from trustworthy behavior, and it is undoubtedly important for organizational life. Scientists also agree that variations in the factors of risk and interdependence can alter the level and form of trust. This means that trust has the potential to change. Researchers, mainly social psychologists, often see trust as static, it either exists or is absent. This is rooted basically in studies focusing on structured games such as the Prisoner´s Dilemma (e.g., Gabarro 1990 or Axelrod 2006). It has, however, been proven (e.g., Fukuyama 1996) that trust changes over time. It usually has a building, a stability and declining phase. Trust can vary in its scope and degree. It takes different forms at different stages of a relationship. Trust can range from calculative based on perceived gains to an emotional state triggered by strong interpersonal attachment. However, the scope may vary depending on the stage of development in a relationship´s history (Rousseau et al. 1998, p.398).

For the sake of this research, it is important to take a closer look at the different forms of trust. If we put this in the context of leadership styles one can identify that in totalitarian regimes and organizations where mainly transactional leadership reins trust has a deterrence-based nature. It enables one party "to believe that another will be trustworthy, because the costly sanctions in place for breach of trust exceeds any benefits from opportunistic

Author: János Csombók

behavior" (Rousseau et al. 1998, p.398). Control plays a role when the necessary trust is absent, but trust is not a control mechanism, it is rather a substitute for control. Belief is a necessary condition of trust. However, there is an incompatibility between strict supervision and positive expectations. Thus, deterrence-based trust may not be considered as trust, it is closer to distrust.

The second form of trust is calculus-based trust. It is defined by rational choice based upon a beneficial exchange. It emerges from the credible information regarding the competence and good intentions of another (Rousseau et al. 1998, p.399). The range of this type of trust is rather limited to gains in both the short and the long-term. It is much about pursuing opportunities and continuously assessing risk.

The third defined form of trust is relational trust. It comes from repeated interactions between parties. Reliability of previous interactions with the trustor increases positive expectations from trustees. Here emotion plays a crucial role because frequent interactions lead to attachment based on interpersonal care. This form of trust is often mentioned as affective trust or identity-based trust (Coleman 1990, p.104). Relational trust is based not only on the belief of positive intentions but also the absence of negative ones. This contributes to the rise of high trust and low distrust. The interdependence between parties increase very likely with time as new initiatives will be pursued. Followers based on this form of trust will characterize themselves in relation to their team-mates or the company as "we". Identity trust is the most advanced form of relational trust.

This brings us to the next form of trust which is Institution-based trust. In this, institutional factors act as driver for the critical amount of trust that promotes trust behavior. This sort of support exists in the form of teamwork culture at organizational level. In this respect we must recall Luhman (1979) who developed the theory of the differentiation between personal trust and

Author: János Csombók

the so-called system trust. He stressed that organizational trust is not necessarily based on interpersonal trust but rather on working procedures and official ways of doing business (Seidl & Mormann 2015, p.9).

"There is no shortcut to trust" as Dennis Reina and Michelle Reina (2015) describe it in their book of <u>Trust and Betrayal in the Workplace</u>. They found that it can be achieved and maintained by employing visible consistency and the alignment between what you intend to do and what you do. They also identified three practical dimensions of trust which are essential for trust building. These dimensions are trust of capability, trust of character and trust of communication, the so called **"Three Cs of Trust"** (Reina and Reina 2015, p.7). This provides a common language and understanding of what trust means. They worked out the specific trust building behaviors connected to the three dimensions. The first dimension is trust of **character**. It can be built by establishing boundaries, managing expectations, delegating appropriately and with consistent behavior. With all these behaviors, leaders can advance to the point when trustors start to relate and rely on them. The second dimension of trust is **communication**, it is achieved when leaders share information, admit mistakes, tell the truth, give, and take feedback and maintain confidentiality. In doing so leaders no longer partake in gossips or rumors. The third dimension of trust is trust of **capability**. It is perfectly aligned with leaders' competency. It is built by acknowledging others' skills and abilities, by always expressing appreciation for good work, by involving others in decision making, and by encouraging learning. This behavior of leaders will also lead to a higher awareness of their own shortcomings. These three dimensions of trust are mutually reinforcing, meaning that practicing one set of behavior will lead to the development of the other dimensions too. Leaders practicing these three Cs will reinforce in their followers that they can trust the leaders' character, word, and abilities (Reina and Reina 2015, p.8-9).

In conclusion, there is considerable overlapping in contemporary scholarship on trust based on the different disciplines' approaches. The

Author: János Csombók

contemporary changes in organizations caused by digitalization effect trust, meaning that the context is vital to understand it. Thus, to address trust in the Digital Age is of key importance (Rousseau et al. 1998, p.402). After this overview of the different forms and the meaning of trust the next sub-chapters attempt to provide a deeper dive into interpersonal and organizational trust evolvement in the Digital Age.

3.5.2. Interpersonal Trust vs. Digitalization

As Lewicki et al. (2006) found, there are two approaches to interpersonal trust. One is the behavioral, viewing trust as a rational choice behavior (Hardin 1993, Williamson 1981) and the other one is psychological approach, attempting to make sense of the interpersonal states connected to trust including intentions and expectations (Meyer et al. 2019). For this research, I focus on the behavioral approach to trust which nests in choices made by trustors and trustees in interpersonal context. Where does trust begin between two individuals? We would probably answer this question saying it begins at zero. Without a common history, trustee and trustor rely on their judgment of the situation and decide on whether to cooperate or not. In the Digital Age, we recognize that this situation changes because information about the other party can easily be gathered, i.eg. from social media platforms, and these impressions lead to a certain level of initial positive trust or to an initial distrust. The level of trust incrementally changes over time, according to the other´s choices in reciprocating the expected cooperation. When the other party chooses not to reciprocate, trust declines dramatically. Participants thoroughly scrutinize all trust-relevant data to ensure a wise choice on offering trust or withdraw it. The operationalization of trust as the level of cooperative behavior is often based on patterns of long-term behavior. It can quickly shift according to the other´s behavior (Lewicki et al. 2006, p.994-996).

Author: János Csombók

Considering the challenge of the ever-changing personnel make up of multinational headquarters, it is appropriate to pursue the desired baseline of moderate or even high initial trust. The perception of common values, wearing the same uniform etc. can lead to a certain level of initial trust without having any history of interaction. As McKnight et al. (1998) assert, this is based on three factors: personality, institution-based structures, and cognitive processes. The personality factor is about the predisposition of people to trust others. The institution-based factor concerns individuals' protection against distrusting mechanisms. The cognitive factor is about individuals' ability for quick and sound judgement on others' trustworthiness (McKnight et al. 1998, p.5).

For the research topic here, relevant research has been concluded by Meyerson at al. (1996). They researched the factors of the so-called swift trust that can enable temporary teams consisting of individuals without common history working together effectively. They analyzed surgical teams, rescue teams and cockpit crews. Considering temporary multinational military units or headquarters, the relevance of their findings is clear. According to their conclusions the following factors contribute to the effective functioning of these temporary teams. The first one is role-based interactions where people can be expected to perform in a professional manner. The second one is team members' effort to minimize inconsistency and unpredictability. The third one is the role-based behavior itself which stems from professional standards, procedures, and drills. The fourth factor is the recruitment of specifically defined labor pool. The last factor they identified is that in these teams there is only a limited level of interdependence.

In short, Meyerson at al. (1996) found that temporary professional teams can form swiftly because there is only a moderate level of interdependence, they can maintain a social distance and because the interactions are strongly role driven. These all result in an adequate level of trust enabling temporary teams to carry out their tasks (Meyerson at al. 1996, p.177). However,

Author: János Csombók

relationship matures with time and the diversity of challenges met commonly. Trust or distrust increase in strength and breadth with time.

To consider the different stages of trust we need to recall the three bases of trust defined by Shapiro et al. (1992). The first one is deterrence or calculative-based trust, which exist "when the potential costs of discontinuing the relationship or the likelihood of retributive action outweigh the short-term advantage of acting in distrustful way" (Shapiro et al. 1992, p.366). The second is knowledge-based trust meaning that one knows the other so that they can predict their behavior. It is based on repeated interactions and common experience. The third transformational model of trust is identification-based trust. Meaning that people work and make decisions in each other's interests by fully understanding other´s preferences. These transformational models also represent the stages of trust. Each relation begins with calculative-based trust followed with time and common experience by knowledge-based trust and identification-based trust. However, there are relationships that stays in the stage of calculative based trust because there is no need for a more complex relationship. For instance, we stay on this stage with the service providers until the service is provided in the expected quality for a fair price (Lewicki et al. 2006, p.1009-1012).

After making sense of the different bases and forms of interpersonal trust I will take a closer look at the evolution of interpersonal trust in the Digital Age. The question is how can trust be gained and maintained in times of digital transformation. The question is valid because the analyzed studies and concepts on interpersonal trust are based on face-to-face life and work situations. We can presage that digitalization has a strong influence on the trust relationships. However, trust should stay trust even in the digital age, but how? Digitalization has been creating new actors, new ways of communicating and also new organizations. In this process digitalization creates challenges for trustee and trustor likewise. For instance, the internet provides a totally new platform to develop and distribute journalistic content.

Author: János Csombók

It means for trustors that the object of trust has been changed. The evaluation of trustworthiness of media content became more difficult as Blöbaum emphasized:

> "Science blogs, open access, and digitally driven public relations work by universities in the sphere of science, e-government in the sphere of politics, virtual teamwork in the sphere of the economy, self-disclosure in social networks, and self-measurement in the spheres of health care and sport are effects of digitalization with respect to other objects of trust" (Blöbaum 2016, p.8).

Continuing the media example, he asserts that digitalization created different perception of risk in trust situations. Face-to-face communication, social media or online media creates different special situations for the act of trust. Out of the media example in the digital age one can conclude that from the perspective of trustee, digitalization has been changing the objects of trust especially the content that is being offered. Journalists, in this case the trustees, are developing brand new forms displaying their trustworthiness such as blogs or podcasts. It leads to the conclusion that "trustees and trustors are moving closer together online." (Blöbaum 2016, p.22). The readers or the internet users have instead of a single source of information, basically endless sources to check information. It means that trustees need to put stronger emphasis on trustworthiness.

Moving on to interpersonal trust in multinational military environment it is crucial to further analyze primary doctrinal sources of trust in the context of leadership approach in NATO and in its member states. In the military context, trust between leader and follower "acts as a bond that coheres the force and allows it to function effectively, especially under combat situation." (MCDC 2020, p.42). This type of trust depends on perceived competence, clear directions and, if something goes not as planned, the ability of commanders to reassert control. The indoctrinated leadership approach of NATO is mission command which perfectly overlaps with transformational leadership. This leadership mindset is based on trust, critical thinking, empowerment, willingness to delegate and readiness to take the initiative. This is the only

Author: János Csombók

effective leadership way to confront volatility, complexity, ambiguity, and uncertainty of war. This enables the systematic teams-of-teams leadership approach. It is simply not enabled without mutual trust between leaders and followers. Thus, it is important to understand the changing trust relations in the Digital Age.

Another important aspect of digitalization in the context of teamwork, decision-making and interpersonal trust is AI. It offers opportunities to exploit much better information to improve human understanding and decision making. It is however changing hierarchical structures of multinational headquarters by requiring fewer personnel; thus, it will present unforeseen changes and challenges. One of this challenge is trust between human and artificial intelligence. Humans tend to forgive a breach of trust by another person more than one by an artificial intelligence enabled system. This imbalance of trust calculus connected to human-machine developed decision making can undermine team and fighting cohesion. (MCDC 2020, p.42-43).

As the MCDC research discovered, it is critical that leaders have access to training to enable them to understand and follow the growing sophistication and effectiveness of artificial intelligence-enabled systems, otherwise they could pose an incomprehensible phenomenon leaving leaders with little control.

In sum, one must be aware that "digitalization is changing how trust is established and maintained in the relation between trustor and trustee." However, even in the digital age the act of trust remains risky. (Blöbaum 2016, p.23).

Capturing the findings on digitalization´s effects on trust relations, one can identify that trust research up-to-now is based on face-to-face in person interactions, meetings, teamwork, and communication. In this respect digitalization is certainly a game changer because the number of real face-to-face interactions are less and less. We talk less to each other on the phone.

Author: János Csombók

Instead of in presence meetings we conduct it via Zoom, Teams, or Webex. We send short messages per WhatsApp or Messenger instead of writing official e-mails or, God forbid, official letters. Moreover, finding information has greatly changed through the "Google effect". We do not ask our colleagues questions any longer, we google them. The COVID 19 pandemic situation, as our participant observation proves, forced trustees and trustors to facilitate telework even on a higher level (Blöbaum 2016, p.8). The conclusion out of Blöbaum´s media example is that digitalization is changing the object of trust and it creates different perception of risk in trust situations. The growing employment of artificial intelligence complicates further trust relations as the MCDC (2020) research concluded. It all means that there is a need of leaders and followers to find new ways and means to maintain mutual trust as the main enabler of transformational leadership. Otherwise, one can easily conclude that trust can erode to a level where the transformational approach is not enabled anymore. Based on these findings, the next sub-chapter will analyze the role of organizational trust and how digital transformation is changing organizations and with that organizational or moral trust.

3.5.3. Organizational Trust vs. Digital Transformation

In the Digital Age self-directed teams will be often employed. In these teams, trust takes the place of supervision because direct observation is usually impossible (Mayer et al. 1995, p.710). Thus, understanding the factors that can improve trust is crucial. Although trust leads straight to cooperative behavior, it does not necessary mean that without trust there can be no cooperation as Gambetta (1998) described it in case of the Italian mafia. Therefore, a clear distinction between the terms of trust and cooperation is important. The reason for cooperation can be a powerful leader who is expected to punish followers acting not as expected. These control

Author: János Csombók

mechanisms may lead to cooperative behavior in the absence of trust. However, this behavior increases the probability of betrayal, the classic ´stab in the back´ (Gambetta 1988, p.220). In sum, employees can cooperate vertically and horizontally with anybody who they don´t really trust if the task at hand doesn´t come as vulnerability to the trustor.

Considering the concept of organizational trust, one can identify that it includes both trust in individuals and trust in the organization. Interpersonal trust however dominates the organizational trust research field. Therefore, it is important to analyze the concept of impersonal trust known also as system trust or institutional trust (McKnight et al 1998, Bachmann 2006). It refers to employees´ trust toward the organizations´ structures and processes they are working in. As Rousseau et al. (1998) assert there are two pre-conditions for trust namely risk and interdependence. Risk is defined as "the probability of loss by the trusting party." Interdependence is when one party cannot achieve its objective without relying on the other party. In the context of organizations trust can be toward individuals, groups, and organizations. Meaning that organizational trust includes both interpersonal and impersonal trust**.** Interpersonal trust is about interactions between individuals laterally or vertically, impersonal trust is, however, based on roles, systems, and reputation. Trust in organizations depends on how employees find it trustworthy based on, for instance behavior of leaders, the decision-making processes of the organization or the organizational culture or even the human resource management practices. As Gilbert and Tang (1998) defined it: "organizational trust is a feeling of confidence and support in an employer: it is the belief that an employer will be straightforward and will follow through on commitments." (Gilbert & Tang 1998, p.322). Impersonal trust can be understood as the evaluation of organizations trustworthiness perceived by the employees. It is basically the confidence that the organization will function in a beneficial way for the workforce. To achieve it there is a need for mutual norms and values between employees and employer. Norms and values are

Author: János Csombók

embedded in organizational and social context therefore organizational trust is a context dependent phenomenon. For instance, organizational trust has been proven to be lower in the post-communist countries than in companies of Western countries due to the fairly different social and historical developments (Vanhala et al. 2016, p.4).

Since military organizations have high-trust organizational culture, it is important to dive deeper into the concept of organizational commitment because it strongly correlates with organizational trust. Buchanan (1974) found that organizational commitment has three components: identification, involvement, and loyalty. In military organizations all the listed three components are present and hold a high degree of relevance. As Allen & Braun (2013) assert, in the U.S. Army "trust is an essential characteristic of the Army profession along with military expertise, honorable service, esprit de corps, and stewardship of the profession." (Allen&Braun 2013, p.73). General Ray Odierno the 38th chief of staff of the U.S. Army even called it "the bedrock of our honored profession". According to the U.S. Army, trust manifests itself in two distinct but interrelated realms. One is the internal Army Profession while the other is trust between the American people and the Army profession. This latter will not be further pursued since it is not in the scope of this dissertation.

Trust between members of the Army and the institution is critical to the Army´s effectiveness. The loss of this internal trust is considered as a major threat to the Army profession. These military researchers (Allen & Braun 2013) identified three major threats to internal trust. First is senior leaders lack of knowledge about the framework of trust and the missing language to address it effectively. The lack of this understanding they found even more acute when discussing differences of the nature of trust at interpersonal and institutional level. Second is a threat which concerns the loss of interpersonal trust. They conducted two Army-wide surveys, another survey of senior leaders and several focus group discussions. They found that to achieve trust in the Army as an institution is based first, on interpersonal trust of its members and their

Author: János Csombók

cohorts and second on trust of members in the Army is based on their trust toward the senior strategic leaders as well as their perception of the organizational bureaucracy that operationalizes senior leaders' decisions (Allen&Braun 2013, p.75). Considering these findings, it is simple to conclude that senior leaders play an essential role in institutional trust and interpersonal trust effectively contributes to organizational trust.

A similar result was found by Gilbert & Tang (1998), in their extended survey at a blue-collar and a white-collar company in Finland. Here they discovered a rather strong correlation exists between trust in managers and organizational trust. There is a ´positive spill-over effect´ when employees trust in their supervisors, they ultimately have trust in the organization too. As far as trust in co-workers' effect on organizational trust, Cook and Wall (1980) found that trust in peers correlate very positively with organizational commitment. Following, one can conclude that when digitalization causes possible erosion of interpersonal trust, it directly affects organizational trust. Thus, it is essential to further analyze digital transformation effects on organizational structure and processes of teamwork and decision making.

At this point it is important to recall and describe the basics of digital transformation, because this can reveal important features of the unavoidable changes in organizational structure, processes, and culture. According to Matt, Hess and Benlian (2015), digital transformation has four dimension independent of industry or firm: "use of technologies, changes in value creation, structural changes, and financial aspects." (Matt et al. 2015, p.340). The use of technologies addresses companies' behavior toward new innovative technologies and their exploitation. It defines the strategic role of IT and the companies' ambition to employ new technologies. The level of ambition in this dimension has a direct effect on changes in value creation. This means that it is vital to define how far digital activities differ from the classical business. Different forms of value creation certainly require structural changes i.e., changes in the organizational set-up especially concerning new

Author: János Csombók

digital activities. It is important here to understand that the previously mentioned four dimensions (use of technologies, value creation and organizational culture) can be transformed in line with the financial aspects of the organization. It is the driver of digital transformation. To ensure the success of digital strategy it is essential to integrate the four transformational dimensions into one Digital Transformation Framework. Looking at the managerial perspective of digital transformation, there is no final consensus of who should oversee this transformation. One aspect is certain, top management has a meaningful role to play, since it effects the entire company, and the transformation may result in resistance.

Here, it is insightful to analyze a practical example of digital transformation of military organizations in the defense business domain. Germany as one of the largest NATO members makes significant efforts in digital transformation. Based on the <u>Forth Report on Digital Transformation of the Federal Ministry of Defense of Germany</u>, published March 2022, I will analyze how the German Armed Forces have mastered digital transformation so far. This analysis focuses on the topic of organizational trust based on the interim findings on the spillover effect of employees´ trust in their leaders that leads ultimately to trust in the organization. Thus, this analysis puts the identified, essential role of senior leaders into limelight. Since this publication is the fourth annual assessment of digital transformation of the business domain of defense, one can conclude that the German Ministry of Defense started to conduct and assess the digital transformation process in 2018. What comes into mind that, it seems clearly a late start.

The German Ministry of Defense developed in 2018-19 the strategic framework for digital transformation in form of the <u>Strategic Guidelines for Digitalization</u> (2018) and the <u>Implementation Strategy of the Digital Bundeswehr</u> (2019). Digital Transformation of the defense business domain is characterized by centralized control and decentralized implementation and fits into the politically defined framework for digitalization. To facilitate

Author: János Csombók

centralized control, the German Ministry of Defense stood up a Control Board for Digitalization. An interesting observation is that the expressions of digitalization and digital transformation will wrongly be as synonyms employed. The introduction of the fourth annual assessment paper asserts that all military dimensions such as Land, Air/space, Sea, and Cyber, are affected by digital transformation. Similarly, it effects all the capability domains: leadership, reconnaissance/intelligence, effects, and support[9]. The paper correctly identifies that consideration of current and future challenges and security threats, digital transformation is an increasingly important factor in ensuring operational readiness and combat capabilities of the armed forces. It also identifies that digitalization of business administration is a key to success (p.3-4). The annual report furthermore concludes, based on initial lessons out of the COVID 19 pandemic, that digital transformation drives the enhancement of resilience of the German Bundeswehr.

Significantly, the 5th and 6th Control Boards in 2021 identified the importance of the role of Personnel in the Digital Transformation and rightly determined it as a main effort of Digital Transformation. Focusing further on leadership aspects and the role of senior leaders as driver of digital transformation, it is important to emphasize the significant effort of the German Ministry of Defense in employing Analytics and Simulation to model relevant concepts in order to drive the implementation of digital transformation. In this mechanism they examined, for instance, the exploitation of AI.

Turning to the human factor of digital transformation, the German Ministry of Defense understands that the role of personnel will increase in the process of digital transformation. It is imperative that leaders develop a common digital mindset in order to lead on the digital battlefield and in digital environment. Aiming to strengthen this mindset, digital training and

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[9] The German version translate them as follows: *Führung, Aufklärung, Wirkung und Unterstützung*.

Author: János Csombók

qualification plays a crucial role. Additionally, the German Bundeswehr understands digital transformation in the context of digital leadership as part of a digital culture. The development of a digital culture is considered to be an essential part of digital transformation. The Control Board of Digital Transformation identified that leaders need support, encouragement, and appropriate qualification to be able to lead in the digital environment in both peace and war time. Illustrating its importance, the German Bundeswehr has already integrated digitalization and digital leadership into the syllabus of leadership training.

Especially impressive is the effort to improving digital mindset on the line of civilian leadership working in the Bundeswehr administration. In the civilian education center, the Bundeswehr implemented the so-called PULL program, i.e., Permanent Upgrade of Lifetime Leadership. As to senior military leadership education, the Bundeswehr made an important and necessary step toward a digital mindset by implementing master classes of digital leadership at the Education Center of the Bundeswehr in Berlin. The aim of these classes is to support senior leadership to understand and proactively drive digital transformation in the Bundeswehr. However, up to date, they have conducted only five pilot classes on the following topics: AI and Big Data, Agile Leadership, Digital Leadership and Social Media, Cyber Security and New Technologies, and finally Smart Government: Digital Communication and Collaboration (p.12-14). This sounds promising, but questions remain since it is not mandatory education: whether the right personnel attend with an open mind or only the ones who are interested in the topic. It would also make sense to develop classes, considering then research of this Dissertation, on How to Keep Transformational Leadership Approach in the Digital Age: Digitalization Effects on Trust Relations.

Following the basic concept and a practical example of digital transformation we now move on to summarize the assessment of digital transformation effects on organizations value structures including trust (Matt,

Author: János Csombók

Hess & Benlian 2015, p.341-342). As Joseph & Winston (2005) found, leaders can shape organizational culture by what they pay attention to, what they reward or recruit, where they allocate resources and the manner they deal with critical incidents. They assert that leaders' behavior is the most important factor in shaping the level of trust in organizations. Employee perception of the organization's leadership leads directly to a higher level of organizational trust. (Joseph and Winston 2005, p.8). From this line of argument, it becomes evident that digital transformation greatly changes organizational values and culture, including trust relations. Furthermore, interpersonal, and organizational trust are strongly interconnected and the trust between leaders and followers has a direct effect on organizational trust. Therefore, it is important to further analyze the implications of trust for leadership by shedding light on the meaning of reciprocity of trust from the leadership perspective.

3.6. Implications of Trust for Leadership

To point out the special meaning of trust for the leadership approach, this sub-chapter analyzes the reciprocity of trust and its importance. Then it deals with the absence of trust and the special meaning of trust for teams. Finally, this sub-chapter provides the military context by describing the special meaning of moral trust in the military.

3.6.1. The Reciprocity of Trust and its Relevance for Leadership

Reciprocal trust is considered to have meaningful implications on organizational and interpersonal trust, as well. Thus, it deems necessary to analyze it to better understand the construct of trust. Serva et al. (2005) defined

Author: János Csombók

reciprocal trust as follows: "the trust that results when a party observes the actions of another and reconsiders one´s trust-related attitudes and subsequent behaviors based on those observations." (Serva et al. 2005, p.625). This definition indicates that one party´s trustworthiness is likely to influence the perception of others´ trustworthiness. Chan (2021) assessed the role of reciprocal trust during the COVID 19 pandemic situation in South Korea and Taiwan. Reciprocal trust has a special role in health care which becomes evident considering doctor patient relation and patients' trust in the health care system. He asserts that without a certain level of appreciation of trust in a relationship there is no reciprocal trust. It means that the presence of trust is essential for developing or gaining reciprocal trust. This explains the self-reinforcing nature of this phenomenon meaning "trust-begets-trust". Another important aspect of reciprocal trust is that it is clearly a process because it tends to disappear when trust is violated. Chan (2021) described reciprocal trust in the pandemic situation as "a cyclical, reciprocal relationship based on trustworthy actions toward achieving the shared aspiration of population well-being" (p.338). This definition characterizes the relationship between citizens and authorities. However, it has a circular nature in the highly complex pandemic ecosystem where actions of one party influence the other. Considering this argument one can identify the facilitative nature of reciprocal trust. Based on mutual understanding and shared understanding and vulnerabilities, reciprocal trust can contribute to build and sustain relationship between leaders and followers. Reciprocal trust develops if there is existing trust. That leads us to the second aspect of appreciating reciprocal trust namely the need to demonstrate evidence of trust aiming to promote reciprocal trust. It means that leaders or authorities in the pandemic or any crisis need to prove competency and reliability in fulfilling their role. Thus, reciprocal trust is distinguishable from trust. The latter is unidirectional while reciprocal trust is bidirectional. In trust only one party is vulnerable, and the other party probably has nothing to lose. However, in reciprocal trust both trustee and

Author: János Csombók

trustor are vulnerable. Important is that trust promotes reciprocal trust (Chan 2021, p.338-341).

In the military which deals mostly with crisis or war time scenarios there is a need for both trust and reciprocal trust. Trust results in a set of behavioral expectations between leader and follower enabling them to manage the risk of an uncertain environment. It is based on predictable behaviors leading to ones´ feeling and perception that gains outweigh the risk in a relationship. Furthermore, the COVID 19 pandemic situation reinforced the meaning of reciprocal trust in dealing with crisis scenarios. To further analyze the meaning of trust the next chapter deals with the absence of trust to find out its implications for leadership.

3.6.2. The Absence of Trust and its Effects

Related to this topic, Gambetta (1998) provides some practical examples and insights analyzing structures and relations of the Italian mafia. The mafia is an organization where "the public interest lies in collapsing rather than building trust "(Gambetta 1998, p.160). In Sicily ambitious people have only one choice to improve their social position namely dedicate themselves to the "*industria della violenza*" meaning the industry of violence. Otherwise, the only choice is to lay low because of the absence of legitimate authority. Both ways have been pursued, thereby unintentionally reinforced the sense of distrust. And exactly this is the environment where the mafia thrives. Another perspective involves the democratic state which relies on the mafia to mobilize votes. The only regime which was independent from the mafia was the fascist regime. Democracy, however, relies on consensus of the larger part of the population and this purpose is well served by the mafia which controls large majority of votes and can steer the offering of political trust. Nonetheless, most Italians agree that mafia is still much better than fascism (p.167). According to Bernard Williams (1981) there are four elements motivating cooperation:

Author: János Csombók

coercion, values, interest, and personal bonds. The mafia simultaneously relies basically on all four mechanisms in their deep world of distrust. Moreover, the mafiosi is interested in the injection of distrust into the market in order to be able to sell its protection. All in all, distrust is the means that enabled the mafia to hold power so long (p.173).

However, without coercion, the threat of violence and the will and means to conduct it, distrust can lead to catastrophic outcomes as it happened, for instance, at the Mann Gulch fire disaster in Montana in August 1949. When the fire was spotted by a forest ranger a group of 16 smoke jumpers were called in and deployed to the area. One got sick so only 15 smoke jumpers and their cargo were dropped to the south side of Mann Gulch area. Unfortunately, the radio´s parachute did not open, and it was destroyed when it hit ground. Then the crew met the forest ranger Jim Harrison who knew the area and had been fighting the fire alone for four hours. After a short common recce, exchange of information and a short supper the smoke jumper crew with chief Dodge, and Harrison the forest ranger went to the river along the hill. At this time the fire gained speed and had crossed the gulch. The crew started to fight the fire, but it became uncontrollable. The crew chief commanded to drop the tools and stop fighting. Then astonishing everyone he lit a fire just in front of the crew and commanded them to lie face down in the area it burned. However, no one did it except Dodge himself. The other members of the crew tried to run to the ridge. Dodge survived by lying down in the ashes of the escape fire, but 13 members of the crew died either on the scene or the next day in hospital. After the catastrophic failure of the smoke jumper crew, it took 450 men and 5 more days to gain control over the fire. The Forest Service fire fighters learned the lessons from Mann Gulch. Since that incident, the Forest Service had no deaths by burning. They always have a backup radio and learned the benefits of an escape fire, as well as the importance of teambuilding and trust (Weick 1993, p.628).

Author: János Csombók

What are, however, the real lessons out of this very tragic event which are relevant for this research? As is usual in each catastrophe almost everything went wrong. The signs of failure of leadership can be identified at micro level but even at macro level. It is easy to see that there was only a very low level of interpersonal trust between the smoke jumper crew and their leader and almost no trust toward the forest ranger. Teams dealing with life threatening situations need a higher level of interpersonal trust than any other teams working in other fields of business. The smoke jumper team, because of the missing interpersonal trust and training, did not follow their leader. As in the military, trust is sacred and without it the smoke jumper team was sentenced to tragedy before they even reached the operational area. In this respect the Mann Gulch disaster can clearly be understood as a "dramatic failure of leadership" (Weick 1993, p.649). At the organizational level, the missing common values and the absence of moral trust can be recognized. These all combined with poor training contribute to tragedy in teams deployed to operate in life threatening situations. There was also clearly a lack of Techniques Tactics and Procedures (hereafter: TTPs) in military terms. To develop TTPs doctrine is usually necessary. Without doctrine and the applicable TTPs there is no basis to design effective training and through that improve organizational trust. Another lesson is that there is a need to trust the local forest experts because they know the area its geography as well as the weather characteristics. It is also necessary to organize comprehensive training events involving all the stakeholders. This will provide a better understanding of perspectives and capabilities and with that, increased organizational and interpersonal trust. To maintain high organizational effectiveness, it is of key importance to maintain a powerful lesson learned cycle, identifying the lessons that should initiate changes in doctrines and TTPs. Finally, communication is undoubtedly key to success and survival.

Conclusively, it can be identified that trust is the glue that holds teams together. The absence of trust makes teamwork absolutely ineffective and in

Author: János Csombók

life threatening situations it costs lives. Thus, trust has a special significance in military as the following quote of a Medal of Honor recipient Captain Audie Murphy summarized it in simple words:

> "You have a comradeship … a rapport that you'll never have again, not in our society, anyway. I suppose it comes from having nothing to gain except the end of the war. There's no competitiveness, no money values. You trust the man on your left and on your right with your life, while, as a civilian, you might not trust either one of them with ten cents." (US Army FM 6-22, 2006, p.7-8)

From the research perspective it is very important to analyze the meaning of trust relations in teams; Thus, the next sub-chapter takes a deeper dive into this subject.

3.6.3. Trust and Teams

Before analyzing the meaning of teams and the role of trust in teams, we need to take a short neuroscientific detour to gain a basic understanding of what is going on in our brain when we trust or distrust someone. This short detour can support leaders finding ways to act in favor of building trusting relationships because the experience of trust originates from our brain´s nervous systems.

According to the basics of neuroscience there are two networks in our brains. One engenders safety, the desire to connect is the trust network. The other one is designed to keep us psychologically and physically safe by generating fears and defensiveness. The latter is obviously the distrust network of our brain. Both networks employ different neuroactive hormones. Oxytocin is proven to be responsible for the human bonding and social interaction while cortisol is also known as the stress hormone. When we begin to distrust someone, the brain starts to confirm this by finding more reasons to distrust. However, we can intervene in the automatic nature of distrust network by altering the directives the brain is producing. It means we can

Author: János Csombók

make intentional decisions related to trust. If people around a leader feel safe, they will tend to trust the leaders (Feltman 2021, p.66-67).

In todays' complex world teams are an essential part of companies doing the bulk of work. There are planning teams, leadership teams etc. coming together temporarily or established by standing company structures. It is important that effective teams build up the "backbone of companies". Trust is always a key factor in successful teams. To assess teams and the role of trust in teams I will instead of employing the findings of organizational or social scientists employ translations of these finding into real life practice. Aiming to do so I will recall again Feltman (2021) <u>The Thin Book of Trust</u> where he offers the four distinctions of trust: care, reliability, sincerity, and competence. Using this theoretical construction as a framework, I will then analyze the role of trust in team performance. As Feltman (2021) asserts "*strong trust is part of the fabric of high performing teams*" (p.68). However, trust in teams is not a given, it is built over time by team members working together. Alternatively, distrust between team members tends to be a performance killer. High trust teams are defined by following traits: its team members collaborate effectively, they are committed to each other, they are honest, open, and transparent, they have true camaraderie or esprit de corps, they use conflict productively and are accountable to each other.

As mentioned earlier in the short neuroscientific discourse, the brain needs a certain sense of safety to kick in the trust network. In teams it plays a crucial role because team members need to make vulnerable what they value in themselves most, such as their expertise, creativity, knowledge, commitment etc. To make these values vulnerable to other team members they need to be certain that they will not be criticized or shamed. This belongs to the trust domain of care. As Feltman (2021) concluded, psychological safety has been identified by a study in Google as the most differentiating factor in distinguishing high performing teams from the merely good teams. In teams

Author: János Csombók

where members feel this psychological safety the willingness to come forward with bold ideas and expressing concerns lead to the best possible solutions.

Thus, it is crucial to establish basic rules and agreements with team members on how they will interact and treat one another. It is surely the team leader´s responsibility to drive this forward and it can be a powerful way to establish a culture of care. It deepens trust in both the domains of care and sincerity. It is also important to build trust by talking about it with team members. In this respect team leaders need to create a list of critical behaviors of team members and talk about it one by one. It is especially important in case of temporary teams. Trust will be increased in the domain of care and sincerity when team members can be sure that their voice will be heard. It is on the one hand something that team leaders need to ensure and on the other hand it is also team members responsibility. If team members themselves pay attention to this, trust building in the team as a whole is advanced.

Another practical way to increase trust in teams to maintain a Team´s Charter. This charter states the mission and objectives the team should achieve, provides the context to all discussions, and keeps record on agreements. It is important to keep it up to date because it builds trust in the domain of reliability. To foster reliability there is a need for commitment to each other and to deliver consistently (Feltman 2021, p.71-72). Camaraderie is something self-evident in military teams, but it occurs to be highly necessary in civilian teams too. Moreover, it is defined as one of the "most striking features of high-trust teams". Meaning that team members may argue and debate but through the process they enjoy working with each other. As Feltman found, comraderies and trust are built on each other. Based on the authors participant observation in leading multinational teams experience, there is no comraderies without trusting each other vice versa. This is built on the assessment of each team member that members of the team care for each other and for the team as well. It is further strengthened by the perception that each member is honest and acts with integrity and has faith in each other's

Author: János Csombók

competence. As Feltman asserts when teams walk through the fire of serious discussions trust grows. Team members have the responsibility to lead by example, to trust team members, always keep the mission and objectives in sight, to be transparent and address issues timely (Feltman 2021, p.72-74).

Moving on to assess trust in military teams Feltman (2021) provided a symbolic line by asserting that as teams walk "through fire of discussions" trust will grow. This is certainly through in military teams too with the exception that fire can be real especially in combat situations and real fire can contribute to a faster growth of trust establishing real comraderies. However, before deploying military teams (units) to combat situations soldiers go through hard training. A great example in understanding the meaning of trust in military teams is the Seal Training. The US Navy conducts the Basic Underwater Demolition/Seal training (hereafter: BUD/S) in the Naval Special Warfare Center in Coronado, California. As General (ret.) Stanley McChrystal asserted in his book of Team of Teams (2015) by assessing this six-months training, it takes *would be warriors* through a physically very challenging diving and land warfare training. It involves endless miles of running on the sandy coast in military boots, open water swims and timed obstacle courses and tests of navigating big waves on the Pacific in small inflatable boats. Failure to meet standards of, for example, to run in twenty-eight minutes the four-mile beach runs or the two-mile ocean swim in seventy-five minutes, results in serious punishment for instance holding beams above the head for endless hours. They have also installed a training called the "Hell Week" which is a five-day of hell with highly intense activities and four hours sleep in five days. Even without being exhaustive in the description it shows the immense physical challenge this training pose to trainees. Only 40% of the BUD/S entering force is usually able to finish the training. However, after completing it they will become the world's most dangerous fighting men. Why is this training important from the perspective of trust and teams? Reading this high attrition rate, one could think that the aim of the training is to weed out the physically

Author: János Csombók

weak, but it is not. Quitters almost always say they quit because they cannot keep up and they are letting down the team. It proves that the purpose of this hard training is not to train super soldiers than to build super teams. The first step on the training path is to build a solid basis of trust. In the command line it is vertical but in teams it is about horizontal connectivity. Thus, the BUD/S instructors designed a training schedule which is impossible to survive by executing orders individually. One of the instructors said, "my job is taking the idea of individual performance out of the lexicon on day one." (McChrystal et al. 2015, p.97). Because if the team is not working together during a boat passage they will get flipped. By failing, the team will always suffer the same punishment. Trainees need to choose a so-called "*swim buddy*" and walk together even to the dining hall. It is conducted this way not because of the great feeling of bond than because of teams. Team members who know and respect each other deeply can perform on a much higher level.

In sum, Seal teams are trained not only to execute a plan than to be able to adapt anytime to any situations and accomplish the mission. Thus, these teams need to be fused by trust and purpose. The BUD/S training purpose is to build trust. It starts by walking together to have meals and ends (at least for the absolvents) being Navy Seals who put their lives in each other's hands. General McCrystal soundly summarized the meaning of trust in teams: "Purpose affirms trust, trust affirms purpose and together they forge individuals into a working team." (McChrystal et al. 2015, p.100). In the next chapter I will further analyze trust and its special meaning in military organizations to find theoretical and doctrinal evidence on its significance and its roots at the organizational level.

Author: János Csombók

3.6.4. Moral Trust: The Special Meaning of Trust in Military Organizations

The most senior uniformed leader in the United States the Chairman of the Joint Chiefs of Staff, General Martin E. Dempsey[10] (2011-15) issued a White Paper titled *America´s Military – A Profession of Arms*. This strategic paper has seven chapters, and one of them is dedicated entirely to the significance of trust and two others are dedicated to leadership and mission command. To analyze the meaning and significance of trust for military we will dive deeper into this primary source. This White Paper´s introduction begins to define the importance of trust:

> "As we reflect on a decade of war, America's Service men and women fought as a Joint Force selflessly serving our Nation, answering the call to duty repeatedly, continuously adapting. The sacred element of trust enabled them to persevere." (White Paper 2011, p.2)

It reflects on the decade of the war on terrorism between 9/11 and 2010. To consider the significance of trust, one should only analyze the place of the White Paper in the hierarchy of strategic concepts and papers. This paper comes from the highest level and emphasizes that without the sacred element of trust the U.S. Armed Forces wouldn´t be able to persevere. The paper also emphasized in 2010 that armed forces need to prepare for a totally different future which will shape the Joint Force 2020. It is imperative that while renewing the commitment to the Profession of Arms "Leadership is the foundation of the military profession." (White Paper 2011, p.3).

Since common values are the basis of mutual trust the White Paper significantly dedicates an entire chapter to them in stating that soldiers need to live "by the values described in the ´City on the Hill´ metaphor." (White Paper 2011, p.3). The Armed Forces should always be an example which cannot be diminished by hardship. This paper reinforced the values of the

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[10]General Martin E. Dempsey served between 2011 and 2015 as the 18th Chairman of Joint Chiefs of Staff of the United States of America.

Author: János Csombók

armed forces namely Duty, Honor, Courage, Integrity, Selfless Service and Commitment to the rule of law. These all provide the "moral and ethical fabric of the military profession" (White Paper 2011, p.3).

Turning back to the special role of trust, this strategic paper points out that "trust stands out as the defining element" which enabled the U.S. military to successfully conduct the war on terrorism. It emphasizes that trust is not given it should be earned and "it extends laterally and vertically, both ways. Trust is inherent in the strength of our collective character." The paper differentiates between internal and external trust. The first is essential for the chain of command between peers and between seniors and subordinates. The description of the latter expresses the most powerful way why trust is sacred in military organizations. Providing more clarity on trust between leaders and followers the paper explains: "Followers trust that their leaders will take care of their charges even at their own expense.". The paper quotes former President John Adams´ words on military leadership: "It should inspire others to dream more, learn more and achieve more.". In battle, soldiers trust one another, they trust their leaders to ensure the support they need. They can trust that their families will be taken cared for, and they can trust that no one will be left behind. As to external trust, the paper defines it as the bond with which soldiers connect with their leaders in government and the people of America. Certainly, there is a special trust and confidence placed in military leaders which is because members of the Profession of Arms remain apolitical and faithful to the principles of the constitution even at the cost of their lives. This White Paper serves as pinnacle of all doctrine for all services of the Armed Forces meaning that all should be developed in the spirit of this strategic paper.

From the research perspective, it is important to kook at NATO´s strategic documents find theoretical evidence of the significance of trust. In the previous NATO Strategic Concept endorsed in Lisbon in 2010, the word trust cannot be found at all. This is quite interesting because in an Alliance of 28 at

Author: János Csombók

that time, trust should be considered as extremely important. Over 10 years later, after significant changes in the security environment in the transatlantic area with Russia's war of aggression against Ukraine, NATO endorsed a new Strategic Concept at the Madrid Summit in June 2022. This fundamental document reinforces NATO´s three core tasks: deterrence and defense; crisis prevention and management; and cooperative security. These three tasks are complementary in ensuring defense and security of the Alliance. The Strategic Concept 2022 describes the strategic environment, lists the emerging disruptive technologies which brings risks and opportunities at the same time. They are altering the character of conflict and gaining rapidly on importance. As the strategic paper points out "Technological primacy increasingly influences success on the battlefield." (NATO 2022 Strategic Concept, p.5). One notes here that this Strategic Concept as too the previous one does not use the word trust, instead, when it deals with partners it employs the expression "mutual respect and benefit". However, by looking at the Strategic Concept in its entirety, it becomes evident that mutual trust between allies is obvious.

Continuing, it is important to look at lower-level primary sources of NATO dealing with trust. In 2021, NATO Allied Command Transformation developed the NATO Warfighting Capstone Concept. It serves "as the Military North Star of NATO towards 2040". It is a forward-leaning vision of Alliance Warfare Development. The global expert symposium held in 2020 on the Capstone Concept, identified the importance of cognitive superiority in war but also stressed that while exploiting the Digital Age technological assets it is imperative to "*nurture the human factor and refrain from overemphasizing technology at the expense of people*" (Sweijs at al. 2020, p.7). This sentence has clearly high relevance for this dissertation.

To find more clues on the significance of trust for NATO we need to move one more level down to the relevant functional capstone concepts. The C2 Capstone Concept (draft) attempts to translate the strong desire to improve NATO´s Command and Control capability expressed at several NATO

Author: János Csombók

summits. This draft Functional Capstone Concept develops an overarching C2 definition, vision, and strategy. The goal of it is, to inform a "coherent and integrated approach to C2 capability development across NATO, Nations, and Partners." (NATO C2 Capstone Concept 2018 (draft), p.4). This draft Concept implies a more comprehensive approach to C2 addressing the complete spectrum of modern C2 activities including Communication and Information Systems, Joint Intelligence, Surveillance and Reconnaissance as well as the Alliance´s Cyber Defense Capability. In short, they refer to it as C4ISR. The scope of this concept goes far beyond the NATO enterprise by including federation too. It seeks and initiates wider interoperability with partner nations and non-NATO entities through Federated Mission Networking[11] (FMN). The latter aims to achieve persistent trust and improved day-zero readiness amongst NATO entities, its member states and partner nations in any operation[12]. Considering all this, one must conclude that persistent trust is recognized as key to success for NATO and its partners.

Moving further down the concepts and doctrine architecture of NATO, it is worth to look at the Allied Joint Publication 01 (hereafter: NATO AJP-01). In this doctrine trust is understood as the pre-requisite of mission command. Moreover, trust is defined as the most important element in creating effective teams. Trust provides military leaders with additional options and creates the culture of tolerating honest mistakes and encourages taking initiative in highly demanding scenarios. Trust is based on mutual confidence, and it emanates from the abilities and competence of the respected team members. Common training is mentioned as a strong trust-building opportunity because at these events competence and abilities can be mutually observed. (Csombók 2020,

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[11] The Definition of Federated Mission Networking offered by the NATO C2 Capstone Concept is: "An association of entities with common goals, objectives and rules, each retaining full control of their own capabilities and affairs" (p.14)

[12] The C2 Capstone Concept has never reached endorsement. Instead, NATO ACT develops the Multi Domain C2 Concept which will certainly include the quoted chapters of the draft C2 Capstone Concept.

Author: János Csombók

p.34-35). This doctrine concludes that "without the necessary trust to plan and execute a joint multinational campaign or operation there can be little chance of success" (Zachariassen 2016, p.10).

In sum, the analysis of these American and NATO primary and secondary sources clearly shows the significance of trust for military. It is sacred because it bonds together, and it helps NATO nations, multinational staffs, and combat units to overcome challenges especially in war and crisis scenarios where lives are at stake. All in all, trust stands out in military environment as the defining element. The persistent trust between NATO entities, HQs, combat units and the moral trust between leaders and followers contribute effectively to an improved day-zero readiness. It creates a fundamental level of initial trust between strangers deploying to different operations or to NATO HQs. The next chapter deals with digitalization in military organizations and their effects on trust relations.

4. Aspects of Digitalization in Military Organizations

To provide theoretical evidence on how digitalization effects military organizational culture this chapter puts in context the findings of several research conducted in the realm of military. The research focus here is on how digitalization effects teamwork and the decision-making processes.

4.1. Digitalization Effects on Decision Making and Teamwork

Aiming to analyze digitalization effects on decision making in the military environment, we turn to the findings of NATO Command and Control Centre of Excellence (hereafter: C2COE). This supports the transformation efforts of NATO Allied Command Transformation, one of

Author: János Csombók

NATO´s two Strategic Military Commands. The C2COE conducted research on the future challenges of decision making at NATO HQs. According to their findings, the future VUCA environment will pose great challenges not only to military but also civilian senior leaders, because the pace of innovation grows exponentially. The amount of data to be processed is growing and thereby increases the need for more support in commanders' decision-making process. Unlike civilian headquarters military ones need to ensure survivability not on the market but on both the real and cyber battlefields.

As the MCDC research on future military leadership points out one of the characteristics of leaders 'environment will be the "*fog of big data*". This will confront leaders and staffs with a high volume and variety of data which will make it almost impossible to make distinction between relevant and straw data. However, meeting this challenge and convert this data into a shape that supports timely and accurate decision making will decide between success and failure (MCDC 2020, p.2-3). Thus, it is important to find solutions in closing the gap between decision preparation technology and staffs and leaders. However, what are the characteristics of current headquarters and what are the future challenges of decision making? Today´s operational level military headquarters, be they part of NATO or the European Union, are defined by large static footprints and reach back capabilities. Therefore, it is difficult to ensure survivability on the battlefield in the Digital Age. They represent so called high-value targets to our adversaries and they are unfortunately highly vulnerable. To eliminate this threat and ensure survivability, future HQs obviously need to be distributed and dispersed. This can be supported by current innovations such as AI based tools for assessment, course of action selection, non-human intelligent collaborators and software support in situational awareness and decision making. It means that the currently "stove-piped" Commands where commanders and staffs are vulnerable to many disruptions in physical and electromagnetic domain need to be transformed into "dispersed, data-driven and comprehensive

Author: János Csombók

commanders' environment" (NATO C2COE C2 Demonstrator Platform, p.2). Technologies such as data-driven analytics and predictive analysis will continue to evolve forcing organizations to adapt and embrace new technologies to meet the challenges. Nowadays, despite the availability of state-of-the-art technology, current operational level HQs do not employ them. There are no dedicated tools to support decision-making process. Some argue that in this HQs we still employ WWII ways and means of decision making which seems certainly to be true according to the authors participant observation. The only difference is that today more modern but already outdated tools such as Power Point will be employed for mere visualization. These tools certainly cannot provide the necessary level of interactive predictability to feed the commander with the required time-critical and accurate information needed for good decisions. As a result, slow decision-making cycles hamper the effective conduct of operations. Reasons for that are in the processes which are usually complicated and too many people are involved. It certainly means that time efficiency and the quality of decisions should be improved by employing the innovations of Digital Age.

The assessment above lays the groundwork to analyze the effects of digitalization on decision making and teamwork and on trust relations, by analyzing the identified characteristics of future leaders' environment of distributed/data-driven and dispersed HQs. The employment of distributed information and dispersed physical location leads to less face-to-face meetings between staffs and leaders. Employing artificial intelligence in situational awareness, mission analysis, course of action development/selection, wargaming etc. results in a dramatically decreasing number of creative planning events subsequently to less human interaction. Conclusively, one can identify the strong potential of the erosion of trust between leaders and followers. Another crucial aspect is that current and emerging technology enables real time communication which can contribute to the compression of traditional command levels of strategic, operational, and tactical and emerge

Author: János Csombók

virtually as a single function. It can directly lead to micromanagement which can confuse and undermine subordinate leaders. Thus, it is important that senior leaders become aware of this phenomenon and learn new ways how to interact across levels of command.

In sum, it is imperative that today´s senior leaders who are expected to drive the change, find the right direction to counter steer this trend by finding ways to employ the disruptive innovations in order to maintain mutual trust to enable transformational approach. However, without the sufficient understanding of AI-enabled technologies and how they can support or hamper leadership, current and future leaders are ill-informed and at a disadvantage. How the challenge of "the fog of big data" and finding the ways to clear this blurry window effects military organizational culture will be analyzed in the next section.

4.2. Digitalization Effects on Military Organizational Culture

To better understand digitalization effects on military organizational culture a short excurse is due on civilian corporate efforts and coming to a greater understanding of digital transformation. As Burchardt and Maisch (2019) point out, digitalization needs cultural change. The Industrial Age corporate concept was established to produce the most effective assembly lines for mass production. In a time of increasing cost pressures and competition they improved the company concept making it leaner and more productive. It led to hierarchical structures characterized by fixed processes, defined task areas and little failure tolerance. This enabled a predictable planning and good/improved coordination mechanisms based on the logic of power distribution. The 21st Century VUCA situation redefines leadership and calls for new ways of collaboration. It demands a high level of willingness to change, a strong ability for self-management by the organization and certainly

Author: János Csombók

its people. Empowerment and agile organizations become key words in the Digital Age companies. Hierarchical organizations transform into heterarchical ones through self-organization and guidance. The internet of things provides for an increased transparency of information and the employment of participatory approaches such as open innovation leads to new working and organizational culture. People are changing too by using social media for networking and mobile forms of data analysis. It certainly leads to new understanding and values (Burchardt and Maisch 2019, p.112-113). As to the management, the focus is no longer on their level of knowledge but rather on democratized decisions making <u>the human being the center of organizational development.</u> The aim is to use the potential of all people and anchor this way of implementation as the company´s cultural asset. As Peter Drucker pointed out "*culture eats strategy for breakfast*". Meaning that plans and strategies are mostly less important than how things will be done in practice employing participatory culture. Military organizations must be able to adapt with an agility in the Digital Age faster than an adversary to ensure winning the war. In order to do so, military organizations need leaders with the ability to adapt with suitable agility.

Before proceeding it is constructive to define adaptability and agility because they will often be used interchangeably. The MCDC (2020) research on Future Leadership defines adaptability as "the ability to develop alternative ways and means to achieve advantageous ends in response to shifting conditions." while agility will be understood as "the ease and pace at which a leaders can adapt themselves and the people they lead." (MCDC 2020, p.29). This can serve as a departure point in defining the organizational perspective. Adaptability in organizations concerns changing decision making processes and bureaucratic structures. As to peoples´ adaptability, it is perceived as how they interact and collaborate. To achieve in an organization adaptivity with appropriate agility it is necessary to deal with both organizational and personal perspectives. Considering the organizational

Author: János Csombók

perspective in the military it is essential to understand the distinct bureaucratic model in place. It is a model established for predictability and dependency with emphasis put on adapting processes to provide uniformity and control. Senior military leaders articulate their intent and set the purpose and they coordinate changes on them. Subordinate leaders translate the senior level directives into tasks to achieve the desired objectives. This bureaucratic structure represents a top-down approach to adaptation. These stable conditions are good for efficiency but are challenged when it comes to emerging threats which require adaptation with agility. For instance, the compartmentalized strategy development makes it impossible to adapt to complex problems which can lead to ignoring upcoming novel challenges. To master this challenge current and future leaders need to find the right balance between freedom and control, meaning to find the right ways to employ top-down and bottom-up adaptive approaches as required.

In sum, the aim of the chapter theoretical background of this dissertation was to find relevant theories to TL, digitalization and its effects on trust relations and leadership approach aiming to underpin with theoretical evidence the set hypotheses. The starting assumption of this dissertation was that transformational leadership is the most effective leadership style in leading highly complex multinational organizations. The full range of leadership theory developed by Bass & Riggio (2006) provides sufficient theoretical evidence based on empirical experiments that the most effective and active leadership approach is transformational. Academics and practitioners agree on the fact that trust is the center piece of TL and without it, TL is not enabled. An additional aspect is the social research and findings of Luhmann on trust. According to him trust serves as a tool of complexity reduction. Therefore, trust is a gravely important commodity of the Digital Age especially if it comes to finding answers to current leadership challenges caused by digitalization. Findings of Blöbaum (2016), MCDC (2020) and others provide theoretical evidence that through digitalization trust can erode to a

Author: János Csombók

level where transformational approach is not enabled anymore. Meaning that leaders and followers should find new ways and means to maintain mutual trust as the main enabler of transformational leadership. Considering trust in the military the analysis of primary and secondary sources from the USA, Germany and NATO clearly shows the significance of trust for the military. This trust is sacred because it bonds together, and it helps NATO nations, multinational staffs, and combat units to overcome challenges especially in war and crisis scenarios where lives are at stake. Conclusively, the persistent trust between NATO entities, HQs, combat units and the moral trust between leaders and followers contribute effectively to an improved day-zero readiness. It means that moral trust has the potential to bridge gaps in interpersonal trust caused by digitalization and short deployment periods in NATO Headquarters. It means that the first and second hypothesis of this dissertation is valid and there is theoretical evidence to underpin it.

Moving on to summarize findings on the third and fourth hypothesis of this dissertation one can conclude that there is sufficient theoretical evidence found that digital innovations and emerging technology very effectively support teamwork and decision making. However, since they enable real time communication, they contribute to the compression of traditional command levels which can lead directly to micromanagement, disabling the effects of transformational approach. Thus, it is important that senior leaders become aware of this phenomenon and learn and understand new ways and means to interact across levels of command in order to enable them to drive the change.

This theoretical background proves through theoretical findings and evidence the four hypotheses of this dissertation. One should understand that most of the findings in the theoretical part are based on empirical evidence. However, to find further empirical evidence the author of this dissertation collected data at one standing and one deployed headquarters of NATO in form of focus group discussions. The next chapter deals with the thematic analysis of the collected data employing a deductive approach to provide

Author: János Csombók

practical evidence distilled from discussions with active general officer and full colonel level senior leaders and a few junior leaders of NATO.

III. EMPIRICAL ANALYSIS

5. The Sacred Trust vs. Digitalization at NATO's Standing and Deployed Headquarters – Senior Leaders' Perspective

After finding theoretical evidence on how digitalization effects trust at interpersonal and organizational level and their effects on the leadership approach, in this chapter I will test the empirical consequences. After thoroughly describing the research methodology, this chapter provides qualitative and quantitative analysis of data collected in form of focus group discussions at one of NATO´s standing and deployed HQs. The research focus here is to find empirical evidence and partly compare it to the theoretical findings in order to corroborate the set four hypotheses. Here it is important to note that mainly the senior leaders' perspective is contemplated.

5.1. Methodology

This dissertation aims to shed light on the research topic of how digitalization of teamwork and decision-making effects interpersonal trust and with that Transformational Leadership in multinational military headquarters. This research intends to fill some gaps because the topic seems rather under researched, at least as far as the military environment is

Author: János Csombók

concerned. This qualitative research was sparked by the Author's participant observation gained in senior leadership positions of Multinational Military Headquarters of NATO. It aimed to provide deeper understanding of the topic by comparing scholars' findings to the statements and regulations of relevant military doctrines. Since senior leaders are expected to be the drivers of change in any organization and they were not born in the Digital Age, this research put the senior leadership perspective in focus. In order to prove or disprove the listed hypotheses, qualitative data were collected at one of NATO's standing and at one of its deployed Headquarters. Based on the theoretical and empirical findings this paper also puts emphasis on designing a simple tool which can be employed to identify knowledge gaps and based on that adjust leadership training or coaching. This dissertation is inductive research too, because it can lead to a better understanding of how digitalization effects Transformational Leadership and with that to an adjustment of future leadership training. Since Leadership is one domain of a military capability according to the DOTMLPF-I system[13], this paper deals with an essential capability development issue.

Qualitative data were collected through reviewing scholarly literature on Transformational Leadership, trust and digitalization and the relevant military doctrines of NATO, U.S. Army, and the German Bundeswehr as primary sources, dealing with moral trust and leadership. Moreover, this paper structures the author's participant observation greatly extended by empirical evidence gathered through focus group discussions conducted mainly with current senior leaders of one standing and one deployed NATO Headquarters. The focus group discussions were organized on the one hand in one of NATO's standing headquarters namely at SHAPE in Mons, Belgium and on the other hand at a deployed Headquarters of NATO in Pristina,

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[13] The NATO Glossary of Terms and Definitions (AAP-6), describes capability as follows: "The ability to create an effect through employment of an integrated set of aspects categorized as Doctrine, Organization, Training, Material, Leadership Development, Personnel, Facilities, and Interoperability (DOTMLPF-I)".

Author: János Csombók

Kosovo. Since there is a great difference between standing and deployed Headquarters, concerning the length of deployment of trustee and trustors, it was important to gather data on the differences concerning the erosion of trust caused by digitalization and on how moral trust can bridge the low levels, or even non-existence of interpersonal trust. Moreover, data were collected on the degree to which staffs are employing digital technology and innovation to close gaps in trust relations caused by either, short deployment periods of personnel or by digitalization. To point out the difference in the level of understanding digitalization, the author also involved junior leaders into each of the focus group conversations. The author put together 15 slightly differing guiding questions for both SHAPE and HQ KFOR, to find out the focus group discussion participants 'experience on how digitalization effects teamwork and decision-making processes at the respective headquarters. Aiming to capture the relevant qualitative data at the focus group conversations a native speaker was employed as note taker. After the introduction round the Author described the context to the members of the focus group, the first guiding question sparked the conversation which enabled the collection of descriptive data by gathering observations for a while without intervening into the semi-free flow round table talks. The formulated guiding questions served well the purpose of gathering relevant data to corroborate the hypotheses of this dissertation, by giving the semi-free flow talks a new direction and impetus. Since it was not possible to record the focus group discussion, I developed a questionnaire to help capture relevant data. Directly after the Focus Group Discussion I asked participants to complete the questionnaire of 8 dichotomous and 2 open-ended questions. It turned out to be a great way of collecting data because the Focus Group Discussion jogged their memories and gave them a baseline of basic knowledge which was necessary to gather relevant and resilient data.

The focus groups talks were transcribed, and a content analysis was conducted in order to discuss the perspectives and insights asserted by senior

Author: János Csombók

and junior leaders. Then, the real-life experiences were categorized and compared to the findings strained out of the scholarly literature and the primary sources of NATO, the U.S. Army, and the German Bundeswehr. Finally, deductions were drawn on the erosion of trust, the role of moral trust and on the gaps in leadership training in order to come to final conclusions to corroborate the hypotheses.

It was important to compare scholars´ findings on the research topic to the real-life experience of actual senior leaders at NATO Headquarters. Since there is a great difference in the personal make up of standing and deployed headquarters of NATO it was constructive to collect data at both. The involvement of some junior leaders into the focus group discussions served well the emphasis of the need to raise senior leaders' awareness of the phenomena. Since multinationalism plays a great role and effects trust relations it was necessary to make the focus groups multinational. NATO member states with their different leadership culture could have different perspectives on the research topic. However, it was not possible to involve all the member nations into the data collection. Fortunately, the author managed to include representatives of both larger and smaller nations. Thus, the sample group perspectives can be considered as adequately relevant and resilient.

5.2. Case Study SHAPE – a Standing Headquarters of NATO

On the 26 November 2021, I successfully conducted a Focus Group Discussion with a group of ten senior and junior military leaders of five nations at NATO´s Supreme Headquarters Allied Powers Europe (SHAPE). Prior to the event, I conducted thorough preparation by determining the guiding questions to find empirical evidence to test the four hypotheses set in the research design. Then, I carefully selected a co-moderator and a native note taker to support the data capturing process. To set common ground and to

Author: János Csombók

address the research topic I developed a short introduction presentation too. The selection and winning of participants for the focus group discussion were a difficult process because at that time NATO was dealing with the evolving situation of Russia and Ukraine through an increased operational tempo. However, supported by the Hungarian National Military Representative office at SHAPE, I managed to select and invite essential personal of SHAPE and the National Military Representations working at SHAPE, I even managed to involve a senior and a junior leader from NATO Communication and Information Agency (NCIA). Well in advance I confirmed date, time, and venue for the Focus Group Discussion. After selection I sent to participants an introduction letter to all the participants introducing both myself and the research topic. **Prior to the Focus Group Discussion participants were asked and they provided their informed consent by reading and signing the Consent Letters**. The venue for the Focus Group Discussion was in the restricted area of SHAPE (Building 101, Eisenhower Conference Centre, Room H-218) on the second floor. Adhering to all the COVID 19 restrictive regulations, with co-workers of the Hungarian National Military Representative office we managed to set up the meeting room comfortable with coffee and cakes. Unfortunately, restricted area meant that it was prohibited to record the discussion. Therefore, I developed a questionnaire to help capture relevant data. In this document I also asked participants whether they would like to stay anonymous. Except one, all the leaders gave their permission to use their names in the research. Directly after the Focus Group Discussion, I asked participants to complete the questionnaire of eight dichotomous and two open-ended questions. It turned out to be a great way of collecting data because prior to completing the questionnaire, the Focus Group Discussion cleared some dust of basic knowledge which was necessary to gather relevant and resilient data. Moreover, the 8 dichotomous questions enabled to gain some relevant quantitative data, as well. We conducted the Focus Group Discussion under COVID 19 restrictions which slightly

Author: János Csombók

hampered the observation of body language because participants needed to wear a face mask. To mitigate this obstacle, I asked participants to take off their masks while speaking. The overall assessment of the Focus Group Discussion is that I managed to create a pleasant ambience and the participants were very interested in the topic and mostly well informed. By the selection of participants, I paid attention to include former East Bloc countries and Western countries senior military leaders. Altogether, two Generals and five Colonels as senior leaders provided their valuable insight along with three junior leaders. The multinational group configuration of five nations and the represented three NATO organizations (SHAPE, NMR offices, and NCIA) provided to an appropriately wide and resilient set of data.

On 26 November 2021, I arrived at the city of Mons in Belgium. Prior to the Focus Group discussion, with the Deputy National Military Representative of Hungary we conducted a final checkup of the meeting venue and the technical support, then at 2 PM I opened the Focus Group Discussion by welcoming and thanking everyone for their valuable time and interest. Then, I shortly introduced myself and the aim of the discussion. After the participants provided their informed consent, I gave the floor to the participants to introduce themselves. After that, I delivered my carefully developed introduction brief which took 15 minutes. This brief provided participants with an overview of the research topic and some related basic knowledge to establish a common departure point. After establishing the discussion basic rules, I started to moderate the Focus Group Discussion. I utilized the 15 guiding questions I formulated, to spark a semi-free flow discussion of the participants. The guiding questions were grouped around three main areas such as identify overall knowledge and understanding of digitalization, digitalization of teamwork and decision making and, digitalization effects on trust relations. The, for 90 minutes scheduled discussion lasted slightly more than 2 hours. It shows that participants were very active and enthusiastic about the topic, and they provided me their

Author: János Csombók

insight from perspectives of their national armed forces and NATO too. Participants felt free to share and it was hardly possible to identify who was the most and least talkative because everybody was eager to contribute. They were excited to share their insights and thoughts on the three group of questions such as digitalization in their national armed forces and NATO, digitalization effects on trust relations and leaders´ role in maintaining transformational leadership approach while driving the change. Supported by the notetaker and the completed questionnaires, I managed to capture relevant data to compare theoretical evidence to practitioners´ experience.

5.2.1. Qualitative and Quantitative Analysis (SHAPE)

Aiming to refer to all the participants I arranged the names in alphabetical order providing them with a pseudonym from S1 to S7 for senior leaders and from J1 to J3 for junior leaders for organizational purposes. After transcribing and cleaning the data set, I conducted a qualitative analysis identifying meaningful insights then based on the data captured by employing the questionnaire, a simple quantitative analysis too, operationalizing the eight dichotomous questions. By analyzing the cleaned data set I identified meaningful insights and made important conclusions. I also defined the relation of the findings to my hypotheses (*See Annex 1 - Qualitative Data Analysis Based on the Cleaned Data Collected at the Focus Group Discussion at SHAPE on the 26 November 2021).*

The purpose of the first question was to identify overall awareness of participants concerning digitization, digitalization, digital transformation, and disruptive technologies. However, one should also consider before moving on to summarize meaningful insights that prior to completing the questionnaire during the FGD we established basic knowledge about key terms. The meaningful insights are at one hand that senior leaders are usually superficially informed only the ones working for NCIA have thorough

Author: János Csombók

understanding. On the other hand, junior leaders seem have a higher awareness of the examined terms concerning digitalization. It underlines the necessary need to include digitalization and its effects on leadership approach into the education and training of leaders, especially senior ones. This empirical evidence seems to corroborate hypothesis D which is: There is an urgent need in NATO and elsewhere to increase especially senior leaders' awareness of the effects of digitalization on trust relations in order to maintain leadership transformational and enable them to drive the change.

Question number two aimed to find empirical evidence on the digitalization process in the participants´ national military compared to NATO. This question basically has connection to all the four hypotheses because different level of progress of digitalization in national armed forces and NATO certainly effects the perception of the FGD participants. In this respect the collected data is not resilient enough because only five nations were represented at the FGD at SHAPE. However, the collected data is useful to identify tendencies of digitalization (*See Annex 1 - Qualitative Data Analysis Based on the Cleaned Data Collected at the Focus Group Discussion at SHAPE on the 26 November 2021).* The data analysis points to the direction that larger NATO nations are ahead of NATO as far as digitalization is concerned while smaller nations representatives have the feeling, they are behind. A further meaningful insight is that nations and NATO are nevertheless facing similar challenges of digitalization. Moreover, FGD participants expressed that expectations within both national and NATO frameworks are high, but that progress has been limited. It also means that the author´s idea to examine the leadership education and training system of larger NATO nations to find evidence of leadership training gaps between them and NATO, is proven.

The third question of whether digitalization matters for NATO shed light on other essential insights. The aim of this question was to identify whether senior and junior leaders find digitalization important for NATO. And if yes what comes to their mind about it. The quantitative analysis of the answers is

Author: János Csombók

depicted on Graph 1 below. The seven senior leaders and the three junior leaders perfectly agreed that digitalization matters for NATO.
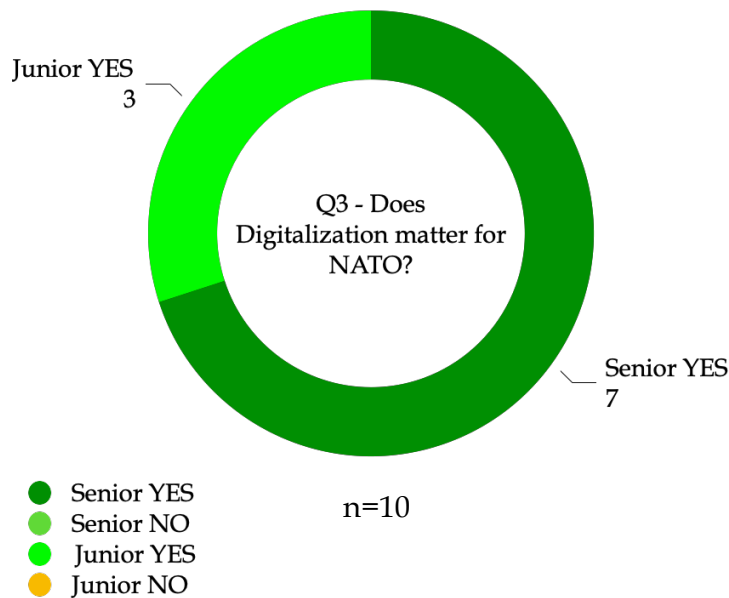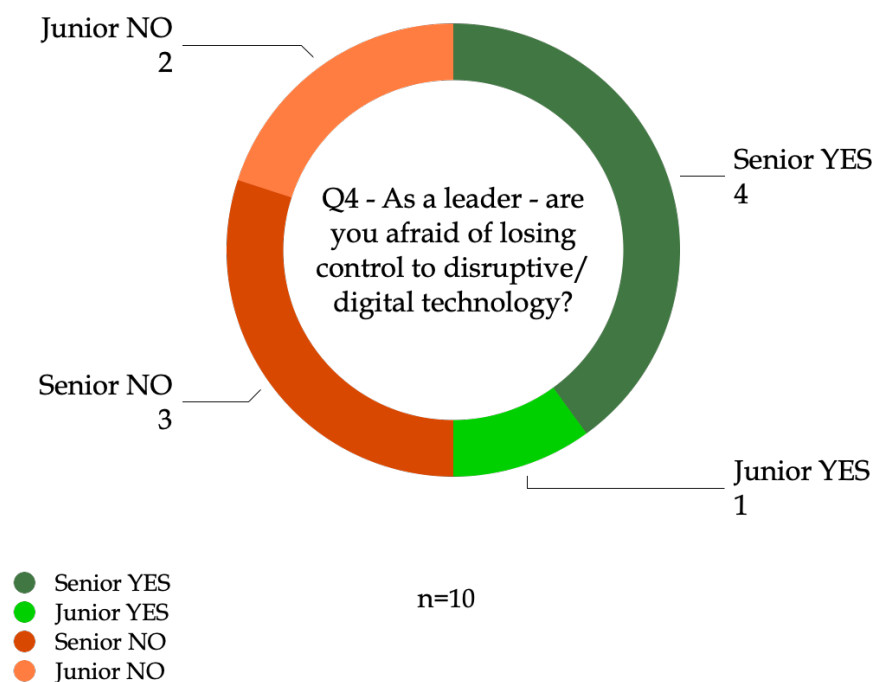

Graph 1 - SHAPE FGD – Graphical Visualization of the Answers to Q3

The qualitative analysis of the collected data resulted in the following meaningful insights. First, senior, and junior leaders understand the importance of digitalization, but the perspectives are different. Senior officers are focused more on automatization of complex weapon systems and the support of decision making. Junior officers put more emphasize on gaining and processing information. The second meaningful insight concerns military superiority which is according to senior leaders based on high speed/multi-dimensional decision-making requiring accurate information and efficient processes provided by sophisticated CIS capabilities and services including AI. In sum, senior and junior officers alike found digitalization very important for NATO, but they were only focused on the technical part of digitalization and their possible employment in decision making and providing NATO with shorter reaction times. **And none of the leaders mentioned digitalization and its challenges from the leadership perspective.**

Author: János Csombók

Question Nr. 4 aimed to bring into discussion the leadership perspective of digitalization by asking the following: As a leader – are you afraid of losing control to disruptive/digital technology? The question was also aimed to gain impressions of participants level of awareness of disruptive technology. The quantitative analysis of the answers summarized below on Graph 2 shows that more than half of the senior leaders expressed concern about losing control to disruptive/digital technology while junior leaders are less concerned about it.

Graph 2 - SHAPE FGD – Graphical Visualization of the Answers to Q4

The qualitative assessment found out that senior and junior leaders have differing level of understanding if it comes to disruptive technology but rather not comprehensive. This fact contributes to the quantitative result of 50% of leaders being afraid of losing control. This also underlines the appropriateness and validity of all the hypotheses of this dissertation.

Moving on to question number 5, it is important to describe that it was designed to gather evidence whether digitalization affects trust between leaders and followers. The first important insight is that participants

Author: János Csombók

understand that trust is the basis of every human relation. Second is that participants fully agreed that digitalization has strong effect on trust relations between leaders and followers. One of the Generals formulated it as follows: "Digitalization enables, and fosters distance and distance does not promote trust!". Another senior leader expressed that with a good trust level digitalized processes can improve the team performance and decision making but without trust the digitalized process leads to a degraded performance. The aspect of teleworking and home office were expressed by stressing that any shortage in human interactions negatively effects trust. The quantitative analysis of the answers depicted below on Graph 3, shows that the vast majority (90%) of senior and junior leaders find that digitalization of teamwork and decision making has a negative effect on trust relations between leaders and followers because it provides to way fewer human interactions.

Junior NO
1

Junior YES
2

Q5- Do you think that digitalization influences TRUST between leaders and followers?

Senior YES
7

- Senior YES
- Junior YES
- Senior NO
- Junior NO

n=10
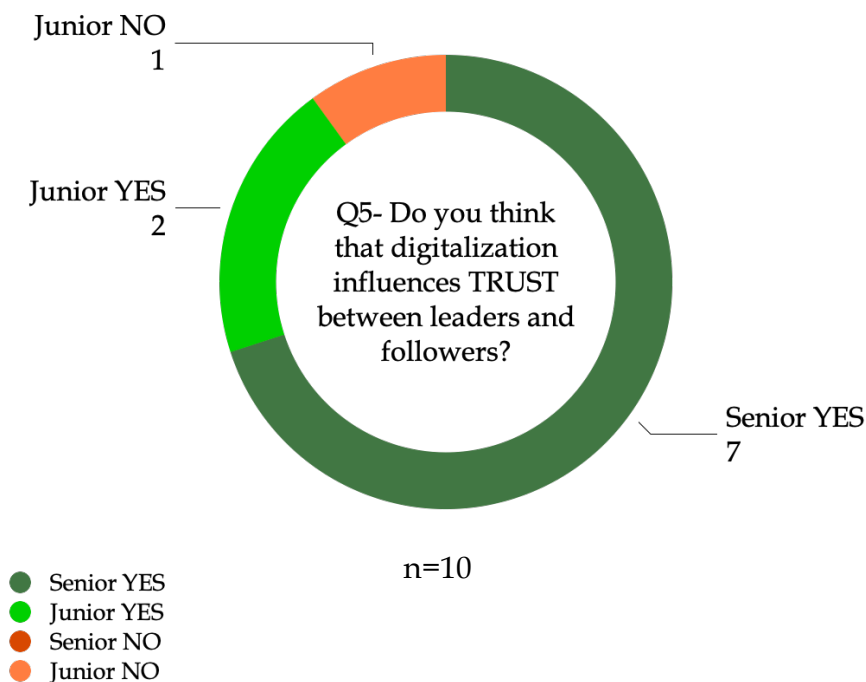
Graph 3 - SHAPE FGD – Graphical Visualization of the Answers to Q5

Author: János Csombók

Question Nr. 6 was designed to gain the opinion and experience of participants on whether digital innovations support or hamper timely decision-making. Related to Hypotheses A and C it aimed to gather information on the openness of senior and junior leaders toward digital solutions in teamwork and decision making. The quantitative analysis of the answers depicted on Graph 4 below, shows that 7 out of 10 leaders find that digital innovations support timely decision making.
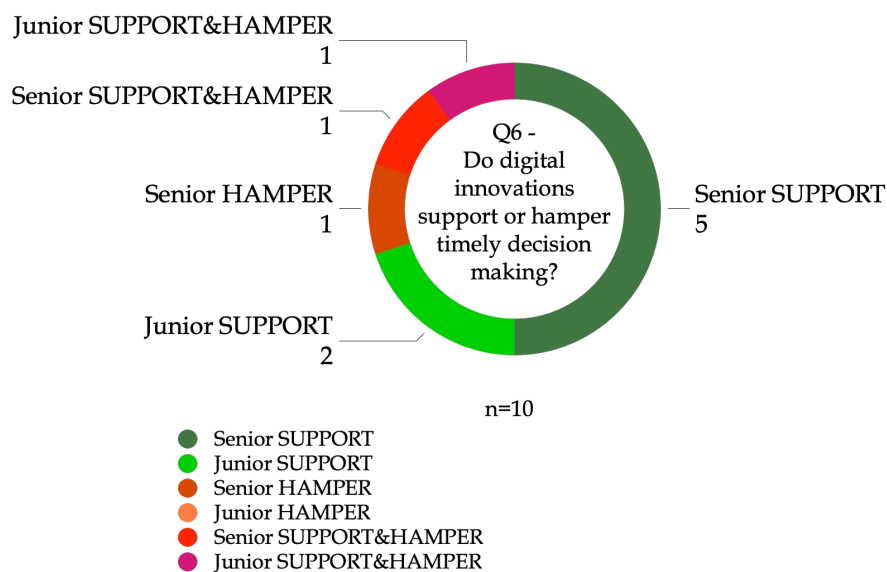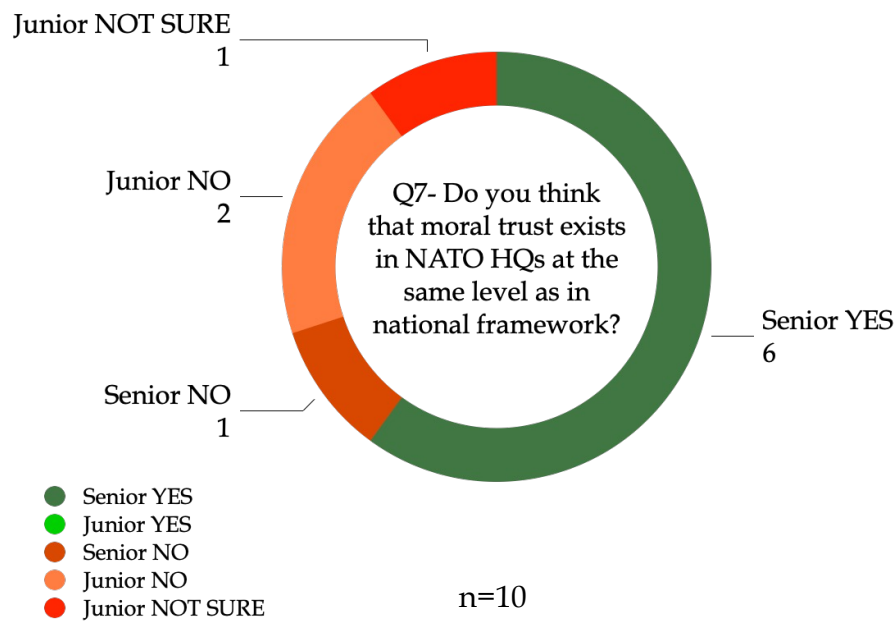

Graph 4 - SHAPE FGD – Graphical Visualization of the Answers to Q6

It means from the perspective of Hypothesis A and C that leaders need to understand and deal with effects of digitalization because digitalization is occurring whether we acknowledge it or not. Senior leaders expressed that those digital innovations could accelerate decision making but there is no guarantee that these decisions would be better in terms of quality or appropriateness. It is also important that these innovations need to be user friendly otherwise they are a waste of resources. The last meaningful insight is that humans should maintain the right to make final decisions. After considering all this, one can conclude that the right digital tools and digital innovations when employed the appropriate way can support the

Author: János Csombók

achievement of mutual trust between leaders and followers. With that Hypotheses C seems to be backed up with empirical evidence.

Moving on to question number 7 which considers the level of moral trust in national HQs and NATO HQs it is important to define that participants were asked to compare the level of moral trust between their national and the international HQs. This question is related to Hypothesis B which is "The sacred moral trust in military has the potential to bridge the gaps in interpersonal trust caused by digitalization.". Considering the different level of moral trust in national and international framework provides to identifying a significant factor concerning the role of moral trust in international framework.

Graph 5 - SHAPE FGD – Graphical Visualization of the Answers to Q7

The quantitative data analysis depicted above on Graph 5 shows that senior leaders except for one believe that moral trust exist in international HQs the same level than in national ones. However, junior leaders believe that moral trust is stronger in national framework. In this respect senior leaders

Author: János Csombók

have different opinion because on the one hand they are certainly stronger biased by staying diplomatic but on the other hand they have longer experience. As one of the senior leaders expressed it:

> "There are clichés, of course, but everyone is supposed to be expert in his/her job within the international framework. And, in general terms, each and everyone makes more effort to gain and maintain trust, since not only a personal credit is at stake, but at some level his/her Nation's credit too." (Major General Gabor Horvath, HUN-A, HUN NMR at SHAPE).

Considering all this, one can conclude that moral trust exists on quite a high level in international environments too. It is, however, not as high as in national frameworks. However, NATO HQs can be considered as melting pots for soldiers living the same or at least very similar values. In sum, moral trust exists in international framework and could have the potential to bridge gaps in interpersonal trust caused by short deployment periods and digitalization.

Continuing to find empirical evidence on moral trust, question number 8 was designed to ask senior and junior leaders' opinion on whether moral trust can play a bridging role to close gaps in interpersonal trust. As the quantitative data analysis depicted below on Graph 6 shows, senior and junior
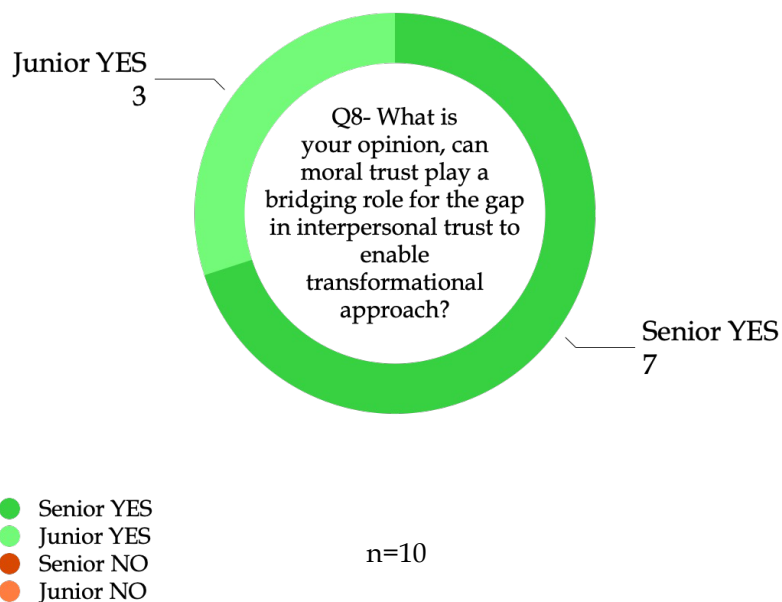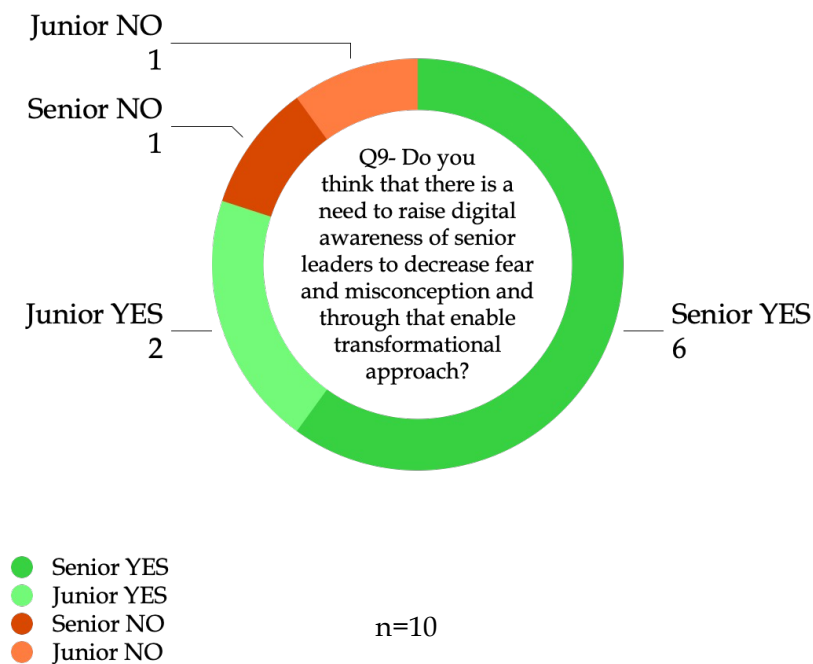

Graph 6 - SHAPE FGD – Graphical Visualization of the Answers to Q8

Author: János Csombók

leaders alike agree that moral trust can play a bridging role for the gaps in interpersonal trust to enable transformational approaches.

The qualitative data analysis brought up two very important perspective. First, moral trust not only can but must play a bridging role in closing temporary gaps to keep multinational HQs running. Second, it is expressed as follows by one of the General officers:

> "Just, as long as, the organization itself enjoys a moral respect from all the participants, in other words, as long as the institution has a high moral standing. Every failure or flaw (like the exit from Afghanistan lately) ruins this, because if the ideas disappear, only the human interpersonal trust may them rebuild it again." (Major General Gabor Horvath, HUN-A, HUN NMR at SHAPE)

This aspect is highly interesting because it can easily lead to the conclusion that moral trust exists in different level at each international organization or multinational company. Moreover, the role of high-moral standing of the organization plays a crucial role on maintaining moral trust. All in all, hypothesis B seems to be corroborated from the perspective of leaders at standing NATO HQs.

Graph 7 - SHAPE FGD – Graphical Visualization of the Answers to Q9

Author: János Csombók

In proving hypothesis D, question number 9 and 10 were designed to ask senior and junior leaders whether there is a need to raise digital awareness of senior leaders to decrease confusion and misconception and through that enable transformational approaches. The quantitative data analysis of the questionnaires shows (Graph 7 above) that except for one senior and one junior leader all the leaders agreed that there is a strong need to raise digital awareness of senior leaders.

The qualitative analysis of the FGD and the answers gained through the questionnaire provides some highly important proof. One of the senior leaders, a general officer went on and expressed the need as follows:

> "Today's military leadership is basically speaking about but not fully aware of both opportunities and risks arising with the digital age and advanced technology [...] the effects of digitalization on the leadership approach are quite unknown terrain and with that underestimated." (Brigadier General Ralf Hoffmann, DEU-AF, NCIA)

Another senior leader expressed the need with simple accuracy stating that "Awareness and 'rules of engagement' on the use of new tools are fundamental for 'baby boomers' senior leaders. "(Colonel Constantino Russo, ITA-A, FGD at SHAPE)

These quotes describe without ambiguity that there is a strong need to raise awareness of digitalization of senior leaders to enable them to drive the change. One of the quotes describe that digitalization and leadership is an unknown terrain which reinforces the validity of this research.

After establishing the need to raise digital awareness of senior leader's question number 10 asked FGD participants whether there is a need to include digitalization and its effect into leadership training of senior leaders.

Author: János Csombók

Analyzing the data quantitatively provides a clear answer to the question, depicted on Graph 8 below.
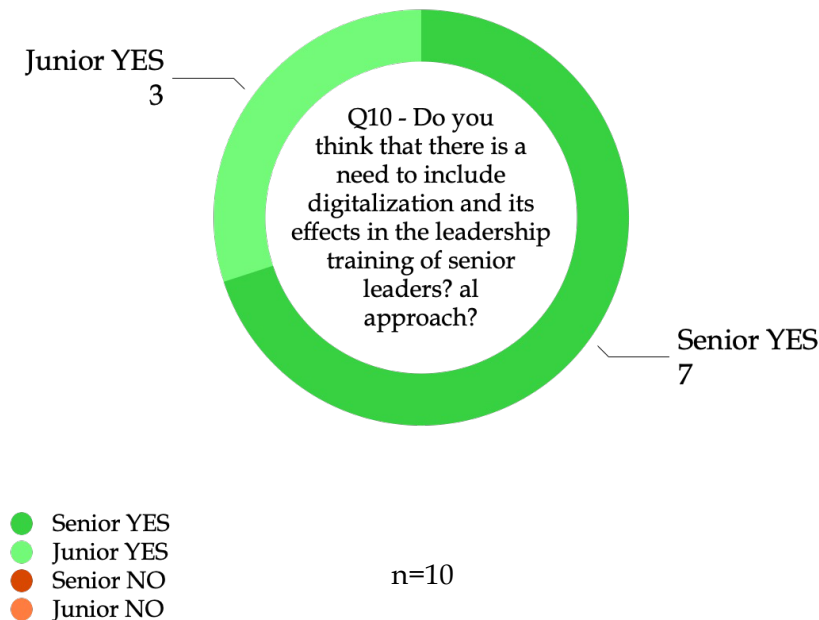
Graph 8 - SHAPE FGD – Graphical Visualization of the Answers to Q10

It provides evidence that senior and junior leaders alike expressed the necessity to include digitalization and its effect into leadership training.

The qualitative analysis provides further evidence for the necessary need. One of the senior leaders expressed it in quite sound terms:

> "Of course! Information is the currency of the Digital Age. New ends, new ways, and new means to communicate any kind of information are changing, developing, enhancing etc. very fast. To keep in touch with an always emerging digital environment it should be mandatory for senior leaders to be educated and trained for the ongoing advancements and the upcoming progressions enabled and accelerated by technologies - mainly driven by economic demands and non- military inventions." (Brigadier General Ralf Hoffmann, DEU-AF, NCIA).

In sum, one sees that it is necessary to include the topic of digitalization into leadership training of senior leaders, but it should be tailored to the individual needs. With that Hypothesis D is backed up with valid empirical evidence.

In conclusion, the Focus Group Discussion at SHAPE turned out to be a great tool to gather empirical evidence to back up the four Hypotheses. Participants provided valuable practical experience and meaningful insights. All the four Hypotheses can be backed up with valid empirical evidence based on the qualitative and quantitative data analysis of the data gathered at one of NATO´s standing HQs.

5.3. Case Study HQ KFOR – a Deployed Headquarters of NATO

KFOR is NATO´s longest standing operation. HQ KFOR has been operational as a deployed HQ for the last 23 years and deals with providing a safe and secure environment for the people of Kosovo. The author of this dissertation has the honor to serve as Deputy Commander KFOR in 2017-18 and gain thorough experience in leading multinational formations. KFOR certainly contributes to all the core tasks of NATO such as deterrence and defense, crisis prevention and management and, cooperative security. During the last more than two decades KFOR turned to be an effective asset to project stability at the Balkans. Currently slightly above 3.700 soldier of 27 nations are serving in KFOR operation. The HQs KFOR consist of some 250 officers and non-commissioned officers (hereafter NCOs) amongst them three General officers. Almost all the KFOR contributing nations are represented at HQ KFOR.

After describing KFOR and setting the departure point for the case study, it is appropriate to elaborate on why HQ KFOR is of relevance for this research and what are the main differences between a standing and a deployed HQs of NATO. Well, the first and biggest difference compared to SHAPE is that the latter operates in its peace time location in Mons while HQ KFOR deployed to the operation theatre. The second difference is the level of command. SHAPE is one of NATO´s two strategic military commands while HQ KFOR works on

Author: János Csombók

the very tactical level in NATO framework. However, since KFOR deals with security challenges of an entire country or even a whole region it is safe to state that from the perspective of Kosovo and the Balkans HQ KFOR deals with strategic level challenges and coordinates and cooperates with all the international organizations deployed to Kosovo and to the neighboring countries. Considering the research topic of this dissertation and the set hypotheses it is crucial to point out further differences. One of them is the short deployment periods of personnel at HQ KFOR. The rotation period of nations is ranging from four months to six which can be considered as very short if it comes to trust building between leaders and followers. The good news is that some essential personal among them Commander KFOR, Deputy Commander, Chief of Staff, and some other key leaders deploy for a one-year tour which still can be considered as short comparing to deployment periods at SHAPE which range between 2-5 years. Looking at this data from the perspective of the research topic it plays a crucial role because HQ KFOR´s leadership is not only challenged by the effects of digitalization on trust relations but also with the very short rotation periods of its personnel. Multinationality and the differing level of training and leadership approach of different nations' personnel can also be listed to the challenges. At KFOR HQ unlike SHAPE not only NATO nations are serving together than also partner nations should be included into the daily routine. One can also recognize looking at the number of nations that this is really a melting pot of different military cultures ranging from the U.S. Army to the Armenian or Ukrainian Armed Forces. These nations certainly have different military cultures and diverging leadership cultures too. Moreover, national caveats and different level of intrinsic and extrinsic motivation of personnel plays an important role too if it comes to trust building. All KFOR members represent their nations and national interests which are not always in perfect overlap. Good news is that all the deploying personnel conducts pre-deployment training and essential personnel has the chance in framework of a key leader training to

Author: János Csombók

deploy to the operation area and prior to the real deployment, gain knowledge of the mission objectives, the key geographical areas of mission interest, and the HQ and its personnel as well. Moreover, directly after the deployment into the operations area soldiers must conduct different so-called in-theatre training and usually there is a two-weeks handover/takeover period too. Concerning the latter national rules apply and, according to the author's participant observation sometimes it is reduced to 2-3 days which is rather insufficient. The common language is English and the level of knowledge of it is truly a factor, it is ranging from very basic level to fluent or even native. (Csombók 2020, p.37). This is, however, not the same at SHAPE because in this case nations usually appoint their best trained officers and NCOs and, in an operation unfortunately it is not always the case. All in all, the above-described differences serve as good reasons to analyze HQ KFOR from the perspective of digitalization effects on trust relations.

On the 26 January 2022, I managed to successfully conduct a Focus Group Discussion with senior and junior leaders of HQ KFOR. For the preparation I employed the experience gathered at the FGD at SHAPE. Since it was not possible to conduct the FGD in presence, I prepared a WEBEX meeting to gather essential experience. Prior to the FGD, I went through the same preparation as in case of SHAPE FGD. On the 25 January we conducted a final checkup of the internet connection and WEBEX as a tool. It went well but despite of the well-functioning platform, I sent the guiding questions and the introduction brief per e-mail to the Aide-de-Camp of Commander KFOR who supported me throughout the preparation. It turned out to be a good decision because as it is usual the connection was not quite perfect on 26 January because the bandwidth was not enough to handle video and presentation at the same time. The participants gathered at 2 pm in a briefing room at Camp Film City in Pristina, and I sat in Bonn in my office at the German Ministry of Defense. It meant unfortunately again that it was not possible to record the FGD and I needed to employ once again a questionnaire

Author: János Csombók

to support data capture. We conducted the Focus Group Discussion under COVID 19 restrictions which meant that FGD participants were seating wearing face mask. Thus, the quality of picture affected by the not always high-quality internet connection and the face masks combined hampered the observation of body language. During the FGD, I gathered again firsthand evidence that face-to-face in person meetings can hardly be replaced by meetings conducted via VTC apps. However, with some good common effort we managed to conduct the FGD in an appropriate manner with participants of 4 senior leaders including the entire Command Group of HQ KFOR consisting of three General officers and the Chief Sergeant Major. Two junior officers also provided their invaluable contribution.

### 5.3.1. Qualitative and Quantitative Analysis (HQ KFOR)

After arranging the participants in alphabetical order, I assigned again to each one a pseudonym from S1 to S4 for senior leaders and J1 and J2 for junior leaders. Then after transcribing and cleaning the data set, I conducted a qualitative data analysis by identifying meaningful insights focusing on to differences compared to data collected at SHAPE. Then, I made deductions and conclusions related to the designed hypotheses (*See Annex 2 - Qualitative Data Analysis Based on the Cleaned Data Collected at the Focus Group Discussion at HQ KFOR on the 26 January 2022).* Moreover, I adjusted the questionnaire to the needs of a deployed HQs, consisting of eight dichotomous questions which enabled a quantitative data analysis too, providing a wonderful opportunity to visualize results.

The first question served the identification of overall awareness of terms concerning digitalization. In this framework the terms of digitization, digitalization and digital transformation were discussed. The discussion provided evidence of some knowledge gaps in understanding the mentioned

Author: János Csombók

terms and their relation to leadership approach. The FGD itself helped senior and junior leaders to better understand key terms of digitalization. It led to the right answers and good results of the questionnaire. The overall assessment based on the captured data analysis is that gaps exist in the overall understanding of key terms concerning digitalization and senior leaders seem to have more superficial knowledge about it than junior leaders. Moreover, none of the participants mentioned a possible relation of digitalization to trust and with that to leadership approach. In this respect there is no difference compared to the results gained at SHAPE. In conclusion, the gained empirical data underlines the necessary need to include digitalization and its effects on leadership approach into the education and training or coaching of leaders, especially senior ones. This corroborates Hypothesis D of this dissertation.

The second question were designed and employed to identify how participants assess digitalization in their national armed forces compared to NATO. By assessing the answers of HQ KFOR participants to this question becomes evident that larger NATO members such as USA, or ITA are ahead of NATO if it comes to digitalization. This finding is the same as at SHAPE. However, participants working at NATO´s tactical level in Pristina found that the level of digitalization differs between levels command be it strategic. Operational or tactical. Strategic and operational level HQs are more digitalized than tactical level ones. It means that HQ KFOR does not have much digitalization. This evidence found increases the meaning of the need of working on a better digital mindset of leaders.

The third question whether digitalization matters to NATO provided further evidence on the significance of digitalization in mastering current and future challenges of NATO. As Graph 9 below depicts all the participants of the FGD at HQ KFOR agreed that digitalization matters to NATO.

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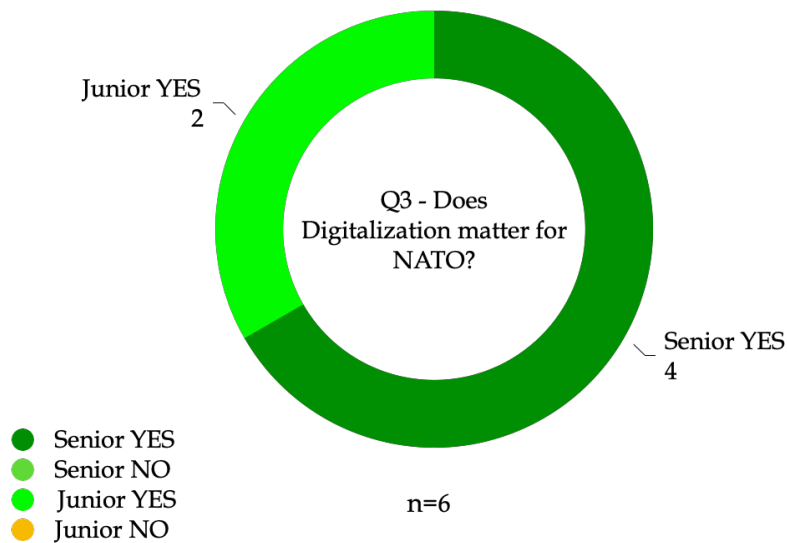
Graph 9 – HQ KFOR FGD– Graphical Visualization of the Answers to Q3

Junior and senior leaders alike believe that digitalization has the potential to close interoperability gaps of nations. This latter finding is new compared to the empirical evidence gained at SHAPE. Participants held it mission essential that NATO needs to find a way to bridge the communications gaps of its member and partner nations because they are on separate systems. This certainly has strong effect on mission success. Leaders at KFOR HQ believe that digitalization is key to solve this problem. In sum, senior and junior level leaders understand the meaning of digitalization and its potential to work smarter not harder in order to achieve a higher level of interoperability.

Answers to the fourth question provide evidence that senior and junior leaders have differing understanding and knowledge of disruptive technology and key terms of digitalization. It certainly is the same as at SHAPE that junior leaders have thorough understanding while senior leaders tend to have more superficial knowledge about key terms of digitalization. Nevertheless, as the quantitative data analysis shows, none of the senior and junior leaders are afraid of losing control to disruptive technology, as visualized on Graph 10 below.

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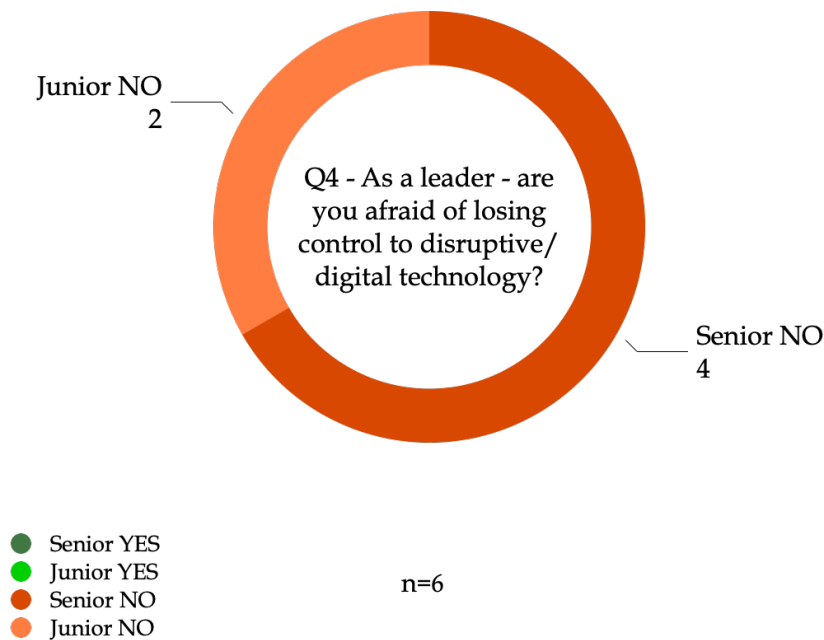
Graph 10 – HQ KFOR FGD– Graphical Visualization of the Answers to Q4

This result differs from the evidence found at SHAPE where 60% of the leaders were afraid of losing control.

As one of the General officers at HQ KFOR asserted "AI is overrated and oversold" and the other one mentioned that "AI cannot replace human intuition and out of the box thinking". It serves as evidence that the command level and the daily experience with digitalization shapes leaders' perception and understanding of it and proves that the level of digitalization strongly differs from command level to command level. This is an important finding which concerns all the four set Hypotheses because it proves that significant differences exist on digital awareness and understanding.

Question number 5 was intended to gather data on whether digitalization influences trust between leaders and followers. The qualitative data analysis of the collected data at HQ KFOR shed light on three highly relevant insights. First, deployed HQ leaders believe that short deployment

Author: János Csombók

periods and the effect of digitalization contributes to the erosion of trust between trustee and trustor. Second, digitalization can affect trust both positively and negatively. Third, digitalization supports transformational leadership or as one of the senior leaders asserted "digitalization and mission command go hand in hand". The quantitative data analysis of the answers to the question whether digitalization influences trust between leaders and followers depicted on Graph 11 shows that all the junior leaders and half of the senior leaders meaning 83% of all, strongly believe that digitalization has a significant effect on trust relations.
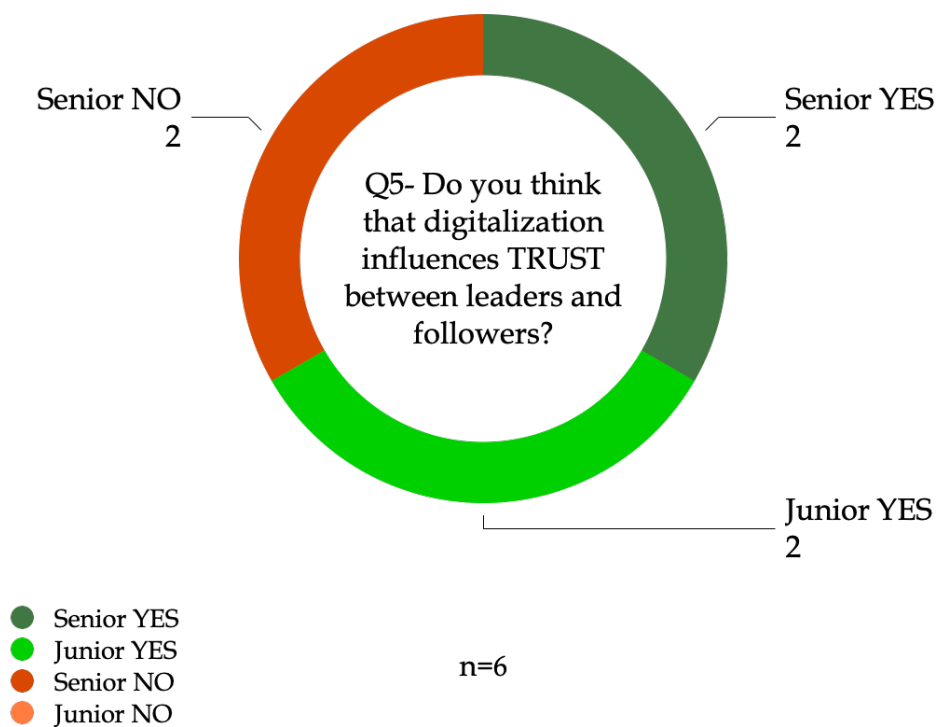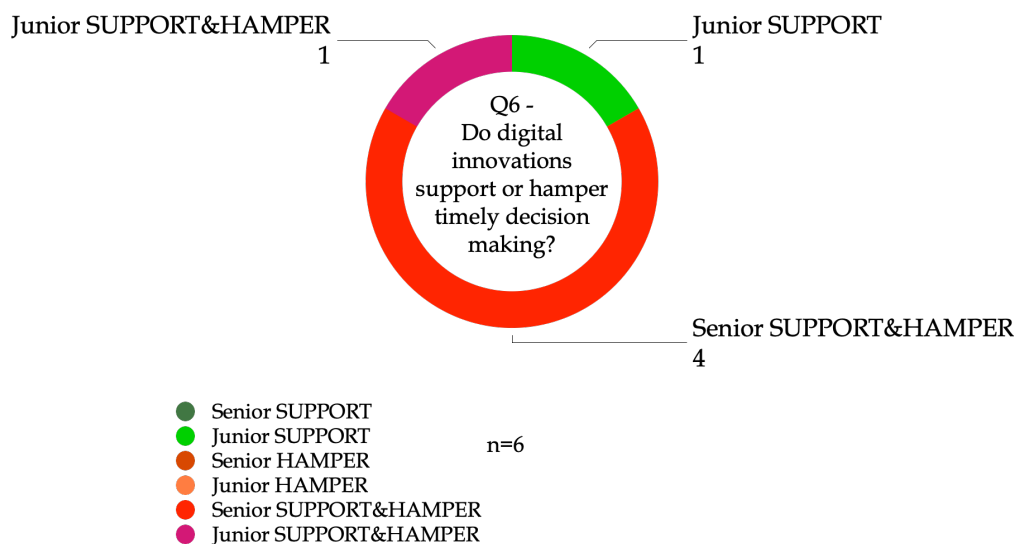

Graph 11 – HQ KFOR FGD– Graphical Visualization of the Answers to Q5

This certainly can be considered a clear majority. The participants of the FGD at HQ KFOR provided empirical evidence to the hypothesis C namely that digital innovations and technology can be effective assets in achieving the desired level of mutual trust between trustee and trustor when understood and rightly employed. They provided this evidence by clearly stating that digitalization can influence trust not only negatively but positively too. In

Author: János Csombók

conclusion, the qualitative and quantitative data analysis alike show that Hypothesis A and C are valid and can strongly be backed up with empirical data.

Moving on to the question whether digital innovations support or hamper timely decision making it is important to note that this question meant to find out practitioners' experience and behavior toward digital innovations. This question is directly connected to hypotheses A and C. The answers reveal further evidence on the statement that digitalization of teamwork and decision-making effects trust relations. The intent with this question was also to identify whether leaders are afraid or have misconceptions if it comes to digitalization. The qualitative data analysis filtered out that digitalization can not only support but also hamper decision making in operations by too early reaction of subordinate commanders because of the flattening hierarchy and the quite same level of accessibility to information at all command levels.

Graph 12 – HQ KFOR FGD– Graphical Visualization of the Answers to Q6

The results of the quantitative data analysis are perfectly in line with the previous finding showing (see above Graph 12) that up to one junior leader all

Author: János Csombók

the participants of the FGD at HQ KFOR stated that digital innovations can both support and hamper decision making. HQ KFOR Chief of Staff answered this question in a very practical way as follows:

> "Depends on the leader. If you can work in the coup d'oeil digitalization makes it faster, if you cannot digitalization overrides your capacity to process information [...] it's the officer involved that decides the value of the tool. (Brigadier General John P. Maier, COS HQ KFOR)

In conclusion, the right digital tools and digital innovations when employed the right way can support timely decision-making and the achievement of mutual trust between leaders and followers. The quote above and the meaningful insight gained at HQ SHAPE FGD proves from the perspective of Hypotheses A and C that leaders actually have fears and misconceptions concerning the employment of digital innovations which is connected to Hypotheses C and D too.

The seventh question whether moral trust exists in NATO HQs the same level as in national framework was designed to gather data and find empirical evidence to prove that moral trust if it exists on a high level has the potential to close gaps in interpersonal trust caused by digitalization combined with short deployment periods aiming to corroborate Hypotheses B. This is however a difficult topic because in NATO framework leaders are biased by staying diplomatic respecting other nations. It means that it was quite difficult to gain sincere answers to this question. However, I think the data gathered can be considered as resilient enough. One of the General officers went on and stated without hesitation that "relationships are too shallow and fleeting to build long-term trust. Constant staff/officer turnover make trust building impossible.". Another one described it as follows: "All nations have different preparation and background, different standards, different national and international interests, and priorities. Therefore, moral trust is higher in national framework.". As the quantitative data analysis depicts 2/3 of the leaders stated that moral trust exists in NATO at a lower level than in national

Author: János Csombók

framework (see below Graph 13). However, half of the senior leaders stated that it exists on the same high level.

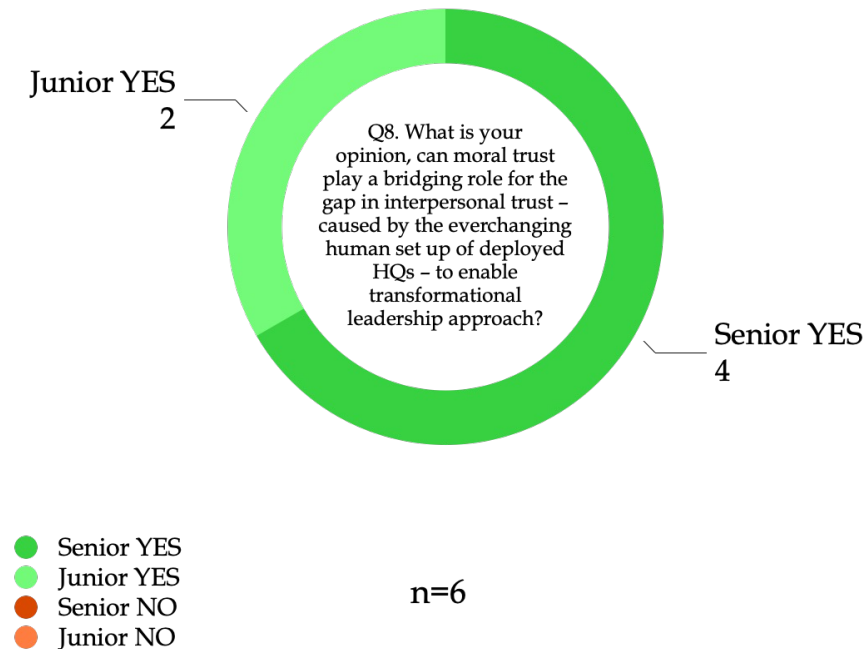Graph 13 – HQ KFOR FGD– Graphical Visualization of the Answers to Q7

In conclusion moral trust can be considered as higher in national framework, it means for NATO that there is space for improvement.

The next question meant to gain data and empirical evidence whether moral trust has the potential to bridge gaps in interpersonal trust aiming to prove Hypothesis B. This has been explained with sound words by one of the senior leaders as follows:

> "Moral trust has a paramount importance, as the fluctuation does not necessarily allow enough time to have interpersonal trust developed, especially with an international contingent. Moral trust that my subordinate can do his/her job properly until proven otherwise is a standard go-to, and it has been successful in my view for the most part." (Brigadier General John P. Maier, COS HQ KFOR)

It can be considered as the overall opinion of the FGD participants because they were in perfect agreement on it. All the participants believe as depicted below on Graph 14 that moral trust can and must play a bridging role for the gaps in interpersonal trust. It is utmost important in case of deployed

HQs because the fluctuation does not allow enough time to build interpersonal trust.

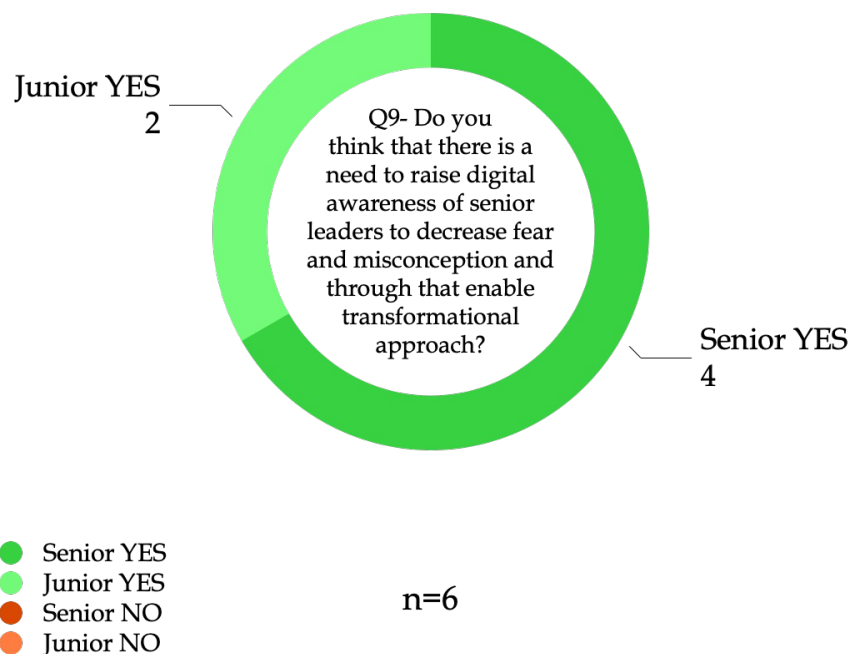Graph 14 – HQ KFOR FGD– Graphical Visualization of the Answers to Q8

In conclusion, it seems proven that it is important for NATO to find ways and means to improve moral trust because it has an enabling function in keeping leadership approach transformational especially if it comes to the effectiveness of deployed HQs.

The last two questions were here again designed to gain data and practical evidence about the necessity of improving digital awareness of senior leaders and to include digitalization and its effects into leadership training. The qualitative data analysis found relevant and meaningful insights. The first is that while leaders believe that there is a need to raise digital awareness of all leaders, they believe that senior leaders need it more. One of the leaders expressed it as follows: "*Senior leaders often do not see the point in digital innovations and can easily pass over capabilities that may be used to make progress.*". Reading this sentence, one would certainly believe that the quote came from a

Author: János Csombók

junior leader, but it is not the case. Another senior leader expressed the need again with the next sentences:
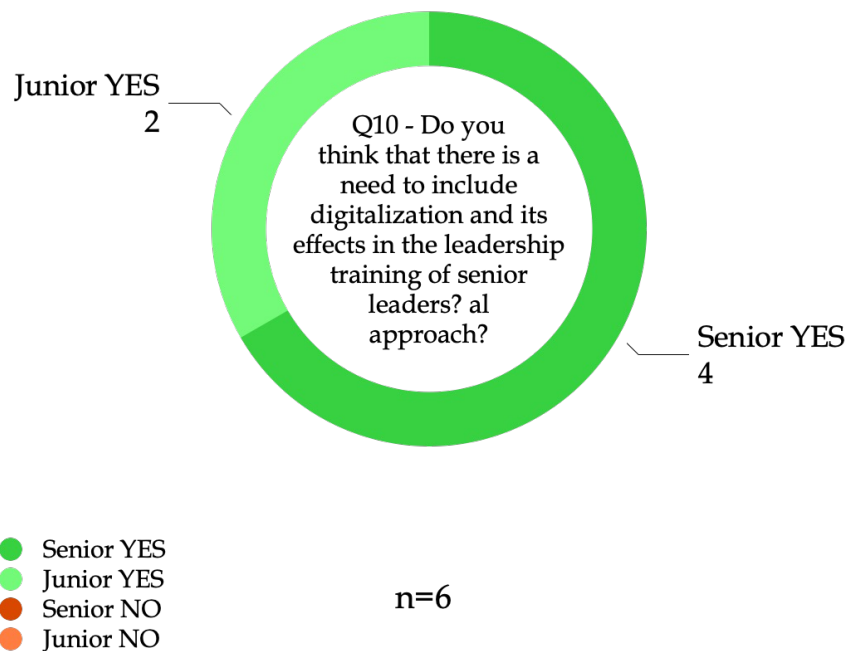
> „Yes, it is crucial to raise digital awareness within all levels of leadership, and specifically among senior Officers. Leaders should become familiar with new technologies and innovative tools, through which many processes can be radically improved. Doing so could foster innovation within the Armed Forces and allow the whole organization to move toward a more efficient approach." (Brigadier General Luca PIPERNI, DCOM KFOR)

Senior and junior leaders alike expressed the urgent need to include digitalization and its effects into leadership training. Some of them even stated that it is desperately needed. As depicted below on Graphs 15-16, the quantitative data analysis shows that senior and junior leaders fully agree on the need to raise digital awareness especially of senior leaders and include digitalization and its effects into leadership training from the beginning. Moreover, it seems also backed up by empirical evidence that current senior leaders have a valid catch-up demand.

Graph 15 – HQ KFOR FGD– Graphical Visualization of the Answers to Q9

Author: János Csombók

Junior YES
2

Q10 - Do you think that there is a need to include digitalization and its effects in the leadership training of senior leaders? al approach?

Senior YES
4

- ● Senior YES
- ● Junior YES
- ● Senior NO
- ● Junior NO

n=6

Graph 16 – HQ KFOR FGD– Graphical Visualization of the Answers to Q10

In sum, the FGD at HQ KFOR brought to the surface slightly differing meaningful insights than the one at SHAPE. That proves the assumption that leaders at a deployed HQs have differing perceptions compared to the ones deployed for 3-4 years at one of NATO´s strategic military command such as SHAPE. The findings at HQ KFOR provide quite sufficient empirical evidence to the corroboration of all the set hypotheses. The next chapter provides a short comparison of the empirical evidence focusing on meaningful differences found at SHAPE and HQ KFOR.

5.4. Comparative Analysis of meaningful insights gained through SHAPE and HQ KFOR Focus Group Discussions

Before moving on to compare meaningful insight gathered at SHAPE and HQ KFOR it is constructive to accumulate the data sample, the number of participants. Altogether 11 senior and 5 junior leaders took part in the focus

Author: János Csombók

group discussions and provided their practical experience. The combined group of senior leaders were composed by 5 General Officers and 6 Colonels. Junior leaders' ranks were ranging from NCO rank to Lieutenant Colonel. Altogether the participants represented 5 organizations coming from 5 nations. Considering all this, the data gathered can be considered as resilient enough to provide empirical evidence to back up the set Hypotheses. Readers need to keep in mind the differences between NATO´s standing and deployed HQs characterized in previous chapters.

After setting the scene, I will compare the meaningful insights gained at SHAPE and HQ KFOR along the four Hypotheses. Hypothesis A of this dissertation assumes that digitalization processes combined with short deployment periods compromise interpersonal trust in NATO Headquarters and with that Transformational Leadership approaches. The FGDs conducted at SHAPE and HQ KFOR provided meaningful insight which can directly lead to the conclusion, on the one hand, that digitalization has a strong effect on interpersonal trust. On the other hand, this effect can not only be negative but positive too. This latter insight was gathered at HQ KFOR where deployed leaders clearly expressed that short deployment periods and the effect of digitalization contributes to the erosion of trust between trustee and trustor. They also expressed that digitalization and transformational leadership can go hand in hand when digital innovations are employed the right way and they even have the potential to positively influence trust between leaders and followers. With that leaders provided empirical evidence to support Hypothesis C which assumes that digital innovations and technology can be effective assets in achieving the desired level of mutual trust between trustee and trustors when understood and rightly used. The answers to question number 6 whether digital innovations support or hamper decision making

Author: János Csombók

show that most leaders believe that it can either support or both support and hamper (see below cumulated Graph 17).
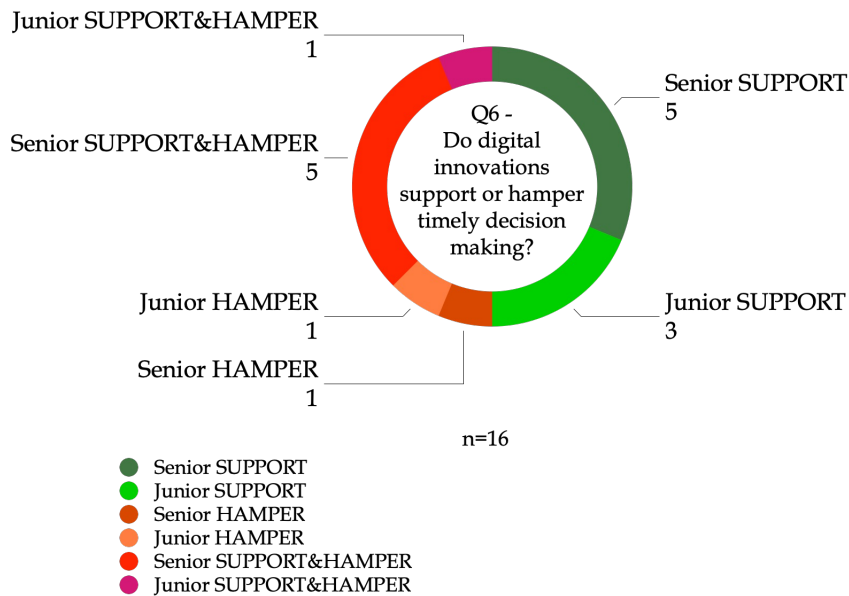
Graph 17 – Combined Data SHAPE & HQ KFOR – Graphical Visualization of the Answers to Q6
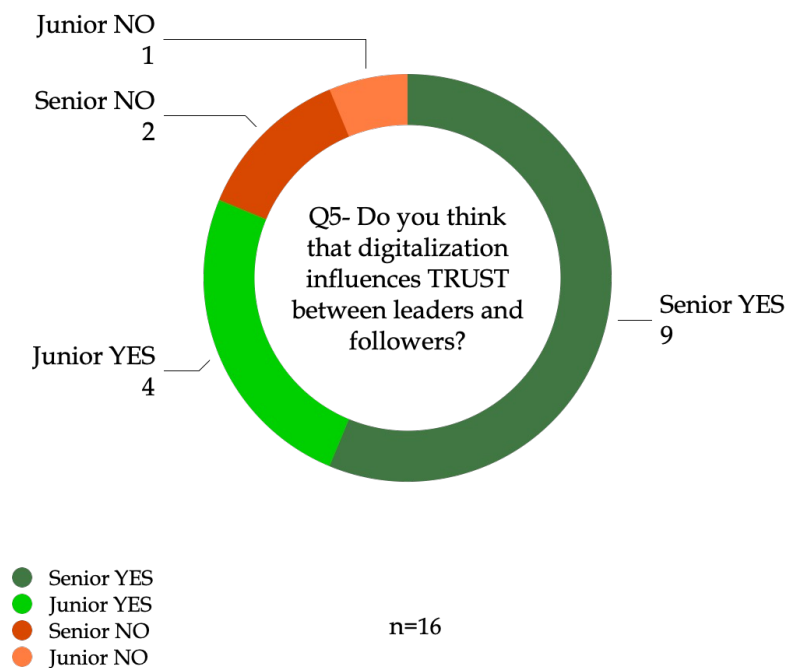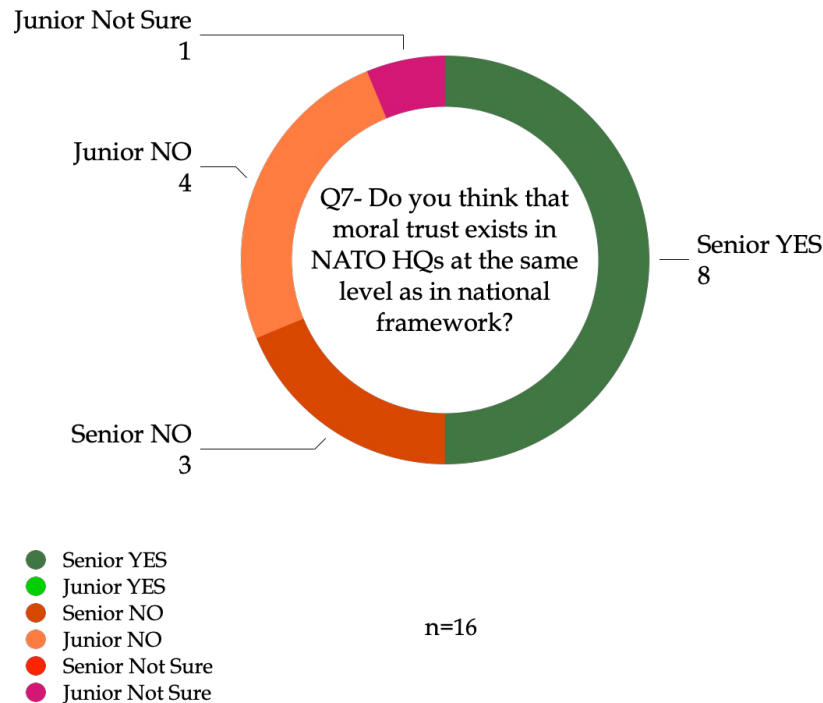

Graph 18 – Combined Data SHAPE & HQ KFOR – Graphical Visualization of the Answers to Q5

Author: János Csombók

At both FGDs but especially leaders at SHAPE, expressed that digitalization fosters distance and it does not promote trust. The accumulated quantitative data analysis visualized on Graph 18 above shows that 13 out of 16 leaders answered that digitalization has strong effects on trust relations between leaders and followers.

The provided answers clearly show that this influence can be positive and negative too. During the focus group discussions, the clear majority of leaders agreed that digitalization of teamwork and decision making has a negative effect on trust relations between leaders and followers because it provides to fewer human interaction. In sum, Hypotheses A and C can strongly be supported with empirical evidence.

Hypotheses B assumes that the sacred moral trust in military has the potential to bridge the gaps in interpersonal trust caused by digitalization. The questions number 7 and 8 were designed to find evidence to prove or disprove this assumption. Here, the data gained at SHAPE and HQ KFOR is strongly differing. While at SHAPE the simple majority of leaders agree that moral trust exist in NATO at the same level as in national framework, at HQ KFOR leaders' opinion is that it is higher in national framework than in international one. At SHAPE, however, participant also expressed that moral trust in NATO HQs strongly depends on the moral standard of the organization which certainly can be violated. At SHAPE senior leaders especially seem to be biased by staying diplomatic toward other nations. At HQ KFOR leaders expressed their opinion quite sincerely stating clearly that in NATO´s deployed HQs "relationships are too shallow and fleeting to build long-term trust.". This great difference originates certainly from the very diverging fluctuation of personnel of a standing and a deployed HQ. As Graph 19 below depicts the cumulated result is that 50% of all participants agree that moral trust exist at the same level at NATO HQs as in national framework. An important fact is that exclusively senior leaders answered with a yes to these

Author: János Csombók

questions. And the other half of senior leaders and all the junior leaders gave a no. Meaning that moral trust is higher in national framework.

Graph 19 – Combined Data SHAPE & HQ KFOR – Graphical Visualization of the Answers to Q7

However, despite differences on the question whether moral trust exists at the same level at NATO and international frameworks, all the participants agreed that the sacred moral trust can and must play a bridging role in closing gaps in interpersonal trust caused by digitalization and the everchanging human set up of multinational HQs. With that Hypothesis B can strongly be supported by empirical evidence.

As to Hypothesis D whether there is an urgent need in NATO and elsewhere to increase especially senior leaders´ awareness of the effects of digitalization on trust relations to maintain leadership transformational and enable them to drive the change, leaders agreed at SHAPE and HQ KFOR alike that there is a strong need to include digitalization and its effect into leadership training. Participants also expressed that senior leaders are most in need of

Author: János Csombók

raising digital awareness, but it is important that in national and also in NATO frameworks digitalization and its effect on trust relations and leadership need to be included at all levels of leadership training and education. In sum, Hypothesis D is strongly supported by empirical evidence.

In conclusion, the data gathered, and the meaningful insights gained at SHAPE and HQ KFOR provides sufficient empirical evidence to support all the four set hypotheses of this dissertation. The FGDs shed light on some new factors influencing the set hypotheses. Firstly, while it is proven that digitalization and short deployment periods combined have the potential to compromise interpersonal trust, digitalization and transformational leadership goes hand in hand. However, only if leaders especially senior ones are aware of its effects on trust and with that on leadership approach. Secondly, the sacred moral trust not only can but it must play a bridging role for the gaps in interpersonal trust enabling especially deployed HQs to operate effectively despite the high fluctuation of leaders and followers. Thirdly, it is important for senior leaders to understand at least the capabilities of digital innovations and their effects on leadership approach. Fourthly, leaders junior and seniors alike have very little understanding of digitalization effects on trust relations and leadership approach. Fifthly, there is an urgent need to integrate the effects of digitalization on trust relations, into leadership coaching, education, and training best at all levels in national and NATO framework alike.

IV. DISCUSSIONS, INSIGHTS AND RECOMMENDATIONS

6. Changing TRUST Relations' Effects on Transformational Leadership

This dissertation discusses digitalization effects on interpersonal trust relations and the eroding interpersonal trust effects on leadership approach from the perspective of senior leaders. The purpose of this dissertation is to raise awareness of senior leaders and to make proposals to decisionmakers to adjust leadership training and focus coaching on to the effects of digitalization on leadership approach. This research found theoretical and empirical evidence to corroborate the hypothesis, whether digitalization processes combined with short deployment periods compromise interpersonal trust and transformational leadership approach. The thorough analysis of the theoretical background resulted in the following findings. First, in military context trust is sacred because it enables the military force function effectively especially in combat situations. Second, the leadership mindset in NATO is transformational and the German origin *Auftragstaktik* or mission command is indoctrinated. Third, the theoretical evidence found underlines that mission command is in perfect overlap with transformational leadership and the order type command equals with transactional leadership. This latter is based on calculative trust or distrust and the first one is based on mutual trust. Fourth, this research found theoretical and empirical evidence that digitalization of teamwork and decision-making processes combined with the ever-changing human make up of multinational HQs directly lead to the erosion of interpersonal trust. Fifth, a lower level or non-existent interpersonal trust leads straight to the less effective transactional leadership approaches.

Author: János Csombók

Meaningful insights are on the one hand that trust research up to know examined trust relations based on face-to-face in person interactions. So, there seem to be quite a research gap. And on the other hand, digitalization can cause significant erosion of interpersonal trust because of the dramatically decreasing number of in person human interactions. We simply talk less to each other in person, we send short messages organize video tele conferences on one of the available platforms. We even do not ask questions from our bosses or peers; we simply google it. This dramatic decrease in interactions unavoidably leads to the erosion of trust and this greatly endangers transformational leadership approach and moves it down to the less effective transactional leadership. Here it is appropriate to quote again Brené Brown (2018) stating: "no trust no connection" and "no connection no leadership". This leadership approach is based on trust, empowerment, and the willingness to seize the initiative. Moreover, as Avolio, Walumbwa, and Weber (2009) found leadership in the Digital Age is not an extension of traditional leadership, it is a fundamentally new way, despite of the fact that the leadership objectives remain the same. The new medium which has been arisen can support to reach goals such as vision, inspiration, or trust. It provides both challenges and opportunities. Since TL is proven to be the most effective leadership approach to meet challenges of the complexity, ambiguity, and uncertainty of war it is fundamental in military to enable it by maintaining mutual trust in the Digital Age. Thus, the conclusion is that it is utmost important that leaders, especially senior ones can gain access to appropriate training and education which can enable them to comprehend the growing sophistication of artificial intelligence enabled systems and to understand the effects of digitalization on leadership approach. Unfortunately, this training opportunities currently either do not exist or if exist then only in early maturity for instance in NATO´s larger member states such as Germany or USA. As the theoretical and empirical evidence of this dissertation prove it, digitalization

Author: János Csombók

and TL can go hand in hand but only when digital innovation capabilities and their possible effect on leadership are comprehended by leaders.

7. Chances to Keep Leadership Transformational

7.1. Moral Trust to Meet Challenges of Digitalization

Hypothesis C of this dissertation assumes that the sacred moral trust within the military has the potential to bridge the gaps in interpersonal trust caused by digitalization turned out to be corroborated. The theoretical evidence found and the experience of military leaders of NATO standing, and deployed HQs are corresponding with each other proving the hypothesis. Why is moral trust so important in the Digital Age? The answer is in the theory of organizational trust. It consists of both interpersonal trust and impersonal trust or trust in the organization. Theoretical evidence proves that trust toward or in an organization depends, apart of the organizational culture or decision-making procedures, very strongly on followers´ trust in the behavior of their senior leaders. This evidence leads to the conclusion that interpersonal trust enables moral trust or organizational trust. Considering this, one can conclude that personal and impersonal trust have a strong interdependence. Moreover, this finding leads to the conclusion that senior leaders play a key role in maintaining moral trust in any organizations. Trust in senior leadership can close the gaps in micro level interpersonal trust. It means that spending resources on coaching, training, and educating senior leadership is money well spent.

Another important aspect in concern with moral trust is the found empirical evidence on whether moral trust in national framework exist on a higher level than in multinational framework. Interestingly, moving down the

Author: János Csombók

chain of command at NATO HQs leaders were not afraid to express that moral trust in NATO HQs exists at a lower level than in national framework. The combined result of the FGDs at SHAPE and HQ KFOR shows that all the questioned junior leaders and half of the senior leaders agreed on this. At HQ KFOR where the high fluctuation of personal makes it difficult to develop sufficient interpersonal trust, most leaders believe that moral trust is higher in national framework. The conclusions which can be drawn are as follows: First, moral trust has strong potential to close gaps in micro level trust caused by digitalization or high fluctuation. Second, moral trust is strongly based apart of common norms and values on interpersonal trust between senior leaders and followers. Third, based on this, longer deployment periods can contribute to higher moral trust in multinational framework especially if it comes to senior leaders' deployment periods. Fourth, all the previous considered, it is important that NATO improves leadership training and coaching providing the chance to its senior leaders to cope with the effects of digitalization on trust relations, in order to enable them to increase moral trust, close gaps in interpersonal trust and keep leadership transformational.

7.2. Mutual Trust as a Mechanism to Deal with Complexity

As Luhman (1986) found the complexity of modern societies need more trust because it is an effective asset to reduce complexity. It makes trust a high value commodity of the Digital Age. I think the world became even faster paced as Luhman imagined it. Moreover, considering the futurists views on the pace of development in the 21st Century even in 2022, it is impossible to imagine that we will have in this Century 20.000 years of progress as Ray Kurzweil predicts it. Trust fills gaps in information and knowledge and holds teams and organizations together. So, it is a must have in the Digital Age because as Brown (2018) found everything can fall apart without trust and

Author: János Csombók

with trust basically everything is possible. It leads to the conclusion that leaders' trustworthy behavior is key to success in civilian and military organizations alike. Another aspect is reciprocal trust or mutual trust. Theoretical evidence show that trust is unidirectional while reciprocal trust is bidirectional. In reciprocal trust both trustee and trustor are vulnerable. Trust certainly promotes reciprocal or mutual trust meaning "trust-begets-trust". Reaching the level of mutual trust is a process and it is certainly hampered by trust violating acts.

The above line of argument defines the significance of mutual trust in the Digital Age. There is another aspect which will challenge future leaders namely the trust between human and machine because humans can forgive breach of trust of other persons but not artificial intelligence or robots. However, this latter is not in the scope of this dissertation but provides a valid area for future research. Moving back to trustworthy behavior between humans it is important to note that it can be learned and trained. As contemporary researchers such as Brown (2018) or Feltman (2021) point out certain behaviors inspire trust. This behaviors as the primary source analysis of military doctrines in NATO, the German Armed Forces and the U.S. Armed Forces found are indoctrinated so one could identify that Brown´s BRAVING inventory can be considered as the norm in military. However, it is not the case in all member states of NATO, and it is certainly not indoctrinated in NATO´s partner nations' armed forces. Thus, a straight conclusion is again to invest more in leadership training and education in NATO framework. Without leaders' ability to behave trustworthy and achieve mutual trust transformational leadership is not enabled. In practical terms it leads to losing an essential tool of complexity reduction.

Author: János Csombók

8. Digital Awareness of Senior Leaders

8.1. The Importance of Senior Leaders' Digital Awareness

It is probably appropriate to start this section with the quote I gained at the FGD at HQ KFOR. "*Senior leaders often do not see the point in digital innovations and can easily pass over capabilities that may be used to make progress.*". It is a huge concern because senior leaders are expected to drive the change even in the Digital Age. However, without the right level of digital awareness and the knowledge of its effect on leadership approach it is barely possible. Thus, senior leaders need to be aware of the challenges and the opportunities of digitalization. Disruptive digital innovations, social media and digitalization strongly effect the way we think, act, gain and process information. Nowadays, however, as the MCDC research found, senior leaders are hampered by self-deceptive inconsistencies and contradictions this makes it barely possible to change leadership practices of the past and present.

Currently, if we look at senior and junior leaders, we can identify that senior leaders grew up without internet while junior leaders were born into the Digital Age. It certainly leads to a serious generational difference as to the way of doing business. Considering the huge pace of development this difference might grow bigger very fast. Moreover, it seems to be not only a current challenge because considering here again the exponentially growing pace of the development of computing power and digital innovations, it is also safe to state that senior leaders will always be behind the coming generations as far as digital awareness is concerned. This challenge, however, is certainly the biggest for the current senior leaders because with an analogue socialization they need to keep up somehow with the generation who was

Author: János Csombók

born into the age of internet and thousands of digital innovations and disruptive technologies.

In sum, the theoretical and empirical evidence found clearly underpin the need to support senior leadership in mastering the challenges of the Digital Age by adjusting leadership training and education and providing appropriate coaching. The six characteristics (interconnectedness, abundance of information and diminishing time lag, complexity and transparency, hierarchy removal and diminishing personal barrier, decision enabler and integrity enhancer, humanizing effect), identified by Khan (2016) can well serve as a guideline for adjusting leadership training. The example of reversed mentoring in business where senior leaders learn to master challenges of digitalization from junior leaders can work in the military too. It can contribute not only to close the widening gap between senior and junior leaders but also achieving mutual trust and enabling transformational leadership approach.
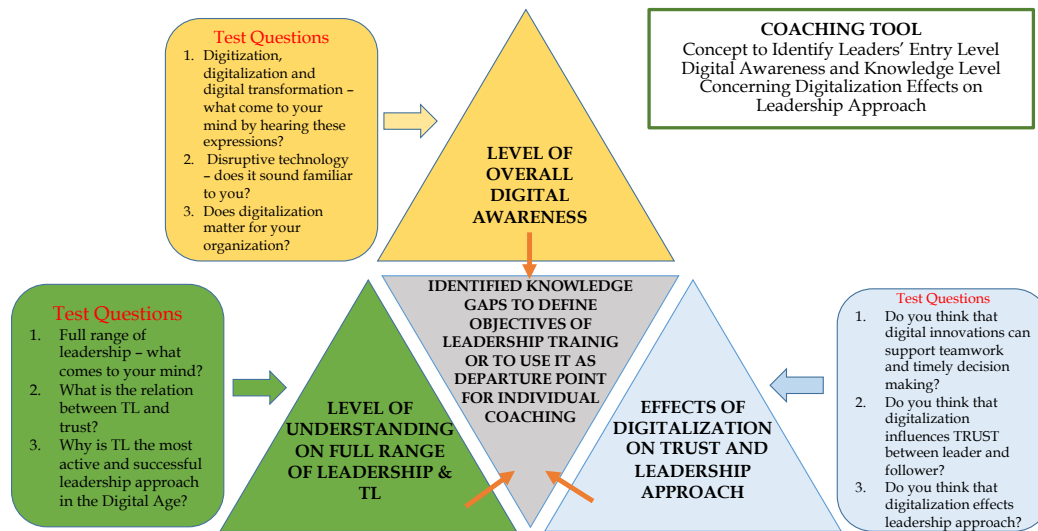
8.2. Concept to Identify Leaders' Entry Level Digital Awareness and Knowledge Level of Digitalization Effects on Leadership Approach

Theoretical and empirical evidence alike prove the strong need to include digitalization and its effects into leadership education and training. Larger NATO member nations such as USA or Germany have already started to integrate digitalization into leadership training. They rightly identified the need to raise leaders' digital awareness. The Control Board of Digital Transformation in the German Ministry of Defense for instance, declared that personnel should be considered as the main effort in it. They hold it imperative to develop a common digital mindset and to achieve this objective, they intend to enhance digital training. They identified that leaders need encouragement, support, and training to meet the challenges of Digital Transformation. They

Author: János Csombók

implemented master classes of digital leadership at the Bundeswehr Education Center in Berlin. The declared aim of these education is to enable senior leadership to understand and proactively drive digital transformation. Up to date they only conducted pilot training regarding Big Data, AI and Agile Leadership, Digital Leadership and social media, Cyber Security and New Technologies, and finally Smart Government: Digital Communication and Collaboration. This is the most promising I could find by researching primary sources of NATO and NATO member states. Unfortunately, even the German Digital Transformation is at its early phase considering the human aspect of digitalization. The first problem with the German system is that the mentioned classes are not mandatory. It means that most probably only the leaders who already have a strong digital mindset will attend, because they are interested in it. And these classes are anyway only pilot projects. Second problem is that there is no class implemented on digitalization effects on leadership approach. My proposal is to implement a course on How to Keep Transformational Leadership Approach in the Digital Age: Digitalization Effects on Trust Relations. Moreover, it certainly needs to be mandatory class and should be implemented at all levels of leadership training. As the theoretical and empirical evidence of this research suggest, leadership training on digitalization and its effect should individually be tailored because leaders' digital maturity is very diverse it depends on real life experience in private and professional. Thus, it is important to have a measuring tool to identify the departure point of the respective leadership training. My proposal would be to classify them for instance, as beginner, intermediate and advanced.

Based on the findings of this dissertation the Author designed a simple tool (see figure 4 and annex 3) in form of a concept to identify leaders' overall digital awareness, their level of understanding of the role of trust in transformational leadership and their level of knowledge on digitalization effects on leadership approach. This measuring concept can be employed to gain sufficient data to make decisions about the necessary leadership training

Author: János Csombók

and tailor it to the needs of the individual leader. Moreover, this check list can support coaching teams of individual leaders in identifying the right departure point of the respected leader´s coaching. This concept can also be employed as lines of activity in the design of the concept of a seminar in leadership training and education.

Figure 4 – Concept to Identify Leaders´ Entry Level Digital Awareness and Knowledge Concerning Digitalization Effects on Leadership Approach

9. Conclusion

In the Digital Age the world is experiencing an immense growth of advanced digital technologies such as automation, robotics, or artificial intelligence. Thousands of new applications and social media tools are put on the market every day changing how people gain and process information, how they communicate or learn but more importantly how people think and solve problems. This provides the opportunity for everyone to work smarter not harder to achieve great results. As the futurist Ray Kurzweil (2006) found the world will experience during the 21st Century a progress of some 20.000 years. It leads straight to the conclusion that the pace of innovation is growing and

Author: János Csombók

will grow exponentially. However, senior leaders who were not born into the world of internet and social media and the jungle of apps will certainly find it difficult to keep up with the exponentially growing pace of innovation. Moreover, considering the almost unimaginable growth of computing power and digital innovations it is safe to assume that today's junior leaders will face in twenty years quite the same challenge as the current senior leaders. Thus, it is important that leaders especially senior ones who are normally expected to drive digital transformation embrace this technological opportunity and understand its effects on transformational leadership which is proven to be the most active and most effective leadership style in the VUCA environment. Considering all the described characteristics of the Digital Age, this dissertation aimed to fill a research gap, draw attention to and raise leaders' awareness about how digitalization of teamwork and decision making is changing interpersonal trust between leader and follower and how all this influence leadership approach. Moreover, whether moral trust can play a bridging role in filling gaps of interpersonal trust. As to the limitations of this research, it does not analyze all the levels of trust, it limits itself mainly to interpersonal trust and to organizational trust. It focuses mainly on how digitalization effects trust between trustee and trustor in military environment at NATO standing and deployed Headquarters.

In multinational military organizations, transformational leaders are not only challenged by the effects of digitalization but also by the differing leadership cultures and the everchanging human make up of multinational HQs be it standing such as NATO´s SHAPE or deployed like HQ KFOR. This research has been designed to find theoretical and empirical evidence to corroborate the following four hypotheses:

> a) Digitalization processes combined with short deployment periods compromise interpersonal trust in NATO Headquarters and with that Transformational Leadership approaches.

Author: János Csombók

b) The sacred moral trust in military has the potential to bridge the gaps in interpersonal trust caused by digitalization.

c) Digital innovations and technology can be effective assets in achieving the desired level of mutual trust between trustee and trustor when understood and rightly employed.

d) There is an urgent need in NATO and elsewhere to increase especially senior leaders' awareness of the effects of digitalization on trust relations, in order to maintain leadership transformational and enable them to drive the change.

To find theoretical evidence to back up the set hypotheses the author researched the relevant features of digitalization, the meaning of trust for transformational leadership, and digitalization´s effects on trust relations. Moreover, to find further theoretical evidence this research analyzed primary and secondary sources on indoctrinated leadership of NATO and its larger member states such as USA and Germany. This latter aim was to find out whether NATO and its nations have developed any strategies, doctrines, or implemented any training concepts to enable military leaders to tackle Digital Age challenges. To back up the theoretical findings the author collected empirical data in form of Focus Group Discussions on the one hand at SHAPE in Mons Belgium and on the other hand at one of NATO´s deployed HQs at KFOR in Pristina, Kosovo. These discussions involved 16 current leaders amongst them 5 General Officers 6 Colonels and 5 junior leaders making the dataset sufficiently resilient.

As a departure point for the reasoning, this research found theoretical evidence that "leadership is about to achieve that employees stay loyal, they are ready to take responsibility, willing to improve team spirit, act self-disciplined, and they answer change by willingness to learn and keep engaged. "(Professor Waldemar Pelz). This can only be achieved by employing TL with its 4Is. The German Armed Forces Leadership philosophy known as *Auftragstaktik,* or mission command is in full overlap with TL and

Author: János Csombók

its 4Is. This leadership approach is based on mutual trust between trustee and trustor. TL under the name of mission command is indoctrinated in NATO and its larger member nations such as Germany and USA. Transactional leadership, while it is not in full focus of this research, it is important to note that in military environment it is equal with the so-called order type command which is more based on disciplinary threats to achieve objectives and proven to be less effective (Csombók et al. 2020, p.18).

Continuing to capture further findings of this dissertation it is essential to express that as far as the popular terms of digitization, digitalization, and digital transformations are concerned it reigns some confusion in the related literature and in the minds of military leaders. For common understanding of these terms one can say that digital transformation needs digitalization on the way to digital capabilities and it requires digitization of information. The confusion has certainly different reasons, one of them rooted in languages. In German or Hungarian languages, for instance, the word digitization does not exist at all instead they use digitalization. Second is certainly lack of leadership training since NATO and its larger member states are just about to introduce non-mandatory training on digitalization. As the theoretical and empirical research found digitalization and its effects on leadership approach is an important training objective that should be included into leadership training of NATO. As to its member states the research found that larger member nations such as USA and Germany started to include digitalization and digital awareness into leadership training, but both failed to introduce one designed to increase leaders´ awareness of digitalization effects on trust and leadership approach.

Why is trust so important? Because without trust there is no connection and without connection there is no transformational leadership. Furthermore, as this research found, trust is not only the enabler of TL, but it serves as an effective tool in complexity reduction because trust fills gaps in information and knowledge and holds teams and even organizations together. This makes

Author: János Csombók

trust one of the most important commodities in the Digital Age. Thus, it is important to find out whether digitalization effects trust relations as the first set hypothesis proposes. Before describing the findings related to it, this research found theoretical evidence on the significance of the "sacred trust" in military. It is sacred because it bonds together and supports NATO nations, combat units and multinational staffs to overcome challenges in war and crisis scenarios where lives are at danger. Since trust is sacred and enables at deployments an improved day zero readiness, it is mission essential to maintain it in high performance teams like military staffs and units. So, the question how can trust be maintained in the Digital Age is perfectly valid because current research or concepts on interpersonal trust are based on traditional human face-to-face life and work situations. In sum, this dissertation found that digitalization and short deployment periods combined, compromise interpersonal trust especially in deployed HQs where the span of deployment time is only between 4 months to one year. Conclusively, it is important to raise awareness of leaders about this phenomenon and include this topic into leadership training in NATO and in national framework alike.

Military leadership while in many facets like civilian one, is a species of its own. To close gaps in interpersonal trust and achieve day one readiness organizational or moral trust is an essential tool, as the second hypothesis of this dissertation implies. Moral trust within the military is based on the interpersonal trust of its members, trust of members in the Armed Forces (organization) and most importantly on their trust toward their senior leaders and the bureaucracy which operationalizes senior leaders' decisions (Allen&Braun 2013, p.75). Conclusively, there is a positive spill-over effect when employees trust in their senior leaders, they ultimately trust in the organization too. It certainly means that senior leaders play a vital role on maintaining not only interpersonal trust but moral trust too. Considering all these findings, it is simple to conclude, on the one hand, that senior leaders

Author: János Csombók

play an essential role in maintaining organizational trust and, on the other hand, that interpersonal trust effectively contributes to organizational trust. Hypothesis B of this research is certainly corroborated meaning that moral trust which is based on common norms and values has the potential to bridge temporary gaps in interpersonal trust between leader and follower. However, as the quantitative analysis of data gained at SHAPE and HQ KFOR shows moral trust exist in national framework on a higher level than in NATO or multinational framework. Thus, it is important for NATO to find ways and means to increase moral trust in multinational framework for instance by standardizing leadership approach, extending rotation periods, providing access for senior leaders to appropriate training enabling them to tackle Digital Age challenges. To find out appropriate ways and means could certainly be a subject for further research.

The next finding concerns hypothesis C which assumes that digital innovations can effectively support the achievement of the desired level of mutual trust when understood and rightly employed. Theoretical findings suggest that digitalization of teamwork and decision making can not only erode trust between trustee and trustor, but it can also positively influence it. Future HQs leaders´ environment will be characterized by distributed/data-driven information and dispersed physical location. This means that only the employment of digital innovations such as AI and other disruptive technologies can enable the achievement of objectives. Thus, it is important that senior leaders become aware of this phenomenon and learn new ways how to interact across levels of command and maintain trust. The qualitative data gained at SHAPE and HQ KFOR proves that trust can not only negatively but also positively influenced by digitalization. Senior leaders will be forced to find ways to employ digital innovations to maintain a sufficient level of trust to enable a transformational approach. The answer to how and which innovations can possibly support it provide a further research area.

Author: János Csombók

In sum, current senior leaders are in an extremely unique and paradoxical situation in the Digital Age. On the one hand they are expected to drive digital transformation but on the other hand they have a traditional mindset and leadership toolbox. Moreover, humans are hampered by many aspects such as cultural inertia, contradictions and self-deceptive inconsistencies which puts at risk the re-thinking of leadership practices. These all are combined with the challenge of the unimaginable pace of digital innovation process which will take, not only current, but also coming senior leader generations to their limits in comprehending it. All in all, the theoretical and empirical evidence found clearly shows that there is an urgent need in NATO and elsewhere to enhance especially senior leaders' digital maturity and mindset and increase awareness of digitalization's effects on trust relations and followingly on leadership approach. Since trust in senior leaders is also an essential part of organizational or moral trust, it makes it key to success in any organization. Furthermore, this research found theoretical and empirical evidence that TL can be learned, and trustworthy behavior is a leadership skill that can be increased by appropriate training. It leads to the conclusion that training and education of leaders is key not only for replacing the traditional leadership toolbox and develop a digital one than to better understand trust and the meaning of it in connection to organizational trust and leadership approach in the Digital Age context. To keep leadership approaches transformational, senior leaders need to dare to show vulnerability by admitting their lack of digital competency. They need to stop acting from the position of strength because together with junior leaders by employing reverse mentoring, mentor and mentee can master the lack of digital competency and even increase mutual trust. Out of all these, the conclusion is that even in the Digital Age we need to stop focusing exclusively on technology and shift some focus back to the human soft skills and enable current and future senior leaders to meet the challenges by rethinking and

Author: János Csombók

redesigning the entire spectrum of leadership training in NATO and national framework alike.

While the answers how to rethink and reorganize leadership training to provide leaders with an up-to-date toolbox for the Digital Age could be part of future research, the author of this dissertation felt appropriate, based on the findings of this research, to design a simple coaching tool which can be employed to assess the state of leaders' digital awareness and their knowledge about the interconnection of trust, digitalization, and leadership approach. This tool can also serve the identification of possible objectives of tailored leadership training or individual leaders´ coaching objectives.

This dissertation seems significant in five areas. Firstly, it contributes to the trust-research in military context in the Digital Age. Secondly, it provides a significant contribution to the research on the effects of digitalization on trust relations at micro (interpersonal) and macro (organizational or moral) level. Thirdly, it narrows the research gap on the interrelation triangle of digitalization, trust, and leadership approach. Fourthly, it draws attention to the paradoxical situation of senior leaders tackling the challenges of the Digital Age. Finally, it contributes to the development of leadership training and education material aiming to raise digital awareness from the leadership perspective.

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Author: János Csombók

11. Annexes

11.1.   Annex 1 - Qualitative Data Analysis (SHAPE)

Qualitative Data Analysis

Based on the cleaned data collected at the Focus Group Discussions at SHAPE on the
26th November 2021

	Question 1	**Pseudonym**	**Answers/Captured Data**	**Meaningful Insight**	**Relation to Hypotheses**	**Assessment/Conclusion**
1	**Digitalization and digitization – what come to your mind by hearing these expressions?**	S1	Well-informed answer	Senior leaders are usually superficially informed only the ones working at NCIA are thoroughly informed. However, junior leaders had rather	**Question number 1 is related to the Hypothesis D** which is: *There is an urgent need in NATO and elsewhere to increase especially senior leaders' awareness of the effects of digitalization on trust*	Overall assessment is that concerning the terms of digitization, digitalization, digital transformation, and disruptive technology there are significant existing knowledge gaps. Senior leaders' awareness is different than junior ones´.
2		S2	Superficially informed answer *Digitalization is affecting all areas of modern life. It can make life easier, however, the process of digitalization must be moderated and structured*			
3		S3	Well-informed answer *Only few senior leaders understand the scope and complexity of it.*			

Author: János Csombók

		Pseudonym	Answers/Captured Data	Meaningful Insight	Relation to Hypotheses	Assessment/Conclusion
4		S4	Well-informed answer	thorough knowledge of digitization, digitalization, and digital transformation. No one of the participants mentioned digitalization effects on leadership approach.	*relations in order to maintain leadership transformational and enable them to drive the change.*	The latter have more thorough knowledge. Leaders did not consider so far, the effects of digitalization on leadership approach. It underlines the necessary need to include digitalization and its effects on leadership approach into the education and training of leaders, especially senior ones.
5		S5	Well-informed answer			
6		S6	Well-informed answer *digitization in most cases duplicates work, efforts and in most cases does not optimize employed resources.*			
7		S7	Superficially informed answer *Mainly data-based assessment followed by Command Group advise.*			
8		J1	Thorough understanding, very well-informed answer			
9		J2	Thorough understanding, very well-informed answer			
10		J3	Thorough understanding, very well-informed answer *Digitalization has many ups and downs but undoubtedly altered our society, culture and as well as necessarily the military.*			

	Question 2	Pseudonym	Answers/Captured Data	Meaningful Insight	Relation to Hypotheses	Assessment/Conclusion
1		S1	Compering to NATO, my national digitalization process in broad term is	NATO larger nations´ representatives		

Author: János Csombók

2		S2	developing more "bottom – up" than "top – down". National military, digitalization of office applications is more standardized than on SHAPE.	such as Germany or Italy answered that their nations are ahead of NATO if it comes to digitalization. Smaller nations are, however, behind NATO. Meaningful insight is that nations and NATO are facing similar challenges of digitalization the process is very costly. The expectations are very high, and the progress is rather limited.	**Question number 2 is related to the Hypothesis A, B, C and D**. The aim of this question was to find data of the state of the play of digitalization in NATO and national Armed Forces to point out that larger nations are ahead of NATO while smaller nations are behind.	By assessing the answers to this question becomes evident that larger NATO members such as USA, DEU or ITA are far ahead of NATO if it comes to digitalization. It also means that it is worth to examine the leadership education and training system of this nations to find evidence of leadership training gaps of NATO.
3	**How do you evaluate the digitalization process in your national military compared to NATO?**	S3	National and international organizations are facing similar challenges: high expectations, limited progress. Everything comes to a certain price: frequently customers are no willing to accept the costs caused by digitalization means, i.e., CIS capabilities and services. And military CIS are always under permanent attacks of adversaries and opponents - cyber assurance and cyber defense are expensive.		
4		S4	Not far away from NATO but well behind NATO´s largest nations		
5		S5	Lagging compared to NATO.		
6		S6	The digitalization process in the Italian MoD is much more advanced than in NATO.		

Author: János Csombók

		Pseudonym	Answers/Captured Data			
7		S7	Same reluctance when it comes to Data-Based assessment. Experience of Leaders more important.			
8		J1	The digitalization process is more advanced in NCIA than in Hungary. Inside NCIA for internal processes, we do not use printed forms and hand signatures, but we work with electronic forms and digital signatures. Our processes are supported by special enterprise applications and portal system maintained by IKM staff.			
9		J2	I have to say that NATO's digitalization is far more advanced.			
10		J3	My nation is clearly behind NATO if it comes to digitalization. In NATO, processing data is already overwhelmingly digitized, and digitalization is almost everywhere.			

	Question 3	Pseudonym	Answers/Captured Data	Meaningful Insight	Relation to Hypotheses	Assessment/Conclusion

Author: János Csombók

1	**Does digitalization matter for NATO? And if yes how?**	S1	Yes! Impact of digitalization in contemporary operations includes every domain, warfare and functional area, from lowest tactical to highest strategic level and this process is rapidly developing.	Senior and junior officers alike find digitalization key to success for NATO. Senior leaders mentioned that there are systems for instance NATO Integrated Air and Missile Defense System, where automatization and the employment of AI is essential. However, the final decision should stay with human. The third meaningful insight is Military superiority is based on high speed / multi-dimensional decision-making requiring accurate information and efficient processes provided by sophisticated CIS capabilities and services to include	**Question number 3 is related to the Hypothesis A, B, C and D**. The aim of this question was to identify whether senior and junior officers find digitalization important for NATO. And if yes what comes to their mind about it.	By assessing the answers to this question becomes evident that senior and junior officers understand the importance of digitalization, but the perspectives are different. Senior officers focus more on automatization of complex weapon systems and the support of decision making. Junior officers put more emphasize on gaining and processing information speeding up internal processes. The quantitative analysis of the provided answers shows that 100% of the participants think that digitalization matters to NATO. NATO has its Data Exploitation Policy.
2		S2	Digitalization matters for every organization. However, **digitalization must be used to support humans and to accelerate processes.** We must differentiate between digitalization in office and communication areas and in weapon systems. Digitalization traditionally is a core element of modern weapon systems. Some decision-making processes must fully automatized, otherwise the required very short timelines will not be met. Here is a transition to artificial Intelligence and is necessary to ensure, that the final decision is made by humans.			
3		S3	NATO and Nations (member states and partner countries) are dependent on the availability, reliability, and security of their information to include the unlimited access to their own information domains. "Digital Age" and "Cyber Space" are - to			

Author: János Csombók

			some extent - the two sides of the same coin. Military superiority is based on high speed / multi-dimensional decision-making requiring accurate information and efficient processes provided by sophisticated CIS capabilities and services to include Artificial Intelligence.	Artificial Intelligence. Junior leaders mainly focused on gaining, processing, and making information available.	
4		S4	Because human administration and decision making are proceeding toward a total digitalization. The internet of things is gaining more ground.		
5		S5	Yes! It is important for preserving decision making superiority.		
6		S6	Collaboration tools are key, especially in this period of Pandemic. NATO should make a much better and distributed use of such kind of tools to improve its efficiency and optimize resources.		
7		S7	Mainly around readiness data or political and security analysis.		
8		J1	Definitely yes. For speed up the internal procedures and keep the information immediately available for the leaders, archiving and retrieving the necessary information are fundamental for NATO, and vital for decision making process.		

Author: János Csombók

| 9 | | J2 | Yes, it does. I think this the only way NATO can stay ahead of its adversaries. Digitalization shapes the future battlespace therefore NATO must think, organize, and act differently to stay ahead of complex warfare by exploiting technology. NATO's strength is its interoperability and interconnectivity therefore NATO must start his digital transformation today if NATO is to maintain his strength tomorrow. | | | |
| 10 | | J3 | I saw some examples in my work where digitalization is used as a tool to obtain, process, and deliver data for analysis to support decision making. | | | |

	Question 4	Pseudo nym	Answers/Captured Data	Meaningful Insight	Relation to Hypotheses	Assessment/Conclusion
1		S1	No! However, leaders are involved with new edge technologies on daily basis, and they must ensure that they have sufficient level of understanding of it. To my point of view, neglecting the fact that we are in	AI should not replace human decision. They consider it as a high		By assessing the answers in the questionnaire and the

Author: János Csombók

	As a leader - are you afraid of losing control to disruptive/digital technology?		digital environment would be disqualification criteria for a leader. Moreover, any leader should contribute in development of new technologies since their purpose is to enable our conduct of mission. Senior leaders should be able to make decisions with application of the new technologies, also to bring their experience and propose recommendations and requirements for improvements and developments of those technologies as well.	risk of digitalization.

Disruptive/ digital systems and services without an effective added value for customers and users are not to be procured and will not have an enduring impact of real world's leadership and teamwork.

Senior leaders should be able to make decisions with application of the new technologies, also to bring their experience and propose recommendations and requirements for improvements and developments of those | **Question 4 is related to the Hypothesis A, B, C and D**.

The aim of this question was to measure the level of awareness of disruptive technology and whether senior and junior leaders are afraid of losing control. | FGD script, it became clear that senior and junior leaders have differing level of understanding of disruptive technology but definitely not comprehensive.
The quantitative analysis of the answers shows that almost half of the senior leaders expressed concern about losing control to disruptive/digital technology. Junior leaders are far less concerned about it.

Senior and junior leaders alike understand that the risk losing control to digital technology cannot be neglected. |
| 2 | | S2 | As stated in the question before, AI should not replace human decision making, that is a great risk of digitalization. | | | |
| 3 | | S3 | Both the technical developments and the opportunities of new technologies have always to take into consideration the human abilities and the willingness of human beings to accept and eventually to use these developments and opportunities. Disruptive/ digital systems and services without an effective added value for customers and users are not to be procured and will not have an enduring impact | | | |

Author: János Csombók

			of real world's leadership and teamwork.	technologies as well.	
4		S4	Yes, I am afraid of losing the edge of Western world – If we still have it – compared to the other regions of the world. And, of slowly losing the human factor in decision making.	The risk of losing control cannot be neglected, need to be mitigated!	
5		S5	No, but the risk of losing control cannot be neglected.		
6		S6	No, they are just means, the correct use of which may improve the collaboration with collaborators.		
7		S7	Yes, due to the complexity which cannot be reflected by a DB.		
8		J1	No, I think, the digital technology just helps leaders to get all the necessary information to support their decisions, but the decisions should be done by the leaders.		
9		J2	I think digital technology supports the transformation of military organizations into smart organizations, which will provide new insights into how disruptive technology affects decision-making process transformation, agility, organizational culture.		
10		J3	No!		

Author: János Csombók

	Question 5	Pseudo nym	Answers/Captured Data	Meaningful Insight	Relation to Hypotheses	Assessment/Conclusion
1	**Do you think that digitalization influences TRUST between leaders and followers?**	S1	Yes! Digitization impacts everyone anywhere, especially due to wide affordable media technologies like mobile phones with associated applications. Members of organization are influenced by information space and without direct physical communications with leaders, followers will lack personal connectivity with them and create its own perception. **Trusting relationship cannot be build nor sustain without personal and direct leader's interaction with and within organisation.** Digitalization should be observed as a supplement to the personal engagement of the leader, and an advantage that requires proactive communication and information share within organisation.	Trust is the basis of every human relation. **Trusting relationship cannot be build nor sustain without personal and direct leader's interaction with and within organisation.** Digitalization enables and fosters distance and distance does not promote trust! Teleworking and home office provides to that Any shortage in human interactions	**Question 5 is related to the Hypothesis A.** The aim of this question was to find empirical evidence on digitalization´s effect on trust relations between leader and follower.	The quantitative analysis of the answers shows that the vast majority (90%) of senior and junior leaders find that digitalization of teamwork and decision making has a negative effect on trust relations between leaders and followers because it provides to fewer human interaction. Trusting relationship cannot be built without in person leaders' interactions. However, digitalization should be observed as a supplement tool, in this respect. **Hypothesis A seems to be proven!**
2		S2	Yes, Trust is the basis of every workflow and every relation of humans. With a good trust level digitalized processes can improve the team performance. Without trust and digitalized processes			

Author: János Csombók

			only, the performance is likely to be degraded.	effects trust negatively.	
3		S3	Yes, there are various influences of digitalization on the trust between leaders and followers, between deciders and executers, between individuals and teams. Digitalization enables and fosters distance - but distance does not promote confidence and trust. Tele-working and so-called home office aren't roses without a thorn.	Digitalization should be observed as a supplement to the personal engagement of the leader, and an advantage that requires proactive communication and information share within organisation.	
4		S4	Yes, because it minimizes the human interactions. Trust is built among human beings, so any shortage of interactions makes this trust weaker.		
5		S5	Working in a digitalized environment will require a different skill set both form the leaders and the followers/employees. If one or the other will not be able to work within the framework of and harness the advantages of digitalization, the trust between them may consequently diminish. Therefore, both the leader and follower need to improve their working skills during the transition process.		

Author: János Csombók

		Pseudonym	Answers/Captured Data			
6		S6	Yes, as per the prior reply, digitalization is a mere 'tool' which must be used to enhance the interaction with individuals. The main effort of a leader must be to engage everyone with a flexible and tailored approach.			
7		S7	Yes!			
8		J1	Yes, but I do not think so. If there is a good and reliable personal relationship built between the leaders and followers, the digitalization should not influence the trust between them. However, without a maintained personal relationship, I can imagine that can spoil this trust.			
9		J2	Yes! For me digital trust between leaders and subordinates is a new prerequisite of good old values, such as reliability, credibility or security, applied in the digital space.			
10		J3	No!			

	Question 6	Pseudonym	Answers/Captured Data	Meaningful Insight	Relation to Hypotheses	Assessment/Conclusion
1		S1	**Digital innovations are supportive and enabling tools to decision making and this applies**			

Author: János Csombók

	Do digital innovations support or hamper timely decision making?			**to any decision making approach. Especially for time sensitive decision making when requirements are to process large quantity and different type information and data in short time in order to make decision that could create strategic effect or decisive condition.** There are always risks in use of technology in this process and users of this support should be trained to the level of full understanding of the tools capabilities and how to gain from it.	Friendly user digital innovations greatly support timely decision making. Yes, they support, but only in terms of timeliness, but not necessarily in terms of quality. Final decision must always be made by humans!	**Question 6 is related to the Hypothesis A and C.** The aim of this question was to find empirical evidence on the opinion of digital innovations in support of proving Hypothesis A and C.	The quantitative analysis of the answers shows that a defining majority (67%) of senior and junior leaders find that digital innovations support timely decision making. It means from the perspective of Hypothesis A and C that leaders need to understand and deal with effects of digitalization because it is happening whether we deal with it or no. The right digital tools and digital innovations when employed the right way can support the achievement of mutual trust between leaders and followers.
2		S2	Yes, With the proper use of digital innovations, timely decision making can be supported.			
3		S3	It depends on the specific "digital innovation": If it is easy to handle and creates the desired results - big support! If it needs additional effort or is not user friendly - waste of time!			
4		S4	Yes, Digital innovations accelerate the timely decision making, but there is no guarantee that these decisions would be better in terms of quality or appropriateness. So, the answer is yes, they support, but only in terms of timeliness, not in the terms of quality.			**Hypothesis A and C are backed up with empirical data.**

Author: János Csombók

5		S5	Both. The availability of abundant information results in and makes possible to improve the quality of decisions. Within this environment, timely decision-making is unimaginable without relying on information technology that is digitalization.			
6		S6	If appropriately used, they provide sound and informed options. However, a mankind decision is [and must always be] necessary. Responsibility and accountability cannot be delegated, especially to a machine.			
7		S7	No!			
8		J1	I really think that digital innovations support timely decision making. The well-organized digitalized procedures can provide the necessary background information for the leaders in time, and much quicker than in manual ways. Nevertheless, only the relevant information should be provided to avoid that too much information confuses the leaders.			
9		J2	Yes, I do believe that digital innovation supports timely decision-making. Using digital			

Author: János Csombók

			technology to transform reporting processes, collecting and analysing data in real time and using insights to mitigate risk and promote efficiency in future operations will put a decision maker in a much better position to make a timely decision.			
10		J3	Example is NATO Ballistic Missile Defense or any other time-critical activities where short timings does not allow prolonged decision making. In those areas digitalization is crucial from the first intel to the final decision.			

	Question 7	Pseudo nym	Answers/Captured Data	Meaningful Insight	Relation to Hypotheses	Assessment/Conclusion
1	**Do you think that moral trust**	S1	No! **At NATO HQs relationship between leaders and subordinate is quite professional than social.** There are many of reasons for this but manly are multinational environment (different professional and social culture), temporary assignment abroad (short time to build lasting relationship), use of non-native language (constraints communication), and	This is a difficult topic! However, the long history and tradition of working together bonds.	**Question 6 is related to Hypothesis B.**	The quantitative analysis of the answers shows that 60% of senior leaders say that moral trust exists at the same level in NATO and national framework. Junior officers have a different opinion

Author: János Csombók

	exists in NATO HQs at the same level as in national framework?		operation/mission focus (HQ tempo and "modus operandi", less administrative working environments). National framework relationship between members of armed forces is influenced with share of the same professional and social culture, type of education and training, lasting connectivity with organisation, professional ambition for promotion in competitive organisation and with lasting personal relations between members.	In international framework the relation between personal input and collective outcome is difficult to recognize.

Not only personal credit is at stake than nation one too.

It exists at lower level in NATO than in national framework. | stating that moral trust in NATO exist at lower level in NATO than in national framework.
In this respect senior leaders have different opinion because on the one hand they are certainly stronger biased by staying diplomatic but on the other hand they have longer experience.

In sum, moral trust exists in international framework and has the potential to bridge gaps in interpersonal trust caused by short deployment periods and digitalization. |
| 2 | | S2 | Through the long history and tradition of working together within NATO, a moral trust between the nations has been build up, which equals national frameworks. | | |
| 3 | | S3 | This is not a question that easily be answered "yes" or "no". Within a national working environment, the member of the workforce will be (at the end) confronted by the results of his or her contribution - and personal commitment. In an international environment like a NATO, the relation between personal input and collective outcome is different - it takes | | **Hypothesis B is backed up with empirical data.** |

Author: János Csombók

			(much) longer to see any effective result.			
4		S4	There are clichés, of course, but everyone is supposed to be expert in his/her job within the international framework. And, in general terms, each and everyone makes more effort to gain and maintain trust, since not only a personal credit is at stake, but at some level his/her Nation's credit too.			
5		S5	However, my personal view is that moral trust depends more on personal qualities and abilities than on the national origin. Whit my latter statement, I do not want to deny the existence of prejudices.			
6		S6	Surely among Military personnel.			
7		S7	Yes!			
8		J1	I think so and hope so. However, in NCIA, I feel that the moral trust is not as strong as in national framework, its level a little bit lower. It can be caused by the national differences, but as the NCIA is getting business organization with more and more civilian employees, the real reason can be found in the			

Author: János Csombók

		Pseudo nym				
			relationship between the military and civilian personnel.			
9		J2	No! I would like to believe that moral trust in NATO exist at the same level as in national framework. As long as the given topic is not a national interest, I think it is at the same level. Once national interested became first moral trust in NATO is not at the same level as the national framework.			
10		J3	I do not know!			

	Question 8	Pseudo nym	Answers/Captured Data	Meaningful Insight	Relation to Hypotheses	Assessment/Conclusion
1	**What is your opinion, can moral trust play a bridging role for the gap in interpersonal**	S1	Yes! In any lasting organisation individuals should prioritise common prosperity and objectives versus personal. Any organisation fundaments are described with purpose with mission, structure and code of conduct and it should give equal status and opportunities to every member while having full respect to individuality. Leader's responsibility is to act as credible and impartial protagonist that includes overarching ethical behaviour. Senior leaders are mostly "accepted" as leaders by	Moral trust can be of good support and must play a bridging role in closing temporary gaps in interpersonal trust!

It is crucial that the organization (in this case NATO) has a high moral standing. | **Question 8 is related to Hypothesis B.**

The aim of this question was to find empirical evidence on moral trust role in closing gaps in interpersonal trust! | The qualitative data analysis found empirical evidence on the role of moral trust in bridging gaps in interpersonal trust.
It is proven that moral trust not only can but must play a bridging role. However, it only works when the organization has an |

Author: János Csombók

	trust to enable transformational approach?		followers based on their credible reputation. Even without or with weak direct interpersonal relationship, transformational approach is possible with consistent moral trust between leaders and followers.	If this is ruined (by events or operations, like the exit from Afghanistan) only the human interpersonal trust may rebuild it again!	unquestionable high moral standing.
2		S2	Moral trust not only can play this role, but it must also play it.		The quantitative analysis of the answers shows that 100% of senior and junior leaders say that moral trust can play a bridging role in closing gaps in interpersonal trust.
3		S3	Yes, however, this is a question that is difficult to be answered "yes" or "no". On the one hand, it depends on the individuals and their different attitudes and behaviours, various cultural back grounds and national characters. On the other hand, the same values, norms and believes bond people together. So, at the end, I think moral trust can be of good support in bridging temporary gaps in interpersonal trust.		Conclusion is that it is necessary to find ways to improve moral trust between NATO member and partner nations because moral trust can bridge the gaps in interpersonal trust.
4		S4	Just as long as the organization itself enjoys a moral respect from all of the participants, in other words, as long as the institution has a high moral standing. Every failure or flaw (like the exit from Afghanistan lately) ruins this, because if the ideas disappear, only the human interpersonal trust may them rebuild again.		**Hypothesis B is backed up with empirical data.**

Author: János Csombók

5		S5	Yes. I believe that the statement above is generally applicable for any working relationship and in transforming organizations to include digital transformation.		
6		S6	To a certain extent, moral trust is valid starting point until proven otherwise. However, personal needs to follow and built upon as a first priority for each leader, through individual and collective [in person] engagement.		
7		S7	Yes!		
8		J1	Yes, in my opinion, in military circumstances the moral trust definitely can play a kind of bridging role to replace the missing interpersonal trust.		
9		J2	Yes! I believe that moral trust can play a bridging role for the gap in interpersonal trust to enable transformational approach.		
10		J3	Moral trust is the baseline for any other related interconnection.		

	Question 9	Pseudo nym	Answers/Captured Data	Meaningful Insight	Relation to Hypotheses	Assessment/Conclusion
1		S1	Yes! **I would like to consider proactive vs. reactive approach to senior leaders. This means that senior leaders** should not be	Today's military leadership is		

Author: János Csombók

	Do you think that there is a need to raise digital awareness of senior leaders to decrease fear and misconception and through that enable transformational approach?		leaders if they are not able to make decisions, including their digital awareness and ability to use and contribute digital opportunities. **Digital awareness update for senior leaders should be periodic routine** or case based approach.	basically speaking about but not fully aware of both opportunities and risks arising with the digital age and advanced technologies. The effects of digitalization on the leadership approach are quite unknown terrain and with that underestimated. Awareness and 'rules of engagement' on the use of new tools are fundamental for 'baby boomers' senior leaders. **Digital awareness update for senior leaders should be periodic routine!**	**Question 9 is related to Hypothesis D.** The aim of this question was to find empirical evidence on the need to increase senior leaders' digital awareness.	The qualitative data analysis found empirical evidence on the need to raise digital awareness of senior leaders. The quantitative analysis of the answers shows that 80% of senior and junior leaders agree that there is a strong need to raise digital awareness of senior leaders. but it should be personalized and tailored to the need. Conclusion is that it is necessary to find ways to raise digital awareness of senior leaders, but the education must be tailored to the need of individual senior leaders. **Hypothesis D is backed up with empirical data.**
2		S2	No, I think modern senior leaders are fully aware of the risks and chances of digitalized processes in the transformational approach.			
3		S3	Yes, **Today's military leadership is basically speaking about but not fully aware of both opportunities and risks arising with the digital age and advanced technologies.** From my point of view, there is no general "fear" or widespread "mistrust" - but there is the question "how" to use state-of-the-art disruptive technologies without disrupting or disconnect the ties and the trust between leaders and followers. However, t**he effects of digitalization on the leadership approach are quite unknown terrain and with that underestimated.** In sum, I can recognize the need to raise digital awareness especially of senior leaders.			

Author: János Csombók

4		S4	Yes, because our world is accelerated to a level where information absorption and processing became the primary issue (not the availability of the information as before). Digital awareness should be more focused on those solutions that really make difference (Big Data handling, AI issues).		
5		S5	Yes. Without knowing and trusting a new system, no manager can convincingly lead a transformation which inevitably leads to failure.		
6		S6	Awareness and 'rules of engagement' on the use of new tools are fundamental for 'baby boomers' senior leaders.		
7		S7	No		
8		J1	In NCIA there is no problem with the digital awareness of senior leaders that can be caused by their professional knowledge. However, in national circumstances, unfortunately, I experienced the opposite several times. The main issue that how their digital awareness can be raised. The solution can be the personalized education tailored for them on this topic, and in		

Author: János Csombók

			special cases this tracings should be personal.			
9		J2	Yes! hink this is a generation issue. Unfortunately, the speed of the digital development was and is so fast that senior leaders are not able to follow.			
10		J3	No!			

	Question 10	**Pseudo nym**	**Answers/Captured Data**	**Meaningful Insight**	**Relation to Hypotheses**	**Assessment/Conclusion**
1	**Do you think that there is a need to include digitalization and its effects in the leadership**	S1	**Absolutely, it should be integral part of the senior leaders training.** Digitalization effects organization's from routine behaviour of the social environment to the advance use of digital technology in processing data and information in support of decision making. **Senior leaders must have knowledge and enhance their skills to use digital technology as digitalization is part of comprehensive environment with significant impact in every domain. Digitalization should be enabling tool to senior leaders and they should gain from it to**	To keep in touch with an always emerging digital environment it should be mandatory for senior leaders to be educated and trained for the ongoing advancements.

Leadership training of senior leaders should contain the topic of | **Question 10 is related to Hypothesis D.**

The aim of this question was to find empirical evidence on the need to include digitalization and its effects into the leadership training of senior leaders. | The qualitative data analysis found that senior and junior officer alike agree on the need to include digitalization and its effects into leadership training Of senior leaders.

The quantitative analysis of the answers shows that 100% of senior and junior leaders agree that the need is valid! |

Author: János Csombók

	training of senior leaders?		improve they organisational effectiveness.	digitalization, but it should be tailored to senior leaders' level and needs.		Conclusion is that it is necessary to include the topic of digitalization into leadership training of senior leaders, but it should be tailored to the individual needs.
2		S2	Yes, Nationally and in NATO we have already done so, and we need to carry on and improve.			
3		S3	Of course! Information is the currency of the Digital Age. New ends, new ways and new means to communicate any kind of information are changing, developing, enhancing etc. very fast. To keep in touch with an always emerging digital environment it should be mandatory for senior leaders to be educated and trained for the ongoing advancements and the upcoming progressions enabled and accelerated by technologies - mainly driven by economic demands and non- military inventions.			Digitalization should be enabling tool to senior leaders and they should gain from it to improve they organisational effectiveness. **Hypothesis D is backed up with resilient empirical data.**
4		S4	If it goes beyond the office support means and software, and displays true support to decision making then yes. Otherwise it is just a waste of time, since every individual today should be considered as having an appropriate digital literacy.			

Author: János Csombók

5		S5	Without any doubt. Indeed, the entire organisation needs to be trained to work within a digitalized environment for trusting in and taking full advantage of digitalization. Additionally, the training will have to be well designed and focused to avoid adverse effects.			
6		S6	Yes!			
7		S7	Yes!			
8		J1	As far as I see, it would be very useful if the leadership training of senior leaders contains the topic of digitalization, but as far as I mentioned above, it should be tailored for the senior leaders' needs. Education tailored for them on this topic, and in special cases this tracing should be personal.			
9		J2	Yes! It would be very useful. Unfortunately senior leaders are not involved in the entire decision making process therefore it is very difficult to raise their digital awareness. I think training should focus on changing the individual's way of thinking.			

Author: János Csombók

10		J3	Yes, Digitalization happens at an ever-increasing speed therefore if we wanna keep pace with it, it shall be a natural part of military education - at all level.			

Author: János Csombók

11.2. Annex 2 – Qualitative Data Analysis (HQ KFOR)

Qualitative Data Analysis
Based on the cleaned data collected at the Focus Group Discussion at HQ KFOR on the
26th January 2022

	Question 1	Pseudonym	Answers/Captured Data	Meaningful Insight	Relation to Hypotheses	Assessment/Conclusion
1	**Digitalization and digitization – what come to your mind by hearing these expressions?**	S1	Well-informed answer	Differing level of understanding of digitalization and digitization. However, senior leaders seem to have more superficial knowledge about it. No one of the participants mentioned digitalization effects on	**Question number 1 is related to the Hypothesis D** which is: *There is an urgent need in NATO and elsewhere to increase especially senior leaders' awareness of the effects of digitalization on trust relations in order to maintain leadership transformational and enable them to drive the change.*	Overall assessment is that some confusion reigns concerning terms of digitalization, despite introduction brief. However, answers in the questionnaire show a better understanding of terms. It points to differing level of knowledge and some gaps too. It underlines the necessary need to include digitalization and its effects on leadership approach into the education and training of leaders, especially senior ones.
2		S2	Well-informed answer Digitization is to have existing data converted to digital form. Digitalization is the way to use that data to make better decisions based on models, thus converting the process itself to a digital format.			
3		S3	Superficially informed answer			
4		S4	Well-informed answer Digitization is the process of changing from analog to digital form; this could			

Author: János Csombók

			happen, for instance, when moving an existing analog system online, to allow the users to produce, store, retrieve and elaborate documents more easily and quickly. Digitalization is the use of digital technologies and digitized data to impact how work is done and how people connect with each other. Digitalization cannot occur without digitization.	leadership approach.	
5		J1	Well-informed answer		
6		J2	Thorough understanding. **Digitization is a product what we are creating in the digital world. Digitalization is the process to make the system better, faster, and easier.**		

	Question 2	Pseudonym	Answers/Captured Data	Meaningful Insight	Relation to Hypotheses	Assessment/Conclusion
1		S1	NATO Command structures are not over digitalized. There are couple of improvement in Intel area.	Larger NATO nations´ representative such as USA or Italy answered that their	**Question number 2 is related to the**	By assessing the answers to this question becomes evident that

Author: János Csombók

2	**How do you evaluate the digitalization process in your national military compared to NATO?**	S2	I find that a national control is more manageable and fluent to transition than a multinational organization such as NATO.	nation is ahead of NATO if it comes to digitalization. Smaller nations have the feeling to be behind NATO. Meaningful insight is that nations and NATO are facing similar challenges of digitalization the process is very costly and slow. NATO pays more attention to achieving the same level of digitalization at all command levels.	**Hypothesis A, B, C and D**. The aim of this question was to find data of the state of the play of digitalization in NATO and national Armed Forces to point out that larger nations are ahead of NATO while smaller nations are behind.	larger NATO members such as USA, or ITA are ahead of NATO if it comes to digitalization. However smaller nations are clearly behind it. An important conclusion is that the level of digitalization is different in national and NATO framework, and it is also different at command levels. This evidence increases the meaning of the need of raising awareness of leaders concerning digitalization and its effect on leadership approach. It also means that it is worth to examine the leadership education and training system of these nations to find best practices to employ it in the leadership training in NATO framework.
3		S3	My nation (USA) has more tools, but utilization at organization is comparable.			
4		S4	The National Defense is improving, year after year, its digital capabilities in order to operate in line with other NATO Countries.			
5		J1	In the US we are ahead of NATO. However, some of NATO is on par with the US.			
6		J2	It is a slow process, because we cannot upgrade the entire system as fast as the modernization program runs through. Sometimes the programs what we use are different in each level of command, therefore the bureaucracy is a slow process from the top to the bottom and vice versa. **NATO uses upgraded programs to make the communication easier and**			

Author: János Csombók

			faster between organizations.			

	Question 3	Pseudonym	Answers/Captured Data	Meaningful Insight	Relation to Hypotheses	Assessment/Conclusion
1	**Does digitalization matter for NATO? And if yes how?**	S1	I think yes, for the same reason for the rest of the world.	Senior and junior officers alike find digitalization key to success for NATO. Senior and junior leaders mentioned that digitalization is not at a high level at NATO´s tactical level such as HQ KFOR. **The third meaningful insight is that digitalization can support and close interoperability gaps existing among nations.**	**Question number 3 is related to the Hypothesis A, B, C and D**. The aim of this question was to identify whether senior and junior officers find digitalization important for NATO. And if yes what comes to their mind about it.	By assessing the answers to this question becomes evident that senior and junior officers understand the importance of digitalization. Unlike leaders at SHAPE HQ KFOR leaders identified the role of digitalization in closing communication gaps among nations C2 assets to improve interoperability. **Conclusively, Junior and senior leaders believe that digitalization has the potential to close interoperability gaps among nations.**
2		S2	With the new emerging challenges, NATO needs to step up and use all digital assets that are available to its advantage. However, the long procurement process and the short lifetime of the hardware, as well as the challenge to maintain interoperability is hampering the rapid advancement.			
3		S3	**Yes, NATO needs a way to bridge the communications gap and to integrate various units from various nations, all on separate systems. I am hopefully digitalization can help with that.**			

Author: János Csombók

4		S4	The digitalization is crucial for NATO, and its Member States are cooperating to enhance this process in order to increase the level of integration and interoperability. Nonetheless, up to now, the full standardization and interoperability on Operative issues among all Nations is not in place and requires additional common efforts. However, the digitalization in administrative processes is ongoing and already reached a satisfactory level.			
5		J1	Yes, as we develop these programs our ability to communicate and collaborate will increase and become faster.			
6		J2	The easy answer is because this is the future. Simultaneously, modern technical and tactical capability based on digital equipment. NATO has to adapt and keep up with the modern world.			

Author: János Csombók

	Question 4	Pseudonym	Answers/Captured Data	Meaningful Insight	Relation to Hypotheses	Assessment/Conclusion
1	**As a leader - are you afraid of losing control to disruptive/digital technology?**	S1	No, but it has to be a balance between the "human environment" and the advance technology.	Junior and senior leaders alike are not afraid of losing control to disruptive/digital technology. AI is overrated and oversold and cannot replace human intuition and out of the box thinking. AI cannot and should not replace human decision.	**Question 4 is related to the Hypothesis A, B, C and D**. The aim of this question was to measure the level of awareness of disruptive technology and whether senior and junior leaders are afraid of losing control to it.	By assessing the answers in the questionnaire and the FGD script, it is proven that junior leaders have differing level of understanding of disruptive technology but definitely not comprehensive. **Unlike at SHAPE senior leaders are not afraid of losing control to disruptive technology. They believe AI is oversold and overrated.**
2		S2	No! I find that no computer or AI can be as intuitive and imaginative as the Human Mind. In our world today, most challenges can be countered by "outside-of-the- box" thinking, and that is something that no AI can fully grasp today.			
3		S3	No! I believe **AI is oversold and overrated**…AI in commercial or military sector is not there yet.			
4		S4	No, I am not afraid of losing control to disruptive technology because the human being has "the last word", therefore he can control each step of the processes and put an end to them, if deemed necessary. With specific regards to Artificial Intelligence, it is likely to be used, in the near future, only for the routine processes; once			

Author: János Csombók

		Pseudonym	Answers/Captured Data		
			again, the spread of the application of AI will be closely evaluated by the humans, in order to maintain the control over it.		
5		J1	No!		
6		J2	No! I am definitely not afraid. It needs to be controlled and supervised such as other sensitive system inside organization (drones). On the other hand, it can be an additional useful tool what I –as a leader- can implementing into the mission capability.		

	Question 5	Pseudonym	Answers/Captured Data	Meaningful Insight	Relation to Hypotheses	Assessment/Conclusion
1	**Do you think that digitalization influences TRUST between leaders and followers?**	S1	Yes, the personal relationship, trust, faith cannot be overruled by "artificial relations".	Trust and faith cannot be overruled by artificial relations.	**Question 5 is related to the Hypothesis A and C.** The aim of this question was to find empirical evidence on digitalization´s effect on trust relations	The quantitative analysis of the answers shows that the majority (66%) of senior and junior leaders find that digitalization of teamwork and decision making has significant effect on trust relations between leaders and followers. Unlike to SHAPE, at KFOR HQ leaders believe that
2		S2	No! In my opinion, digital innovations do not replace, nor influence the trust between a leader and a follower. The true cooperation and symbiosis between subordinate and commander rests solely on			

Author: János Csombók

			the loyalty, that comes from within. It can of course help to have a more hands-on approach, but **I think human interactions are inherently anti-digital**.	**Human interactions are inherently anti-digital**.	between leader and follower.	digitalization has both positive and negative effects on trust relations. **Hypothesis A and C is backed up with empirical evidence.**
3		S3	Yes! Positively by allowing rapid information sharing, quick collaboration, and empowerment of junior leaders. Negatively by leading to increased information demands and micromanagement. **To me mission command and digitalization go hand in hand.**	Digitalization influences trust positively and negatively too. **Digitalization and mission command go hand in hand!**		
4		S4	No! Trust between commanders and followers is built and maintained through appropriate behaviors and good leadership, and normally it is not impaired or influenced by the digitalization. **Nevertheless, some tools such as VTC calls can make human relationship less effective**, but at the same time are extremely useful to carry out meeting			

Author: János Csombók

	Question 6	Pseudonym	Answers/Captured Data	Meaningful Insight	Relation to Hypotheses	Assessment/Conclusion
5		J1	Yes!			
6		J2	Yes! It can be positive, because the leader must rely on their subordinate leaders, and the followers have been empowered by their leaders. This is the basic for mutual trust, and it`s avoid micromanagement.			

	Question 6	Pseudonym	Answers/Captured Data	Meaningful Insight	Relation to Hypotheses	Assessment/Conclusion
1	**Do digital innovations support or hamper timely decision making?**	S1	Yes! Could help in certain cases, however, too much information also could hamper the procedure.	Digitalization can not only support but also hamper decision making by too early reaction to a situation.	**Question 6 is related to the Hypothesis A and C.** The aim of this question was to find empirical evidence on the opinion of digital innovations in support of proving Hypothesis A and C.	The assessment is that up to one senior leader all the FGD participants answered that digital innovations can support and also hamper timely decision-making. Conclusion is that it is important to employ the right digital innovations to support timely decision-making and maintain mutual trust.
2		S2	Yes! They can support it, especially if we look at the possibility that mobile phones, mobile internet and smart devices give us. If as a Commander, you can be reached anywhere, anytime, it certainly helps the decision-making. **At the same time, it can have a negative effect, as a too**			

Author: János Csombók

			early reaction to something may not necessarily be the one that is ultimately the best.	Digitalization can override leaders' capacity to process information. It is the human involved who decides the value of the tool.	It means from the perspective of Hypothesis A and C that leaders need to understand and deal with effects of digitalization because it is happening whether we deal with it or no.
3		S3	**Depends on the leader. If you can work in the coup d'oeil digitalization makes it faster, if you cannot digitalization overrides your capacity to process information…it's the officer involved that decides the value of the tool.**	Digitalization helps the system to be pro-active instead of reactive.	The right digital tools and digital innovations when employed the right way can support timely decision-making and the achievement of mutual trust between leaders and followers.
4		S4	Digital innovations can provide a tremendous support to decision-making since they can allow Commander to receive real-time information from multiple sources and to timely issue their orders. On the other hand, **the considerable amount of information, if not properly managed and "filtered", could overload the higher echelons, and could lead to "micro-management",** thus impairing the decision-making process, rather than improving it.		**Hypothesis A and C are backed up with empirical data.**

Author: János Csombók

5		J1	Both, because if organizations train to on the system, they are a help but if they don't train on the systems the tech will be a distraction.		
6		J2	It`s absolutely yes. Technical capability helps to see and analyze situation in real time. It helps the system to be pro-active not just reactive.		

	Question 7	Pseudonym	Answers/Captured Data	Meaningful Insight	Relation to Hypotheses	Assessment/Conclusion
1		S1	Yes! My personal point of view we are all professional officers, NCOs. I trust them as same as at home.	This is a difficult topic!		The quantitative analysis of the answers shows that 80% of junior and senior leaders think that moral trust exists on a higher level in national framework.
2	**Do you think that moral trust exists in NATO HQs at the same level as in national framework?**	S2	Yes! Though the fluctuation of key personnel can and does hamper the cooperation, **I find that in a multinational environment there is as much trust as there is in our own national framework.**	Relationships are too shallow and fleeting to build long-term trust. Constant staff/officer turnover make trust building impossible.	**Question 7 is related to Hypothesis B.** It is aimed to identify whether moral trust exists at the same level in NATO than in national framework.	This number is much higher than at SHAPE. It is certainly because at the tactical level of NATO

Author: János Csombók

3		S3	No! **Relationships are too shallow and fleeting to build long-term trust. Constant staff/officer turnover make trust building impossible.** Units should be missioned, manned, equipped and trained together!	It exists at lower level in NATO than in national framework. Not only personal credit is at stake than nation one too. All nations have different preparation and background, different standards, different national and international interests, and priorities. Therefore, moral trust is higher in national framework.		leaders are less biased by being always diplomatic. Conclusion is that there is a need to increase moral trust in NATO framework.
4		S4	No! It is common that at international level the competition among people is lower than on a national level, and this is applicable also to NATO HQs and, more specifically, to KFOR. This is also due to the absence of the rivalry among arms/branches that often exists within national Armed Forces. Therefore, the moral trust is generally higher during the deployments abroad.			**Hypothesis B is backed up with empirical data.**
5		J1	No! Trust exists between most nations. However, most nations have their own agenda.			

Author: János Csombók

| 6 | | J2 | NO! Currently, there are 28 nations contributing in KFOR. All nations have different preparation and background, different standards, different national and international interests, and priorities, therefore I do not believe the equal moral trust in such organization. It might be valid in low level (such as inside branch or so), but I do not see it among departments. | | | |

Author: János Csombók

	Question 8	Pseudonym	Answers/Captured Data	Meaningful Insight	Relation to Hypotheses	Assessment/Conclusion
1	**What is your opinion, can moral trust play a bridging role for the gap in interpersonal trust – caused by the everchanging human set up of deployed HQs – to enable transformational leadership approach?**	S1	Yes! So far, we are human beings. If a human being does not trust in anybody, he will leave his/her life alone and will have too much work.	Moral trust can be of good support and must play a bridging role in closing temporary gaps in interpersonal trust!	**Question 8 is related to Hypothesis B.** The aim of this question was to find empirical evidence on moral trust role in closing gaps in interpersonal trust!	All the participants believe that moral trust can play a bridging role for the gaps in interpersonal trust. It is utmost important in case of deployed HQs because the fluctuation does not allow enough time to build interpersonal trust.
2		S2	Yes! It certainly has a paramount importance, as the fluctuation does not necessarily allow enough time to have interpersonal trust developed, especially with an international contingent. Moral trust that my subordinate can do his/her job properly until proven otherwise is a standard go-to, and it has been successful in my view for the most part.	Moral trust has a paramount importance, as the fluctuation does not necessarily allow enough time to have interpersonal trust developed, especially with an international contingent. Moral trust that my subordinate can do his/her job properly until proven otherwise is a standard go-to, and it has been successful in my view for the most part.		Conclusion is that it seems proven that it is important to find ways and means to improve moral trust because it has the potential to bridge gaps in interpersonal trust.
3		S3	Yes! KFOR should be a 14-month rotation for all personnel. Unit stands up at a NATO training site, meets COM and build staff SOPs, through NATO training and a 2-star EX, then deploy to the box for the whole year.			
4		S4	**Yes! During the tours of duty, it is common that the**			**Hypothesis B is backed up with empirical data.**

Author: János Csombók

			interpersonal trust, created over time with the colleagues, is lost when they leave. Consequently, in some cases there might be some biases concerning the new colleagues belonging to specific arms/branches of coming from certain nationalities. In those cases, moral trust toward fellow soldiers can counterbalance those biases and lay the foundations for a productive future cooperation.		
5		J1	Yes!		
6		J2	Yes! What I highlighted in Q7 is the missing part inside organization. **If moral trust can improve, it might reduce the possibility of gaps and achieves and improve leadership capability.**		

	Question 9	Pseudonym	Answers/Captured Data	Meaningful Insight	Relation to Hypotheses	Assessment/Conclusion
1		S1	Yes! The technological change is much faster than a senior leader could follow	**Senior leaders often do not see the point in digital**		

Author: János Csombók

					Question 9 is related to Hypothesis D.	
2	**Do you think that there is a need to raise digital awareness of senior leaders to decrease fear and misconception and through that enable transformational approach?**		it. **The increase of awareness is needed much, however, senior leaders will never understand fully.** It is a classic problem between the thinking way of the generations.	**innovations, and can easily pass over capabilities that may be used to make progress.**		The qualitative data analysis found empirical evidence on the necessity to raise digital awareness of leaders at all levels. Senior leaders need to understand the capabilities of digital innovations.
2		S2	**Senior leaders often do not see the point in digital innovations, and can easily pass over capabilities that may be used to make progress. I would make the point that more awareness could be beneficial, provided the senior leaders are still in control of the system, and not the other way around.**	It is crucial to raise digital awareness **within all levels of leadership,** and specifically among senior Officers. Senior Leaders need to understand digital innovations and know what can be done with it and not how to do it. Digitalization needs a different mind-set in every level of the leadership tree.	The aim of this question was to find empirical evidence on the need to increase senior leaders' digital awareness.	The quantitative analysis of the answers shows that 100 % of senior and junior leaders agree that there is a strong need to raise digital awareness of all leaders especially senior ones.
3		S3	**Yes-but proper tool is Junior NCOs and Officers who can show the Boss the way. Boss needs to know what can be done not how to do it. IT is like any other weapons system. I have folks who make it run…I need to know how to run them**			Conclusion is that it is necessary to find ways to raise digital awareness of leaders at all levels, but the education must be tailored to the need. Senior leaders only need to understand the capabilities of digital innovations.
4		S4	**Yes, it is crucial to raise digital awareness within all levels of leadership, and specifically among**			

Author: János Csombók

						Hypothesis D is backed up with empirical data.
			senior Officers. Leaders should become familiar with new technologies and innovative tools, through which many processes can be radically improved. Doing so could foster innovation within the Armed Forces and allow the whole organization to move toward a more efficient approach.			
5		J1	Yes!			
6		J2	The innovative and adaptive leader must raise digital awareness and willingness to improve in such area. It needs a different mind-set in every level of the leadership tree. Future leaders must accept all challenges, prepare for the lifetime learning and use SMEs (Subject Matter Experts) to use their expertise in different field, which support the decision making process.			

Author: János Csombók

	Question 10	Pseudonym	Answers/Captured Data	Meaningful Insight	Relation to Hypotheses	Assessment/Conclusion
1	**Do you think that there is a need to include digitalization and its effects in the leadership training of senior leaders?**	S1	Yes! We need training for that equipment what we use. If we use guns, we need training for them. If we use digitalized equipment…..	**It would definitely help present and future leaders to master challenges of digitalization.** Such training is desperately needed. Digitalization should be part of the military education of all military leaders, starting from the very first years of their career.	**Question 10 is related to Hypothesis D.** The aim of this question was to find empirical evidence on the need to include digitalization and its effects into the leadership training of senior leaders.	The qualitative data analysis found that senior and junior officer alike agree on the need to include digitalization and its effects into leadership training of senior leaders. At HQ KFOR all the participants agreed on the need to make digitalization and its effects part of the overall leadership training. The quantitative analysis of the answers shows that 100% of senior and junior leaders agree that the need is valid! Conclusion is that it is necessary to include the topic of digitalization into the overall leadership training! Senior leaders will always have a greater need to raise their digital awareness because the
2		S2	It would definitely help the present and future generations to prepare for the world's current challenges, and I would argue that such trainings is in desperate need.			
3		S3	Yes! See above-train the next generation to integrate IT from day one of initial training…make IT part of the living process for the army.			
4		S4	Yes! Digitalization should be part of the military education of all military leaders, starting from the very first years of their career. As a matter of fact, it is already included in the training programs of Officers and NCO Academies, as well as in the Staff College and the Joint Senior Staff College.			

Author: János Csombók

			The ultimate goal is creating, and increasing with time, a shared understanding and expertise of digital technologies and their impressive actual and potential effects for the Armed Forces.			digitalization is happening on a very high pace difficult to follow. **Hypothesis D is backed up with resilient empirical data.**
5		J1	Yes!			
6		J2	Yes! It is a must!			

Author: János Csombók

11.3.   Annex 3 - Coaching Tool
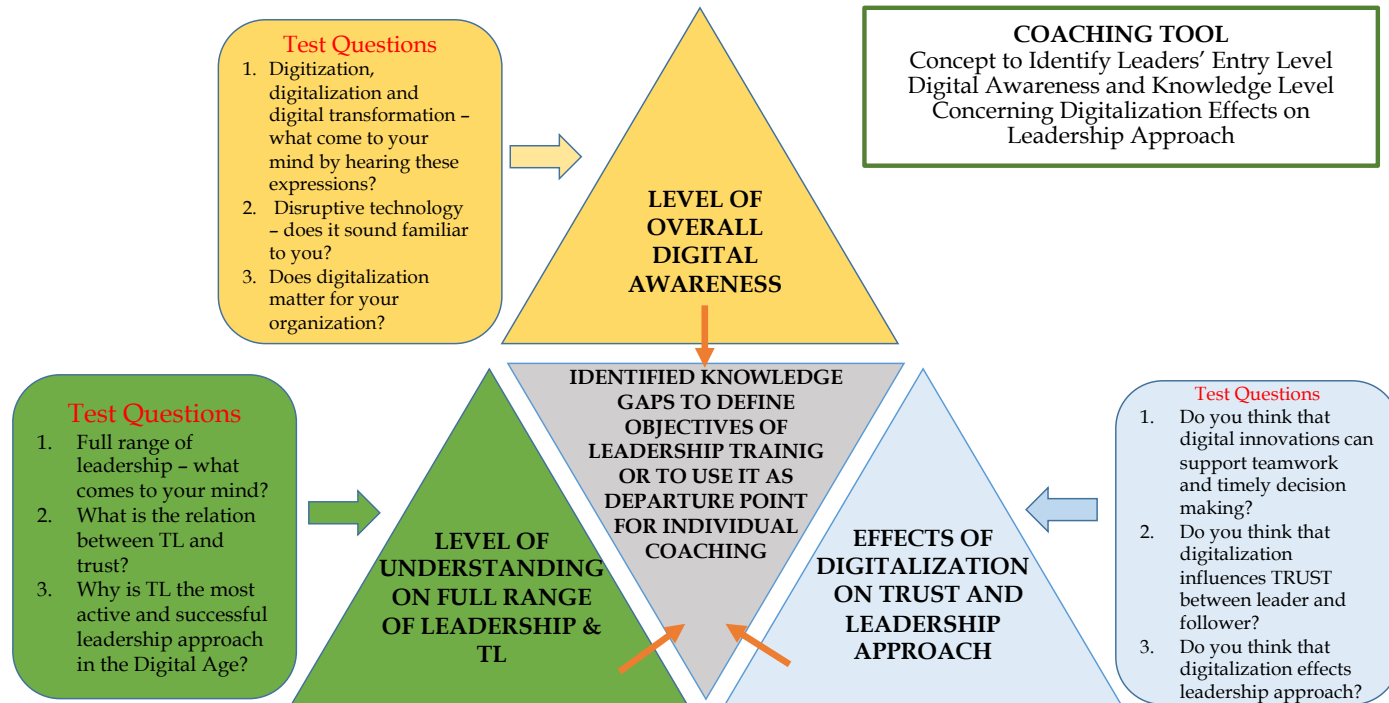
Concept to Identify Leaders´ Entry Level Digital Awareness and Knowledge Concerning Digitalization Effects on Leadership Approach

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12. Eigenständigkeitserklärung

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Hamburg, den 23. November 2022.

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