



# Measuring military organizational culture

The development of command culture effectiveness  
scale

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## ABSTRACT

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The purpose of this study was to develop an empirically based, reliable and valid instrument for measuring command culture effectiveness. The research conceptualized factors of command culture effectiveness and developed a scale to measure them.

Research focused on a German Armed Forces command culture, named *Auftragstaktik* (translated, adopted by Western militaries and better known as Mission Command), which was as a method of competitive advantage and a way to achieve German victories in the battlefields of WWII.

Author researched factor descriptors from existing literature and created starting theoretical model. Then scale items were created. Following the common practice for new scale development, exploratory factor analysis was used to extract main factors. When interpreted, these factors replaced starting theoretical model, and remaining items comprised the measurement instrument.

The multi-factor command culture effectiveness scale can be used both descriptively and diagnostically. Among other things, it presents a practical way to measure an organization's command culture effectiveness and can initially be used to establish a baseline level of command culture effectiveness. From there, it can be used as a metric to chart the organization's efforts as it moves to engender effective command culture.

Key words: *auftragstaktik*, mission command, command culture, command effectiveness, command and control, organizational culture, military culture.

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## 1 INTRODUCTION

**Mission Command** became the desired state of leadership and also - organizational culture in many militaries. There exists research, doctrines and handbooks on this topic. Militaries are developing concepts, courses and training to achieve better state of Mission Command, with a hope, that this culture will lead to a better chance of success in the next battles. (Shamir, 2011a, p. 70).

Though, there are also authors, which claim that Mission Command became the declared value. In reality it is often overruled by detailed command and micromanagement because of quite many complicated reasons (Muth, 2011a; Vandergriff, 2018).

Mission Command is basically centralized planning and decentralized execution, very similar to best business practices, leadership and organizational theories (see chapter 2.2.9). Thus, by examining and measuring Mission Command elements, at the same time we are examining the culture of any effective organization – learning, innovative, developing, inclusive and mission driven.

### 1.1 Thesis topic

In this thesis “Development of Command Culture Effectiveness Scale”, author developed the instrument, intended to measure the elements of Mission Command culture - the existing organizational culture inside the military unit.

### 1.2 Background

Author is an instructor for Leadership in the Military Academy of Lithuania, and sees, how leadership training, which is supposed to lead to a common goal - preparing a successful military leader, sometimes go to different directions.

Author observed in different military and business courses, how many distant subjects, ranging from data-based decision making to marketing, are incorporated into “Leadership” modules. Other course examples have clear and narrow choice, the most radical, probably, being Israel and Finnish militaries,

making Leadership a very precise subject, e.g. - based on Full-Scale Leadership Model and looking forward to improve Transformational Leadership behaviours in their unit leaders (Nissinen, 2001, p. 80).

While broad selections of topics in a subject provide a wide overview for the leader and look forward for this knowledge application way later, or in special conditions, like crisis-situation, more precisely-oriented programs are showing concrete results - leader behaviour change already in everyday life of the unit (Nissinen, 2001, p. 60).

Author's idea is that all these leader development efforts should point to one goal – leader's competence and willingness to employ Mission Command - as a leadership style, culture and philosophy.

Author's initial thesis idea was to measure, how Deep Leadership behaviours impact the command culture effectiveness in the units. Deep Leadership is the program, developed in Finish National Defence University in 2001 (Nissinen, 2001) to assess and develop leadership skills of military leaders in Finnish Defence Forces. Deep Leadership program uses Deep Leadership Questionnaire as a measuring instrument. Second instrument to compare and measure correlations had to be some kind of questionnaire, measuring Mission Command culture, behaviours and/or outcomes. Author was searching in databases, books and finally turned to contact list of military researchers worldwide. Author was very surprised to get replies like "*I have not ever seen similar instrument*". Then author was suggested more and more contacts, who "*might know*" about the existence of such scale. None of them did, but several noted "*It would really be useful to have one*".

So, author could not proceed thesis without having Mission Command scale and with this encouragement started to build it.

### **1.3 Purpose**

The purpose of this thesis is to develop the instrument, which will help to measure and compare military units and find areas for development.

The instrument will help to measure and compare military units and find areas for development. Developmental direction will be easily drawn from the assessed factors. Development might happen via changing training programs, improving leadership behaviour, or other factors, like procedures etc.

#### **1.4 Research objective**

The research objective is to find out, how the command culture effectiveness looks and feels like in the military unit - what are the major factors and items, and to comprise the measurement scale.

Research questions:

1. What is Mission Command construct?
2. What are the prerequisites of Mission Command?
3. What are the expected outcomes of Mission Command?
4. What are major elements/factors of Mission Command?
5. What statements should comprise the scale, measuring Mission Command?

## **2 THEORETHICAL BACKGROUND**

For this study, the author have used the doctrinal documents of US Army and British Army, but the most value for scale development provided research publications on German command culture in German armed forces, since these had unaltered essence of the German culture, which was not always fully understood and translated correctly in British and US manuals (Muth, 2011a).

The elements that Shamir (Shamir, 2011a) and Muth (Muth, 2011b) found in command culture of German armed forces, remind already well-researched constructs - team cohesion, individual and collective efficacy, constructive, sound, situational and transformational leadership, organizational culture, learning organization, innovation culture elements, though, author chose not to use their definitions, instruments and items as basis, since that would increase this questionnaire to several hundreds of items. Author chose to find these elements in the repeating wordings of German doctrine, interviews and findings of previous researchers.

### **2.1 Effectiveness of command culture**

#### **2.1.1 What is command?**

Creveld (Van Creveld, 1985) identifies Command as both an organizational – acquiring information, decision making, dissemination of orders - and a cognitive function, both rational and irrational, which equips commander with ability to deal successfully with uncertainty, to function effectively.

Shamir writes (Shamir, 2011a, p. 10) “Command - organizational activity exercised under the chaotic conditions of battle and that it both reflects and creates military and organizational cultures.” He widens the definition of command as a “collaborative, rather than individual, endeavour involving an entire system”.

Command is seen not only as officer-related task. German army was able to incorporate all officer and non-commissioned (NCO) officer core into the

command tasks, thus getting powerful and aligned organizational culture with engaged personnel. (Shamir, 2011a, p. 26).

Now command becomes not the endeavour of only one commander, but - the whole core of commanders - officers and non-commissioned officers (NCO's) of all-ranks. So, command is seen as culture, more than a simple tool, which is chosen intentionally and cultivated by commanders to achieve organizational goals: "In the new paradigm of leadership an organization is just a tool of leadership, its sub-concept." (Nissinen, 2001, p. 100).

### **2.1.2 What is organizational culture?**

Schein provides widely accepted definition of culture:

A pattern of shared basic assumptions that was learned by a group as it solved its problems of external adaptation and internal integration that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think and feel in relation to those problems. (Schein, 2010, p. 18).

His further definition includes the values, beliefs, and assumptions of the members of an organization. He explains 3 levels of culture, as declared values, artifacts and shared basic assumptions. Thus he explains, what drives people to act in a way they do, and how difficult is it to change existing culture. (Schein, 2010, p. 24).

### **2.1.3 What is effectiveness of the culture?**

Organizations are made to produce results, and leadership is to drive organization to these results by creating efficient culture. Organizational culture often is the answer, why some organizations underperform, while having similar resources, than the others, which thrive.

Organizational culture thus can provide a compelling explanation why specific military organizations may continue to pursue ways of warfare that are incompatible with emerging or prevailing strategic and operational realities or why they resist change. (Terriff, 2006).

There are created different instruments, measuring effectiveness of organizational cultures capture cultural differences that can help to explain



differences in the effectiveness of organizations. (Denison, Nieminen and Kotrba, 2014, p. 146)

In this study, the instrument for measuring the elements of effectiveness of command culture will be developed, based on the case of pre-WWI and interwar German armed forces culture.

## **2.2 Example case of Effective Command Culture - Auftragstaktik**

As the basis for this study, author selected German Wehrmacht (German Armed Forces) command culture as the case, in the period before and during World War II. Author chose it, because German Armed Forces set the example of **operational tempo**, which was researched and imitated afterwards by several greatest militaries in the world. As Boyd stated - "The Germans were able to repeatedly operate inside their adversary's observation-orientation-decision-action loops". (Boyd, 1986, p. 101). Condell and Zabecki put this phenomenon in this way:

The German sees the solution of his tactical problem in the attack, for it is through the attack that the unclarified situation can be best clarified, and a basis reached upon which the commander can best estimate his future action. It may be said almost without danger of contradiction that in a nebulous situation the average German commander will attack. (Condell and Zabecki, 2001, p. 24).

So, operational tempo, through speed of decision-making and operating each cycle faster than the enemy, is seen as unique advantage of German Armed Forces.

### **2.2.1 Historical roots, birth and definition of Auftragstaktik**

#### **Historical roots**

**Auftragstaktik** was initiated during Prussian military reforms, which followed the humiliating defeat at Jena in 1806. It was created to increase the decentralization in the large military units to allow more freedom of action and achieve more agility in the battlefield (Shamir, 2011a, p. 14).

Scharnhorst reforms started new era of fighting doctrine, which Scharnhorst himself described "March Divided, Fight United". Infantry drill regulations in 1812 already had elements of new type of warfare – the basic unit was reduced from battalion to company and new skirmish tactics appeared. Military academy - *Kriegsakademie* - was the institution which was created to spread this idea to the newly selected and educated officer corps. It had best instructors, students were preselected and learning process as intellectually driven and inspired critical thinking and creativeness. Classes were formed from officers from different branches to increase mutual understanding and dialogue. Officers were trained to “include only a mission statement, a statement of intent, disposition of enemy and friendly forces, and special instructions” in the order to keep it short, simple and leave room for freedom for subordinates. (Shamir, 2011a, p. 34).

After Wars of German Unification (1864-1871) were over, debates between proponents of *Normaltaktik* and *Auftragstaktik* emerged once again. Both parties agreed that war is changing rapidly together with the technology, both emphasized manoeuvre and firepower. The only major difference was – centralized control over decentralization. Centralized control would be achieved by standard and rigid formations in observable battlefield, decentralization – by dispersing troops and allowing independent action. (Shamir, 2011b, p. 44)

Nevertheless, the opposition – majority of officers still were traditionalists and proponents of *Normaltaktik* - drill regulations of 1888 abandoned company and battalion columns, proving the movement towards decentralization and disconnecting further from *Normaltaktik*. Opposition to reform of traditionalist officers continued for decades – disregarding new tactics, new weapons and continuing old ways of warfare. Drill regulations of 1906 again emphasized the importance of *Auftragstaktik*, continuing the perseverance towards the continuous stable line of doctrine evolution. (Shamir, 2011c, p. 45).

In the early stages of reform - Chief of General Staff Helmuth von Moltke the Elder was disappointed by the amounts of detailed paperwork in the orders process during war games. That paperwork, or - in other words - detailed and

slow decision making was not helping new manoeuvre style of fighting. He noted that:

“As a rule, an order should contain only what the subordinate for the achievement of his goals cannot determine on his own... This remains right through today the clearest and most concise definition of mission command without the need for elaborate and wordy explanations” (Muth, 2016).

Moltke argued that “only intent, mission, resources and constraints - most necessary details for the execution, should be given to the commanders in the order, leaving all the rest to decide by them.” (Shamir, 2011a, p. 40). The idea was explained in Instructions for Large Unit Commanders:

In general, one does well to order no more than is absolutely necessary and to avoid planning beyond the situation one can foresee. These change very rapidly in war. Seldom will orders that anticipate far in advance and in detail succeed completely to execution. The higher the authority, the shorter and more general will the orders be. The next lower command adds what further precision appears necessary. The detail of execution is left to the verbal order, to the command. Each thereby retains Freedom of action and decision within his authority.” (Helmut Karl Bernhard von Moltke, 1900, as cited by Vandegriff (2018).

Shortening orders at the same time means releasing part of preplanning and control. Coordination is left in question – how to ensure that every unit will act in the way highest commanders intended to? Boyd’s answer to this question is initiative, targeted towards the intent:

“The secret for coordinated action in the German command and control system lies in what’s unstated or not communicated to one another — to exploit lower-level initiative yet realize higher-level intent, thereby diminish friction and reduce time, thus gain both quickness and security.” (Boyd, 1986, p. 79).

The idea of releasing control and ensuring the initiative needs to have support - trust for the competence of the subordinate commanders. Analysing German officers, it is important to note, that their competence and commitment had roots in tradition and culture. Officers had intellectual tradition of reading and analysing the same battles, campaigns. Officers’ doctrine was for hundreds of years similar - find enemy, move towards and attack - as soon as possible.

Among the exemplars for the officers was Frederick the great - most aggressive commander on his day. E.g. in 7 years' war, when Prussians attacked again in unfavourable situation, he explained to one of his officers - "Prussian army always attacks - we'd be foolish to give up advantages the attack provides". Another exemplar was Marshal Blucker. He rarely stopped to ask, how strong is the enemy, he asked - where is he. Thus, he had a nickname - *Vorwärts (Forwards)*. Third example was Zieblitz - Germans still studied and analysed earlier commanders in the modern age - independent cavalry commander. His famous phrase to his superior is "If you want my head, take it after the battle, but if you want that cavalry attack, quit bothering me and let me use it in the service during the battle".

Aggression and attack were the invisible core of the fighting culture and philosophy. As Muth noted, most frequent words in German doctrines were *Angriff* and *Führen (lead, command)*, in contrast US Army doctrines of the same period favoured *Manage and Doctrine*. (Muth, 2011a). Making aggression a top priority reduced other capabilities, but at the same time - ensured the rapid nature of warfighting. "German army stressed fighting power *Kampfkraft* over less glamorous aspects of war as admin, logistics, intel, counter-intelligence, all of which were among the worst in the field in WWII" (The USAHEC, 2014).

This rapid style of warfare put requirements on military - officer core had to be independently minded, with extremely high level of battlefield aggression and one which was trained to launch attacks no matter what the odds. German military schools emphasized individual decision making, as a tool for continuous aggression. The outcome of tradition, training and tactics was *Selbständigkeit* - independence of lower-level commanders and lightning rapid style of warfare – Blitzkrieg, but before it was smaller scale initiative - *Stosstrupen* (Shock troops).

In WWI obvious use of *Auftragstaktik* emerged in lower levels than before – under the name *Stosstrupen*. It were small section-sized units, with various weapons to achieve great firepower, commanded by NCO's. This event finally brought decentralization to the lowest units in the army – sections. (Shamir, 2011c, p. 46).

Following publication *Führung und Gefecht der verbundenen Waffen*, or F.u.G. was published in 1921-1923. “It largely neglected defensive fighting, especially the concept of delaying resistance. Delaying resistance was initially understood as morally corrosive and prohibitively risky.” (Murphy, 2010). Later, in *Truppenführung*, defence reclaimed its face, but nevertheless it was subordinated to the offensive style of warfare.

***Truppenführung*** (published in 1934) was the main body of instructions, which made *Blitzkrieg* possible. It continued ideas of *F.u.G.* about *Auftragstaktik*, though – not mentioning it. *Truppenführung* put one more step towards the most extreme level of decentralization – “The regulations detailed the expected approach to command extending its application to the lowliest private”. (Condell and Zabecki, 2001, p. Corum "Foreword") .

The goal of continuous evolution of doctrine was offensive, aggressive and fast warfare. Prussian-German army was used to fight short and lively wars, because small country could not withstand long wars of attrition with larger neighbours. Neighbours typically will outnumber and outproduce Prussians in 4 to 6 weeks that will end in decisive army battle. The short wars were made possible with manoeuvre tactics *Bewegungskrieg*, concept fundamental to the success of ***Blitzkrieg***. *Bewegungskrieg* is battle of rapid movement of large units, up to army groups, aggressive, even reckless attacks on every target of opportunity. (The USAHEC, 2014)

*Blitzkrieg* was the result of German tradition of aggressive offensive tradition, combined with the new decentralised command and control philosophy *Auftragstaktik*, enhanced to the higher order of magnitude by *panzer* (mechanized, or - tank) division and radio communications capabilities. *Blitzkrieg* went further with utilising Clausewitzian *chance* – *panzer* divisions were so fast and so powerful, that they were used not only to exploit opportunities, but – to create them. (Shamir, 2011b, p. 49).

Boyd explains the *Blitzkrieg* as an envelopment of large enemy units by highly mobile mechanised troops, and simultaneously looking for and exploiting

opportunities to inflict casualties, using smaller units initiative and finding targets of opportunity in their way.

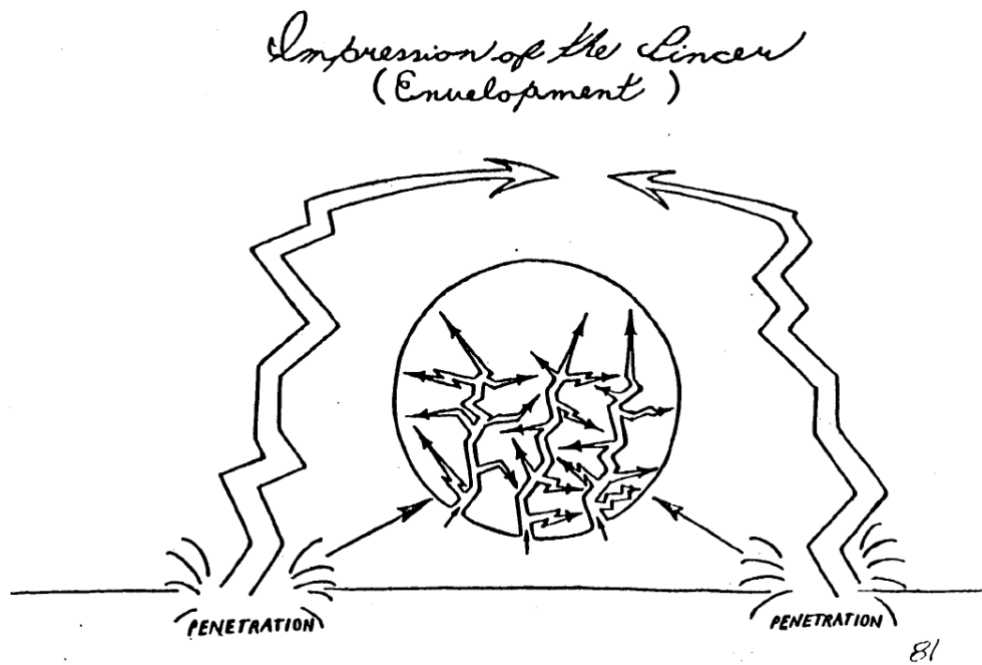


FIGURE 1. German tactics of mechanized penetration and encirclement. (Boyd, 1986, p. 81)

Boyd pictured *Blitzkrieg* tactics as front penetration with large, mechanized columns at several places, thrusting deeper with full speed. At the same time smaller tactical units were spotting and using opportunities (small arrows in the scheme) to inflict any possible damage and chaos in all opportunities along the way, in order to create disorder in adversaries' communication and decision-making systems. Then, finally – closing the columns in pinching manoeuvre and annihilating surrounded enemy inside with as short battle as possible (Boyd, 1986, p. 70).

To achieve victories and be ready for next battles as quickly as possible, German operations were frontloaded - first blow was the most planned, prepared and supported to win fast. If defenders had absorbed German first blow, they had good chances to hold the position later. The German goal was to manoeuvre

large units /armies, divisions/ to make a rapid and annihilating blow as early as possible, with the desired end state as a *Kesselschlacht* - encirclement battle. (The USAHEC, 2014). This type of flexibility and creativity in high echelons while looking for decisive opportunity to destroy enemy as soon as possible in the quick final battle *Kesselschlacht* reminds Clausewitz idea of *decisive battle*, which Boyd called as “*bloodbath*” (Boyd, 1986, p. 42).

### Definition

Condell and Zabecki, editors of English translation of *Truppenführung*, define *Auftragstaktik* as wide degree of freedom, or – latitude in accomplishing orders:

“One of the most important concepts of the post–World War author German military system was that of *Auftragstaktik*. The term can be translated loosely to “mission type orders,” but there is no real English equivalent that adequately conveys the full meaning. *Auftragstaktik* is based on the principle that a commander should tell his subordinates what to do and when to do it by, but not necessarily tell them how to do it. In accomplishing their missions, subordinate commanders are given a wide degree of latitude and are expected to exercise great initiative.” (Condell and Zabecki, 2001).

Shamir described *Auftragstaktik* as decentralized leadership:

Philosophy that requires and facilitates initiative on all levels of command directly involved with events on the battlefield. The principal idea here is to increase the responsibilities of the individual man, particularly his independence of action, and so - increase the efficiency of the entire army...It [*Auftragstaktik*] encourages subordinates to exploit opportunities by empowering them to take the initiative and exercise judgment in pursuit of their mission; alignment is maintained through adherence to the commander’s intent.” (Shamir, 2011b, p. 3).

Ad Vogelaar and Eric-Hans Kramer argued that mission command is based on “autonomy of action, clarity of objectives, adequacy of means to accomplish the mission and mutual trust.” (L. W. Vogelaar and Eric- Hans Kramer, 2004, as cited in Shamir (2011a, p. 26).

There is long discussion in literature, how *Auftragstaktik* should not be understood as a way of phrasing the orders. Muth accents incorrect and too narrow translation of the term:

The term *Auftragstaktik* itself is not self-explanatory - "The problematic translation of that core German military word into 'mission type orders' completely distorts its meaning. *Auftragstaktik* does not denote a certain style of giving orders or a certain way of phrasing them; it is a whole command philosophy (Muth, 2011a).

Shamir points to the special type of leadership, seeing individual as capable of taking decisions:

"*Auftragstaktik* is therefore not merely a technique for issuing orders but a type of leadership that is "inextricably linked to a certain image of men as soldiers." Subordinates were not relegated to the status of robots, simply following orders, but rather were regarded as individuals capable of making independent judgments" (Shamir, 2011b, p. 15).

Perrett uses powerful metaphor "long distance tickets" to define idea of *Auftragstaktik*:

"It was the principle of control by directives (*Auftragstaktik*) giving commanders of all levels 'long distance tickets' which, together with the thorough and uniform standard of General Staff training, exploited creativity and responsible independence to the utmost." (Perrett, 1986, as cited in Antal, 1990, p. 53).

### **2.2.2 Success and death of *Auftragstaktik***

*Auftragstaktik* proved effective in defeating Napoleon, and later - in the wars of Unification of Germany. Most recent evidence was the performance of German Armed Forces in the beginning of World War II. In 1942 May-June, German army was already suffering from the *Blitzkrieg* price paid, but, nevertheless, 40% demotorised, numerically inferior German Armed Forces achieved 5 major victories. In May Manstein won in Crimea and Kharkov, Romel in Gazala, Egypt, in June - Manstein in Sevastopol, and Romel in Tobruq. (The USAHEC, 2014).

Corum wrote that competence, preparedness and success was common feature of German Armed Forces, even in difficult situations:

During the first half of World War II the German Army rampaged across Europe, through Poland, France, Norway, the Low Countries, the Balkans, North Africa, and deep into Russia in an unprecedented string of operational successes. In the second half of the war, as the Wehrmacht was pushed back on all fronts and eventually defeated, the German Army repeatedly demonstrated great tactical and operational competence in



fighting enemies who outnumbered it. Despite the evil nature of the regime that it served, it must be admitted that the German Army of World War II was, man for man, one of the most effective fighting forces ever seen. (Condell and Zabecki, 2001, in foreword).

More vivid example of common tactical successes of German units fighting in outnumbered battles comes from Jorg Muth:

In the National Archives there are numerous American intelligence reports from all theatres similar to this one: An American regiment had finally, after three days of hard fighting, with overwhelming artillery fire and close air support taken a German position. It had been held by an understrength battalion put together from three broken up units commanded successfully by a 22-year old lieutenant who had taken over two days ago because all his superiors had died in battle.” (Muth, 2011b).

Muth summarises “The sources show in abundance that on the tactical level in the majority of battles the German officers held the command superiority in World War II” (Muth, 2011b).

Antal points out, that German will to fight was remaining in inadequate logistic and unfavourable tactical situations:

„What is more extraordinary is the fact that the German Army achieved these victories in the teeth of considerable numerical odds, and, as often as not, inadequate logistic preparations... Although Germany lost the war, the Wehrmacht did not run. "it did not disintegrate. It did not frag its officers. Instead it doggedly fought on.... It fought on for years after the last hope for victory had gone....Yet for all of this, its units, even when down to 20 percent of their original size, continued to exist and to resist - an unrivalled achievement for any army” (Creveld, 1982, as cited in Antal, 1990, p. 53).

It is difficult to argue, which side had better command system, since Germany has lost the war. Though, Corum puts it this way „What explains the German battlefield success in 1940 and in the first half of the war was a superior doctrine.“ (Condell and Zabecki, 2001, in foreword).

Truppenfuhrung, as a major body of doctrine for the command of army units, “a document which is widely regarded to be the single most important work of western military thought since the First World War”(Murphy, 2010) will be

analysed in detail here, in order to research foundation, elements and outcomes of command culture of German Armed Forces' *Auftragstaktik*.

It is important to note, that *Auftragstaktik*, as such, experienced sharp decline in operations, meeting Hitler's micromanagement style:

The death of German *Auftragstaktik*, on the strategic and perhaps operational levels, occurred on the Eastern Front in December 1941. After the Red Army halted the Germans at the gates of Moscow, Hitler issued his famous "stand fast" order and assumed command of OKH (Oberkommando des Heeres), the headquarters responsible for the entire front. His first order of business was to demand detailed reports from all commanders down to the divisional level. Hitler asked to be informed of any failure to follow orders or complete missions and then fired some generals for effect, including Heinz Guderian" (Shamir, 2011b, p. 52).

This was the road mark, after which *Auftragstaktik* started to decline, especially in strategic and operational levels of command. (Shamir, 2011b, p. 52)

### **2.2.3 Early research – attempts to understand *Auftragstaktik***

German military was constantly investigated by US Army observers since 19<sup>th</sup> century (Muth, 2011b). *Auftragstaktik*, as a concept was neglected for long time by Western armies. In the second half of Cold War "West began to seek means of offsetting the Red Army's quantitative superiority. The search led the Anglo-Americans to re-examine the fighting qualities of the Wehrmacht; they discovered the pivotal role played by mission command in securing Germany an edge over its rivals". (Shamir, 2011b, p. 4)

One of the observers of German military, Wedemeyer explained Mission command by: "Better a faulty plan or decision permeated with boldness, daring, and decisiveness, than a perfect plan enmeshed in uncertainty." (Wedemeyer, as cited in Condell and Zabecki, 2001, p. 23)

Though, many reports did not get through the facade of the organisation and mistakenly accepted similar to managerial practices of that time:

A somewhat more cynical outlook views mission command as just another technical or managerial concept, similar to a score of others examined and

discarded, such as Management by Objectives (MBO), Total Quality Management (TQM), Reengineering, or Just in Time (JIT), all produced primarily by corporate America. (Shamir, 2011b, p. 5).

Observers were trying to find secret command style, but, as Creveld noted, “Command cannot be understood in isolation.” (Creveld, as cited in Shamir, 2011b, p. 29). Some essential understanding of organizational culture was missing, which hindered the adoption of *Auftragstaktik* in several Western militaries.

#### **2.2.4 Implementation – attempts to implement *Auftragstaktik***

Largest implementor of *Auftragstaktik* was the US Army. British Army, Israel Defence Forces, Canada Defence Forces and many others also took the concept over, but US Army built a vast continuous official process of implementation.

US Army started implementation of Prussian model in 1903 by creating General Staff and General Staff College. It suffered the quality gap though, because of not having proper selection of candidates, not ensuring the quality of teachers and not ensuring that graduation of these schools would be major and inevitable milestone in the future career of a senior officer (Muth, 2011b).

US Army was inclined towards Mission Command, though, it’s regulations were overly detailed and trying to “foresee many different situations.” (Shamir, 2011b, p. 62). General Philip Henry Sheridan noticed changes in the new officer education going wrong, and warned: “an imitation of the Prussian scheme in its details instead of in its spirit” would be a mistake. (Sheridan, as cited in Muth, 2011a, p. 19).

Johnston argues, that change of warfighting method is “a task at least very difficult” during peace time. It does not finish with merely rewriting doctrine:

Deeper questions must be asked about how to push the new doctrine into the collective mindset of the army. - - How are attitudes passed on? What are the army’s collective experiences? What proclivities are rewarded? What are formative experiences in the careers of its officers?... At the very least, a doctrinal rewrite should involve not just the re-release of field manuals, but changes in training, personnel, promotion, and perhaps even recruitment policies. ...It is not enough to write new doctrine, if the purpose

is to change the way an army will fight. Ultimately, an army's behaviour in battle will almost certainly be more a reflection of its character or culture than of the contents of its doctrine manuals." (Johnston, 2000)

Further, Shamir noted that "a successful adoption of mission command requires profound cultural change and a process of adaptation because it relies on specific supporting cultural characteristics. The desire to adopt a successful practice is often hindered by the inherent organizational aversion to change." (Shamir, 2011b). Process of implementation was researched and conclusions remain sceptical: "While accepting the importance of historical precedents, however, it is also widely recognized that mission command today is not a mere imitation of twentieth-century practices." (King, 2017).

Shamir concludes "Generally speaking, while the process encouraged the armies to reform doctrine, education, and training as well as to re-examine their command approach, mission command was realized only in some places some of the time." (Shamir, 2011b, p. 201).

### **2.2.5 Culture as the foundation for Auftragstaktik**

Mission command was researched, copied and imitated, but with limited success. Most observers saw the facade, but missed the inner spirit - the organisational, or command culture of German Armed Forces. The understanding of German doctrine is only start; culture has to be explored. "Fundamentally, how armies fight, may be more a function of a culture, than of their doctrine." (Johnston, 2000).

The culture of German army is controversial and might not be equally accepted into standard military thinking:

For Auftragstaktik to work, a subordinate leader or even a common soldier given a mission must fully understand his commander's intent—and in most cases, the intent of the next higher commander. This, of course, implies that the subordinate leader must understand "why." If he doesn't understand, he has the obligation to ask. Conversely, the superior leader issuing the order has the obligation to explain. Such a process does not fit the popular stereotype of military organizations in general, nor especially is it characteristic of German society. Thus we find in *Truppenführung*

passages that would still be considered radical in many of the world's armies today". (Condell and Zabecki, 2001, p. 4).

This radically "liberalistic" culture was nurtured inside the units of German Armed Forces, nevertheless the German civilian society at the same time was much more conservative "Although traditional German deference to higher authority and preference for well-defined procedures are the very antithesis of *Auftragstaktik*, the German Army made it work to a degree unsurpassed by any other army in history". (Condell and Zabecki, 2001, p. 5). These findings are counterintuitive for many, thinking about hierarchical culture in Germany.

It is important to note, that hierarchy was reduced in the army intentionally and with great success: "Seeckt Reforms set out to eliminate from the army many of those [hierarchy] barriers, in order to form a more cohesive fighting force based on trust, mutual respect, and genuine feelings of comradeship—regardless of social background or the level of one's military responsibilities and authority." (Condell and Zabecki, 2001).

The culture of command in German armed forces, suitable for *Auftragstaktik*, had been formed in all important areas of personnel policy. Education was the first one: "Future officer did primary military education in very liberal military training institutions - *Kriegshule*'s. Instructors were among the best, tactical dialogue ruled in classrooms, as opposed to memorising doctrinal solutions. There was no right answer to tactical dilemmas, all options were subject to debate between cadets and instructors." (Muth, 2011b).

Continuous selection for rank and position was a norm: "Cadets were not automatically commissioned as officers - they needed to spend time in regiments and be approved by regimental commander." (Muth, 2011b).

Highest military education provider, *Kriegsakademie*, was open to every officer. It was not only available, but officers were encouraged and allowed to participate in preparation and entrance exams. Even for those, who did not enter, it was an effective studying practice, since preparation took more than year and gave skills needed for senior officers. (Muth, 2011b).

This selection-education-promotion system made sure that only the best officers follow the command career path, and others are not left behind, but also - supported by highest quality education and training. Thus, it formed an officer corps, which could be trusted as a whole.

Mission Command in German Armed Forces was based on organisation culture. And, like any culture, it had visible and invisible layers, as Schein calls - Artifacts, Espoused Values and Shared Basic Assumptions (Schein and Schein, 1980)

Easily observable element - Artifact - was the orders format, which was mistakenly copied by many.

Espoused Values were declared in *Truppenführung* - Speed in Reaction, Clarity of Mission, Independent Action and Proactivity - though, not specifically in these terms. These will be explored in following chapters.

Shared Basic Assumptions were ruling the officers common background, shared values, education and attitudes, nurtured via selection-education-promotion processes. Those might be called Trust and Competence and Initiative. (Muth, 2011b).

### **2.2.6 Expected outcomes of effective command culture**

Systems are created to achieve certain outcomes. In this chapter author will analyse, what outcomes are expected of military leaders and command culture of their organisations.

“Leaders are those, who have the most influence, building the culture. They set the standards, require and support certain behaviours of subordinates, thus promoting certain values, and demoting opposite behaviours.” (Schein and Schein, 1980).

Leader’s behaviour thus lead to outcomes. Burns writes, that leadership is measured by its outcomes “Power and /leadership are measured by the degree of production of intended effects” (Burns 1978, as cited in Nissinen, (2001)).

Nissinen adds, that “the outcomes can be measured at different levels: at the level of an individual, the group and the entire organisation” (Nissinen, 2001)

Clark and Clark argue that leadership behaviour should always be directed towards, and measured by certain outcomes of organisation:

“With the help of the outcomes, it is possible to concretize the connection between leadership behavior and the effectiveness of group activities. High-quality study of leadership must apply qualitative research methods and above all produce information about the behavior of the leader in relation to the operating environment and the organizational outcomes. Measures of favourable outcomes for a group are always possible. Military organizations seek success in battle, increased combat readiness, increased troop reenlistments, or higher scores on training exercises. In any case, outcome measures relate directly to fundamental organizational objectives. (Clark & Clark 1996, 93 - 95.)

### **Operational tempo**

High operational tempo is desired feature of many military organisations. Boyd, after analysing dozens of battles author military history, stated “In order to win, we should operate at a faster tempo or rhythm than our adversaries - or, better yet, get inside adversary’s Observation-Oriented-Decision-Action time cycle or loop.” (Boyd, 1986).

Analysis of German Armed Forces performance in WWII showed, that “Germans believed they could operate mentally faster than their enemies. The Germans mean “faster” not just in terms of raw, physical speed, but “faster” in terms of making better decisions. Timely and better decisions results in better physical speed relative to the enemy.” (Kjoerstad, 2010).

German military culture was so efficiency oriented, that ever minute counted: “The entire operational and tactical leadership method hinged upon...rapid, concise assessment of situations, quick decision and quick execution on the principle: ‘each minute ahead of the enemy is an advantage’ Gen. Blumentritt, as cited in Boyd (1986, p. 79). Boyd adds “Blitz and Guerrillas, by operating in a directed, yet more indistinct, more irregular, and quicker manner, operate inside their adversaries' observation-orientation-decision-action loops". (Boyd, 1986)

Truppenführung emphasises the decisiveness “The first criterion in war remains decisive action. Everyone, from the highest commander down to the youngest soldier, must constantly be aware that inaction and neglect incriminate him more severely than any error in the choice of means.” Further, it deconstructs how decisiveness and tempo is achieved:

Favourable situations must be quickly recognized and decisively exploited. Every advantage over the enemy increases one’s own Freedom of action...Effort is needed not only to achieve own tempo, but also - to destruct enemy’s reaction timeline. Surprise is a decisive factor in success. Actions based on surprise are only successful if the enemy is given no time to take effective countermeasures. (Condell and Zabecki, 2001, p. 32).

Tempo can be maintained also in situations, where orders are not valid anymore:

The decision may not always correspond to the actual situation presented. In such situations the commander most likely to succeed is the one who makes the quickest and most skilful use of any further development of the situation, without allowing himself to be distracted from his original decision, except for compelling reasons. (Condell and Zabecki, 2001, p. 63).

Antal (Antal, 1990), analysed orders making process in German, Russian forces and US Army and he concludes: “The emphasis on winning battles by higher speed than enemy led to quick decision-making culture in German Armed Forces. The result was an orders process that achieved a remarkably short decision cycle.” He gives detailed example how that was achieved:

In Russia, during World War II, German division commanders were able to receive orders at 2200 and issue their own orders to the regiments by 2400. Division, corps, and army staffs were small and contained few decision-makers. The decision process was usually very fast and not characterized by exhaustive details and analyses by the staff and specialists. This was accompanied, however, by very competent and detailed ongoing staff work and superb staff planning and execution once decisions had been made. (Antal, 1990).

Decision making, orders production and dissemination cycle in German Armed Forces was organised so, that minutes counted more than the format of official orders. Gen. Von Mellentin in the interview remarked:



Bill Renagel: *General, in mobile operations in maintaining a fast tempo ... what are the coordination mechanisms that the staff and commander have to resolve to keep the Schwerpunkt going in the direction and to the objectives that you want? Can you sort of just generalize about those kinds of control mechanisms?*

Von Mellenthin: *You know, in a tank division there are no written orders. There are only verbal orders, and the commander of the division can have assistant officers with radio connection to him at the place of the various regiments which inform him about movement. This keeps him informed, by radio.*

Pierre Sprey: *... What would be your impression of the effect on operations and the effect on the speed of your divisions and the mobility of your divisions if you had to transmit all your orders by teletype - perhaps via a computer.*

Von Mellenthin: *Forget about it.*" (Walters, 1989, as cited in Antal, 1990)

Often, high operational tempo is determinant of success in battle. Boyd, after analysing the most important battles in military history, concluded: "He who is willing and able to take the initiative to exploit variety, rapidity, and harmony - as a basis to create as well as adapt to the more indistinct - more irregular - quicker changes of rhythm and pattern, yet shape focus and direction of effort - survives and dominates." (Boyd, 1986).

Considering the written above, it is clear that *Autragstaktik* main expected outcome was high operational tempo. The elements of the battle, which hinder or ensure the tempo, were already laid down by Clausewitz - "Endeavouring to understand the dynamics of war, Clausewitz developed powerful interrelated concepts: **friction**, **chance**, and **fog**. Mission command was designed as a means of countering the impact of these forces on the performance of military organizations." (Shamir, 2011b, p. 10).

The following chapters will provide the elements, which are contributors to the operational tempo, based on Clausewitz's friction, chance, and fog:

1. Thriving in uncertainty,
2. Independent problem solving
3. Rapid exploitation of opportunities.

### **Thriving in uncertainty**

Information in battle is often incomplete or even deceiving. One of the first to describe uncertainty or distorted information, was Carl von Clausewitz - he calls it “fog of war” or, more exactly - “twilight”. Speaking of the unreliability of information in war, Clausewitz notes that “all action takes place, so to speak, in a kind of twilight, which, like fog or moonlight, often tends to makes things seem grotesque and larger than they really are.” (Kiesling, 2001).

Discussing *military genius* in chapter 3 of book I, Clausewitz writes that “war is the realm of uncertainty; three quarters of the factors on which action is based are wrapped in a fog of greater or lesser uncertainty.” (Clausewitz, 2008).

Uncertainty of information acts as an impediment to vigorous activity. Boyd criticized, that “Clausewitz was concerned with trying to overcome or reduce friction/uncertainty”, and proposed to increase uncertainty for the opposing force by deception instead (Boyd, 1986).

*Truppenfuhrung* finds a simple, but not easy way of dealing with by embracing it: “Uncertainty always will be present. It rarely is possible to obtain exact information on the enemy situation. Clarification of the enemy situation is an obvious necessity, but waiting for information in a tense situation is seldom the sign of strong leadership—more often of weakness.” (Condell and Zabecki, 2001, p. 23). Uncertainty delays decisions of untrained, inexperienced and incapable military commanders, but is overcome by will and intuition of those who are selected and trained well. Commanders, coping with uncertainty, take bold decisions quickly, thus making start for high operational tempo.

### **Independent problem solving**

Unforeseen problems - friction - as depicted by Clausewitz, in all command levels require additional time, or effort, or - both from leaders and units in all levels. The longer chain of command is solving these problems, the longer decision-making process and longer the time to solve the problem.

Napoleon, Clausewitz, and Jomini viewed the conduct of war and related operations in essentially one direction - from the top down - emphasizing adaptability at the top and regularity at the bottom. (Boyd, 1986). Though, new maneuveristic approach needed not only generals, as *military geniuses*, but also - a thinking officers, NCO's and even – soldier's. (Condell and Zabecki, 2001).

Problem solving requires taking responsibility and will to endure: “The joy of taking responsibility is the most distinguished leadership quality. This shows how important the Germans viewed responsibility. They strove to cultivate officers who not only accepted responsibility, but actually thrived and excelled in situations where great responsibility was suddenly thrust upon them.” (Kjoerstad, 2010).

Truppenführung deals with unforeseen problems with the will and flexibility of the commander:

The course of action must designate a clear objective that will be pursued with all determination. It must be executed with the full will of the commander. Victory often is won by the stronger will. Once a course of action has been initiated it must not be abandoned without overriding reason. In the changing situations of combat, however, inflexibly clinging to a course of action can lead to failure. (Condell and Zabecki, 2001, p. 23).

Decentralised command is an answer to independent and quicker problem solving. It ensures problem solving in the same level the problem arose and by the leaders who are closest and have hands-on information of the situation. Thus, independent problem solving is among the mostly required outcomes, which leads to shorter reaction time, which in order ensures, that operational tempo is not reduced by minor obstacles.

### **Rapid exploitation of opportunities**

Battlefield is not only full of unexpected obstacles, but also - unforeseen possibilities. By having a culture, which allows everybody in the field use the smallest chances they encounter, military organisation is continuously collecting and compounding advantages over the enemy. To achieve that culture, not only action and initiative has to be promoted, but inaction also has to be demoted:

An unforgivable mistake in such a culture is one of inaction. Waiting for perfect information before making any decision was not tolerated. This attitude extended down through the ranks, to the individual soldier. As Dr. Bruce I. Gudmundsson has written, the German Army was, since the days of Frederick the Great, one of “the most decentralized ones in Europe. (Vandergriff, 2018).

Capability to change the plans instantly in order to chase and exploit unforeseen opportunities increases operational tempo, allows to brake enemy’s planning cycle and force him to be less prepared for operations. (Boyd, 1986).

### **2.2.7 Elements of effectiveness in command culture**

This section will deconstruct the practices of Mission Command to detectable and measurable elements, which can lead to measuring and implementing this philosophy into practice.

#### **Clarity of mission**

While trying to be as fast as possible and let commanders take decisions in shortest time, Germans made sure the orders are easy to understand by subordinates. Keeping in mind, that some of the orders were issued only verbally, the clarity was important to keep units directed to the plan of the superior commander. That was made by ensuring clear mission, end result, plan and discussion. Orders communications process had to clearly help to build “Understanding of and adherence to higher intent and the potential tension with the local mission” (Shamir, 2011a, p. 26).

Understanding mission comprises of clear task, measurable end result, understandable plan and discussion to agree on “the contract” between commander and subordinate.

#### **Clear task**

Clear tasks were important to the **Schwehrpunkt** (main focus, main effort, center of gravity) concept in German Army. They emphasised the most important to be done and ensured that it is in the focus of commander. “The mission and the situation define the course of action (Grundlage für die Führung). The mission

dictates the objective. The responsible commander must not lose sight of it.” (Condell and Zabecki, 2001, p. 36).

Truppenfuhrung ordered to look at the orders from the side of recipient: “The order must be short, clear, specific, and complete. It must be understandable by the recipient and conform to his situation. The commander who issues the order must always put himself in the position of the recipient.” (Condell and Zabecki, 2001, p. 30).

Orders had to be extremely clear:

Clear orders are an important condition for the smooth cooperation of all commanders”. Even the choice of language was important. The language of orders must be simple and understandable. Clarity that eliminates any doubt is more important than correct format. Clarity must not be sacrificed for brevity. Meaningless expressions and figures of speech that lead to partial measures should be avoided at all costs. Exaggerations make dull reading. (Condell and Zabecki, 2001, p 65, 74).

Orders should not go into planning too far ahead:

If changes in the situation are anticipated before an order can be executed, the order should not go into detail. This is especially important in larger operations, when orders must be issued for several days in advance. The general intent is stated and the end to be achieved must especially be emphasized. The general intent must be stated for the execution of impending operations, but the method of execution is left to the subordinate commanders. (Condell and Zabecki, 2001, p 76).

### End result.

End result, or end state is “our ultimate goal”, which has to be reached by accomplishing the mission. (Shamir, 2011a, p. 118). It has to be single in order to keep commander’s focus - “A mission that consists of multiple tasks can easily distract attention from the main objective.” (Condell and Zabecki, 2001, p. 36).

### Clear plan

Clear plans required brevity: “The more urgent the situation, the shorter must be the order. Verbal orders, where the circumstances allow, must be given based on the actual terrain and not simply on the basis of map inspection.” (Condell and Zabecki, 2001, p 68).

Since Moltke, orders in Germany had to contain only the essential “An order should contain all that a subordinate needs to know to be able to execute his mission—and nothing more. Accordingly, the order must be short, clear, specific, and complete.” (Condell and Zabecki, 2001, p 73).

### Discussion

To ensure the comprehension of orders, avoid misunderstandings and to take the critique and advice from subordinates, commanders were to explain orders: “As far as the situation permits, the commander will explain his intent verbally to his subordinate commanders. He may not, however, become dependent on his subordinates. Decisions and orders are his responsibilities alone.” (Condell and Zabecki, 2001, p 31).

Boyd called this discussion a “contract” between a commander and subordinate, which is done only when both parties agree and which in turn ensures it is accomplished with initiative and perseverance. (Boyd, 1986, p. 76).

Shamir noted the need for high trust in this contract:

The doctrine, firmly rooted in Prussian-German military culture and experience, presupposes the existence of trust in the subordinate’s ability to act wisely and creatively without supervision when faced with unexpected situations. Essentially, it is a contract between commander and subordinate, wherein the latter is granted the freedom to choose unanticipated courses of action in order to accomplish the mission. (Shamir, 2011b, p. 3).

### **Speed in reaction**

Clarity in orders was followed by rapid execution:

“The entire operational and tactical leadership method hinged upon...rapid, concise assessment of situations, quick decision and quick execution on the principle: ‘each minute ahead of the enemy is an advantage. That made possible to operate at a faster tempo or rhythm than our adversaries - or, better yet, get inside adversary’s time cycle or loop”. (Boyd, 1986, p. 79).

Speed in reaction can be divided in 3 parts - short decision-making cycle, speed of transferring those decisions to the units and early preparations of the unit for the upcoming action.

#### Short decision-making cycles

The German Armed Forces' tactical orders process was an important combat multiplier. The German Armed Forces exhibited a consistently short decision cycle and gained a decided time advantage over their opponents. The German Armed Forces tactical orders process was simple, verbal and mission oriented. The process was geared to decisive action. It emphasized the integration of Intelligence information and based planning flexibility on the Intelligence product. (Antal, 1990, p. 55).

Decision making was as short as possible in German army. Though, it was not reckless. Truppenfuhrung states, that "Every decision is preceded by an estimate of the situation. This process requires rapid mental effort, simple and logical consideration, and a clear focus on only the essentials." (Condell and Zabecki, 2001, p. 59). By practicing to concentrate only on the essential, German officers learned to save time by leaving all minor details to be solved by competent colleagues - junior officers. Everybody in the chain of command was supposed to get only the most important information, thus saving time in decision making "Every effort must be made to relieve the commander of the burden of unnecessary detail" (Condell and Zabecki, 2001, p. 118).

Many times, even shorter cycles were used, employing fragmentary orders: "Often, the urgency of a situation requires the issue of simple extracts of orders." These orders updated necessary and urgent details in order to keep commanders informed, until the new order came. (Condell and Zabecki, 2001, p. 82).

#### Speed in communication

Germans understood, that time is critical not only in decision making - it can also be lost by long communication channels: "The time required for the arrival of an order is often underestimated" (Condell and Zabecki, 2001, p. 70).

To avoid the possible time lags, two options were used – verbal orders and messengers. Truppenfuhrung stated "*Subordinate-level commanders usually issue verbal orders.*" (Condell and Zabecki, 2001, p. 67). Moreover, "subordinate level" could go up to the divisional command: "The operations order, at division level and below, was almost always issued verbally, by the commander, preferably overlooking the ground on which the battle would be fought. Maximum use was made of warning orders to give the troops plenty of time to prepare for combat and to initiate movement." (Antal, 1990, p. 56).

Messenger service was elaborated in Truppenfuhrung:

Upon meeting superiors, mounted messengers maintain their speed. They report to senior officers the destination of the message. When riding past a march column, they report to the commander as well as to the leader of the advance (or rear) guard. When passing security elements, they report to the nearest commander. When danger is imminent, they call out the contents of the message to the commanders and the units. They must be trained to ask, without inhibition, for the location of the commander to whom the message or the order is directed. (Condell and Zabecki, 2001, p. 100).

Messengers were not to be stopped, and commanders had their special duties to them - "Every commander is obliged to show the way to messengers. All troops must to give way for them. Every element must assist in the transmission of messages and orders, even by providing transportation facilities if necessary." (Condell and Zabecki, 2001, p. 100).

#### Unit preparation

One more way to be prepared as early as possible, was the use of warning orders. Warning order was to be issued as early as the commander got the new mission. "A warning order (Vorbefehl) is often issued prior to the main order. This allows subordinate commanders to make the most immediate preparations." (Condell and Zabecki, 2001, p. 81). This ensured that units were using the time to prepare for operation, while commanders were doing decision making cycle "A warning order (Vorbefehl) is often issued prior to the main order. This allows subordinate commanders to make the most immediate preparations." (Condell and Zabecki, 2001, p. 81).



Warning orders not only were used to prepare physically, but also - to rest and recharge units. Warning order also could be used to place units in rest status earlier, or to extend their rest period. "The commander who needlessly tires his unit jeopardizes success and is responsible for the consequences." (Condell and Zabecki, 2001, p. 14).

Also, fragmentary orders were used in order to deliver important information updates quickly: "Often, the urgency of a situation requires the issue of simple extracts of orders. These fragmentary orders (Einzelbefehl) are extracts of the main order and must contain everything that the recipient needs to know for the execution of the mission." (Condell and Zabecki, 2001, p. 82).

These elements included the full cycle of information processing, orders production, dissemination and preparation of units to act or react in shortest time possible.

### **Independent action**

After the decision is made and plan is clear, subordinate commanders were expected to deal with problems in the way autonomously.

Mission command requires the entire military organisation and especially its leaders to have the capability for independent and initiative action, the success of which is based on the commanders' ability to think, i.e. anticipate the events of the battlefield. As the battle area is shattered, the initiative action of even very small troops in built-up areas and chaotic situations can be very significant to the end state of the battle. (Nissinen, 2001, p. 101).

For this to happen, orders had to have only the essential information, commanders had to be tolerant for subordinate deviations from the plan inside the boundaries provided, and subordinates had to be free of unnecessary reporting:

#### Only essential information in the order

Orders had to contain only the essential information in order to allow the commander act by his judgement and initiative:

If changes in the situation are anticipated before an order can be executed, the order should not go into detail. This is especially important in larger operations, when orders must be issued for several days in advance. The general intent is stated and the end to be achieved must especially be emphasized. The general intent must be stated for the execution of impending operations, but the method of execution is left to the subordinate commanders. Otherwise, the order becomes a directive. (Condell and Zabecki, 2001, p. 76).

That was especially true in urgent and changing situations.

#### Tolerance for deviations,

“In the German Army culture, a commander rarely, if ever, reproached a subordinate for showing initiative” writes Vandergriff (Vandergriff, 2018). *Auftragstaktik* was invented for adaptability, and ***Selbständigkeit*** was a common term of deviating from the commander’s order “based on the circumstances of the moment guided by the higher commander’s intent” (Vandergriff, 2018).

“They believed it was better to make a good decision immediately than to wait and make a better decision later, possibly missing a fleeting battlefield opportunity” (The USAHEC, 2014). *Truppenführung* states this as “The commander must allow his subordinates freedom of action, so long as it does not adversely affect his overall intent (*Absicht*).” (Condell and Zabecki, 2001, p. 37).

Modern imitations of Mission command add boundaries to limit the initiative “In Mission Command, subordinates must exercise freedom of action, within specified and implied constraints, to act as they see fit to ensure the achievement of the higher commander’s intent.” (‘Army Field Manual Land Operations Army Doctrine Publication AC 71940’, 2017), and “The commander’s intent defines the limits within which subordinates may exercise initiative.” (Headquarters, Department of the Army, 2019). Though, limits, disciplined initiative and constraints or similar concepts are absent in *Truppenführung*. Most likely, *Selbständigkeit* implied unlimited tolerance for deviations, as long as actions supported commander’s intent.

Indeed, German military culture valued personal initiative even at the cost of disobedience (though adhering to a higher intent). Subordinates were expected to demonstrate sound judgment grounded in military professionalism, inculcated through training and education.

#### Low need for reporting.

Deviations from the plan were not only allowed, they were accepted if done without permission, and even more - without reporting. "In situations where contact with the higher commander was lost, subordinates could be trusted to take the action he thought appropriate, rather than stopping and waiting until contact could be re-established." (Simpkin, 1985, as cited in Vandergriff (2018)).

Nevertheless, Truppenführung required reporting "An officer who changes a mission or does not carry it out must report his actions immediately, and he assumes responsibility for the consequences." It seems, that culture allowed to report less than required by doctrine. (Condell and Zabecki, 2001).

"This aggressive attitude allowed units to take advantage of fleeting opportunities and local successes. In short, "... nothing laid down from above in advance is sacrosanct. A subordinate commander ... is justified ... in modifying or even changing the task assigned him" as long as his action supports the higher commander's intent." (Simpkin, 1985, as cited in Vandergriff (2018)).

Short orders, high tolerance for deviations and no need for reporting shortened time for decisions and reactions, but, more important - gave commanders autonomy, which increased motivation and tendency to show initiative.

#### **Proactivity**

Proactivity was needed to achieve the tempo, expected of manoeuvre units. Shamir described this as "A propensity for action and initiatives" (Shamir, 2011b, p. 27). By dealing with encountered obstacles and exploiting unexpected opportunities, Germans achieved so high operational tempo and could fight with outnumbered formations of adversary.

One visible part of proactivity in German army were high ranking officers, even generals, who fought with one eye, one hand, with wounds, dying together with their men. Proactivity was based by patriotic, or - professional determination. Germany had literally to be destroyed to bring the war to the end, which was very rare case in world history of wars. As an example, gen. F. Halder, during interrogation, answering the question “*When the WWII was lost for Germany?*”, said “*It is dumb question. It is never lost. We will fight guerrilla war. War can be eternal.*” (The USAHEC, 2014).

Patriotic and professional persevereness also comes from the Prussian tradition, an example of which can be *Totenritt* (Deathride) - an order, which has to be accomplished, no matter what, whatever it takes, and you do not ask, *Why*”. (The USAHEC, 2014).

#### Achieving the objective

Achieving the objective was of paramount importance in German military culture:

The course of action must designate a clear objective that will be pursued with all determination. It must be executed with the full will of the commander. Victory often is won by the stronger will. Once a course of action has been initiated it must not be abandoned without overriding reason. (Condell and Zabecki, 2001, p. 37).

Germans required the will and character of commanders to endure all hardships toward the victory, the same way Clausewitz required from *military genius*. Also, in similar way, the same was required of every soldier in the field “Every man, from the youngest soldier upward, must be required at all times and in all situations to commit his whole mental, spiritual, and physical strength. Only in this way will the full force of a unit be brought to bear in decisive action.” (Condell and Zabecki, 2001, p. 15).

#### Risk taking

Risk taking was required in three areas. First was mental risk to act in uncertainty “Uncertainty always will be present. It rarely is possible to obtain exact information on the enemy situation. Clarification of the enemy situation is an obvious

necessity, but waiting for information in a tense situation is seldom the sign of strong leadership—more often of weakness.” (Condell and Zabecki, 2001, p. 36).

Second risk was physical - taking bold actions “Great success requires boldness and daring, but good judgement must take precedence.” (Condell and Zabecki, 2001, p. 27).

Third risk was to concentrate effort and not to cover from all risks. “One can never be strong enough at the decisive point. The commander who tries to be secure everywhere, or who wastes his forces on secondary missions, acts contrary to this basic rule.” (Condell and Zabecki, 2001, p. 28).

### Loss tolerance

“Tolerance for well-intended mistakes” as described by Shamir, was not only tolerance for minor misjudgements, it was applicable to large scale losses (Shamir, 2011b, p. 26). “The attack is launched on the enemy in order to defeat him...The possibility that an attack might fail should never justify limitations on the leadership effort with which it is executed.” (Condell and Zabecki, 2001, p. 39).

Contrary to the Western doctrine, risk management and mitigation was not emphasised in Truppenführung, only “good judgement” was mentioned (Headquarters, Department of the Army, 2019, pp. 1–66).

Culture of achieving the objective at all costs pushed commanders to take initiative and make bold decisions, knowing that they will be backed up by superiors as long as they aggressively support their intent.

### **2.2.8 Foundation for effective command culture**

Muth (2011b), Shamir (2011b) and Johnston (2000) studies show, how German command culture was imitated several times, with great effort, though results were from minor to average. Observers and reformers of US Army, British Army and IDF must have missed some important preconditions of German

Auftragstaktik. This chapter will analyse, what led German army to employ Auftragstaktik with such success.

There were elements, which observers often failed to notice, or receivers of the reports skimmed through – “However, the great freedoms they afforded junior commanders required trained troops, cohesive units, and superior leadership.” (Echevarria as cited in Shamir, 2011b, p. 45). “German tactics relied on quality rather than quantity, striving for victory through superior skills, tactics, and leadership at the junior officer and NCO level.” (Shamir, 2011b, p. 47).

### **Competence**

Competence of military was of high importance in German Army - “Superior leadership and superior unit readiness are guaranteed conditions for victory”. “The greater this quality, the greater the force and mobility in war.” (Condell and Zabecki, 2001).

It was important to have competent leaders and also - competent soldiers, to make Mission Command possible. Comparing to Situational Leadership model, the maturity level (competence and motivation - able and willing to do the task and take responsibility) of teams had to be high (M4), in order to apply leadership style of Mission Command, which is similar to *Delegating style*. (Blanchard and Hersey, 1988).

### Competence of leaders

“The Wehrmacht system decentralized command responsibility to well-trained officers, who were expected to act decisively.” (Antal, 1990). “Fostering this kind of individual initiative was the guiding principle of German military education. In short, officers were taught how to think, not what to think. The core of the success of Mission Command was the strenuous selection and development of German leaders.” (Vandergriff, 2018).

Competence of leaders was ensured by selection, education, training and promotion system, described in chapter 2.4.

According to General Gunther Blumentritt, success depended on “professional officers who have received exactly the same training during the long years of peace and with the same tactical education, the same way of thinking, identical speech, hence a body of officers to whom all tactical conceptions were fully clear.” (Blumentritt as cited in Boyd (1986)).

This was achieved because of “an officers training institution which allows the subordinate a very great measure of freedom of action and freedom of manner of executing orders and which primarily calls for independent daring, initiative and sense of responsibility”. (Boyd, 1986).

### Competence of soldiers

Germans stated clearly, how much they trust and value soldiers “The decisive factor, despite technology and weaponry, is the value of the individual soldier.” (Condell and Zabecki, 2001, p. 10). Auftragstaktik “requires soldiers who can think and act independently, who can make calculated, decisive, and daring use of every situation, and who understand that victory depends on each individual.” All this cannot be achieved by training alone - “Training, physical fitness, selflessness, determination, self-confidence, and daring equip a man to master the most difficult situations.” (Condell and Zabecki, 2001, p. 10).

### **Mutual trust**

Mutual trust is mentioned literally in every army leadership doctrine, handbook or pamphlet. “Mutual trust and cohesion are seen as key factors concerning the effectiveness of small units in the battlefield” (Bass 1998, cited in Nissinen (2001)). Shamir writes, that “Mutual trust based on professional competence (and not necessarily on acquaintance or relationship)” (Shamir, 2011b, p. 15) was one of the essential elements of Mission command.

Mutual trust, as emphasised in Truppenfuhrung (also in many of modern military leadership manuals) is close to team cohesion and collective efficacy psychological concepts. Team cohesion is comprised of professional bonds, capabilities and interdependencies between team members. Collective efficacy is more about inner belief of the team, that it can achieve the goal. (Kirke, 2010).

German armed forces were seen as the example of this: “Relatively high levels of mutual trust and honesty were characteristic of communication between different echelons, facilitating the exchange of accurate information up and well-informed mission orders down the German chain of command.”. (Visser, 2008). Citino cited German officers: “We speak our own distinctive language, that none else can understand. And that language is about *Bewegungskrieg*, *Kesselschlacht* and *Selbständichkeit*.”(The USAHEC, 2014).

The intentions of the two next higher headquarters were routinely provided to all units. The commander provided the who, what, where, and why in very succinct and implicitly understood terms. The details of accomplishing the mission was left to the subordinate. This system was possible because, in the Wehrmacht, it was normal for superiors to trust their subordinates to do their duty without supervision. (Antal, 1990).

That mutual trust made effective teamwork possible with minimal exchange of information and the highest speed. Effective teamwork is the result of a complex mix of condition factors (contextual, organisational, and personnel) and process factors (task-focused and team-focused). (Essens *et al.*, 2005).

### Team cohesion

Carron's defined group cohesiveness as “a dynamic process that is reflected in the tendency for a group to stick together and remain united in the pursuit of its goals and objectives.” (Carron as cited in (2010b).

Kirke describes cohesion as the paramount importance to organisation results:

Military cohesion is an enduring general issue because of the prevailing view among military authors and researchers that it is a vital ingredient of a high level of operational effectiveness: in risking reduced cohesion, a military force risks reduced effectiveness (Kirke, 2010).

Cohesion depends on meeting soldier's needs: “Soldier's capacity to resist depends on his immediate group, which meet his needs, offers affection and esteem bond. Group gives soldier sense of power and limits self-concern in



battle, which otherwise could lead to disruption of the team and failing to achieve collective goals.” (Shils and Janowitz, 1948, p. 281).

Cohesion was emphasized vertically and horizontally in German army. Commanders were required to treat soldiers as *comrades* (comrades, colleagues), in order to build trust and cohesion. Units had to be kept and trained together without mixing or rotating personnel for the same reasons. Further, much emphasis was laid on the development of unit cohesion, in which officers, NCO's, and men came to know each other intimately and were able to replace each other in case of war attrition. (Essens *et al.*, 2005).

*Truppenfuhrung* stated the consequences of low cohesion in units:

Units that are only superficially held together, not bonded by long training and discipline, easily fail in moments of grave danger and under the pressure of unexpected events. From the very beginning of a war, therefore, great importance must be attached to creating and maintaining inner strength and to the discipline and training of units. (Condell and Zabecki, 2001, p. 13).

Team cohesion in German army was the task of the commander - “He also must win their affections and earn their trust through his understanding of their feelings, their way of thinking, and through his selfless care for them. Mutual trust is the surest foundation for discipline in times of need and danger.” . (Condell and Zabecki, 2001, p. 8).

Cohesion was ensured by the unit principle:

The German Army was organized on the unit principle (Einheitsprinzip). As far as practicable, the component elements were standardized units, capable of being attached or detached as required, without the loss of tactical integrity and without administrative and supply problems...Basic army formations were company sized units. They were to be used as modular elements, if needed. Major formations, like divisions, were rarely stable, often - built for particular operation from modular blocks - companies or battalions.” (Wedemeyer report in Shamir (2011b).

Team cohesion was also emphasised in staffs: “The correct composition of the staff and the appropriate assignment of tasks are very important planning factors.

The senior staffs must operate at their fully authorized strengths.” (Condell and Zabecki, 2001, p. 118).

Basically, soldiers in well-formed units, which had realistic training and harsh experiences together, started to trust in each other mental and physical capabilities, together with attitudes towards mission and comrades.

### Collective efficacy

Mutual trust is also increased in hardships and battle, leading to higher collective efficacy - or belief in team’s capacity to win yet another battle.

People’s shared beliefs in their collective efficacy influence the types of futures they seek to achieve through collective action, how well they use their resources, how much effort they put into their group endeavour, their staying power when collective efforts fail to produce quick results. ...The findings taken as a whole show that the higher the perceived collective efficacy, the higher the groups’ motivational investment in their undertakings, the stronger their staying power in the face of impediments and setbacks, and the greater their performance accomplishments.” “ (Bandura, 2000).

### **Constructive leadership**

From commanders mission command requires developed conceptual thinking at the level of personal potential as well as the ability to exploit their staffs in anticipatory decision-making. (Nissinen, 2001, p. 100). Importance of command and leadership capabilities was paramount in militaries since the beginning of wars. Nevertheless, Reiter study “demonstrated rigorous empirical evidence for the importance of a previously underappreciated determinant of military effectiveness, military leadership” . (Reiter and Wagstaff, 2018).

Clausewitz described the type of leader is able to withstand hardships of battle, uncertainty, and still persevere towards victory. He called it *military genius*. He should not only have knowledge of the subject; he also should have strong character and should not be affected by combat. After that, he must be able to inspire others to act courageously in battle. He also should have *coup d’oeil* - ability to grasp a sense of things and make prudent decisions intuitively. (Clausewitz, 2008, p. 42).

In *Truppenfuhrung* leader is defined in similar fashion: “The example and personal bearing of officers and other soldiers who are responsible for leadership has a decisive effect on the troops. The officer, who in the face of the enemy displays coolness, decisiveness, and courage, carries his troops with him.”(Condell and Zabecki, 2001, p. 8).

The inspirational part of commander was described in detail: “During pursuit operations, the commander must move with the forward elements. His presence in the front line will inspire his units.” (Condell and Zabecki, 2001, p. 115).

Germans required command-in-front: “The personal influence of the commander on his troops is vitally important. He must position himself close to the combat units”. (Condell and Zabecki, 2001, p. 109). Even the division commander’s place was with his troops, not in the headquarters. That was done to ensure the quickest decision-making process possible. “Personal observation is best upon contact with the enemy. The division commander, therefore, must position himself on the battlefield at the decisive point, and as early as possible. His position must be located and reached easily.” (Condell and Zabecki, 2001, p. 111).

Leadership requirements in the battle close to the contemporary leadership theories, and Constructive leadership, which is both achieving team goals and keeps the team satisfied and motivated. (Einarsen *et al.*, 2002). That is similar to Sound leadership (earlier - Team Leadership) in The Managerial grid (Blake, 1971). It also fits Delegating style of Situational Leadership by Hersey and Blanchard. (Hambleton and Gumpert, 1982).

### 2.2.9 Theoretical model

Foundations, Behaviours and Outcomes form a theoretical model of command culture effectiveness, which will be used as a basis for scale development.

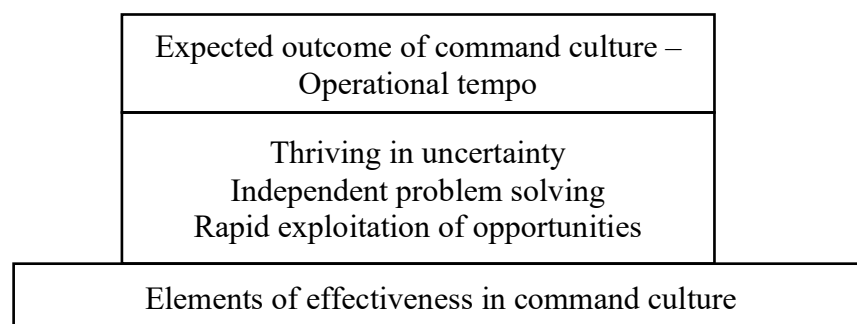


FIGURE 2. Theoretical model of command culture effectiveness

### **2.2.10 Similar theories**

It is important to see, that *Auftragstaktik* phenomenon is not existing alone in the vacuum. It is a mix of best theories, management and business practices, put together and employed with great patience and energy. Here author will analyse the most likely “ingredients” from motivation, leadership and organisational theories.

#### **Organisational culture theories**

Organisations continuously struggle to set the right balance between the strict control of the actions of employees and their empowerment. Empowerment normally comes with delegation of authority. It is difficult to achieve, as leaders are required to “relinquish control over events but retain responsibility for them”. (Shamir, 2011b, p. 18). Empowerment requires employees to act without waiting instructions. “The psychological concept of empowerment implies strengthening an individual’s belief in his ability to effect change and control situations.” (Shamir, 2011b, p. 19).

In contrast, some managerial practices can make people feel powerless. These lead to „perceived lack of control over the situation and insufficient resources

and/or capabilities“. The hierarchical top-down structure in most militaries tends to encourage dependency and submissiveness. Since soldiers are controlled by rules and routines, little freedom is left for initiative. (Shamir, 2011b, p. 18).

Here several models of organisational culture paradigms will be compared to German army culture.

### **Command Climate**

Ulmer (Ulmer, 2017) calls his Command Climate scale elements as “Powerful, measurable components of a Climate”. He describes first three as the most important:

1. Un unimpeded flow of information in all directions.
2. Clarity of goals, missions, standards and priorities.
3. A prevailing sense of mutual trust and confidence.

These three obviously prevail in the German army culture. “Other major components of healthy climate” follow:

4. A clear and coherent focus on mission accomplishment.
5. Consideration of the well-being of every individual of the organisation.
6. A sense of fairness in policies and policy implementation.
7. An appreciation for initiative and innovation.
8. A confidence that adequate resources are, or will be, on hand to accomplish the assigned mission.
9. An opportunity for individuals to learn and grow as members of the profession.

These components also remind the theory of leadership, practiced in German army.

### **Organisational culture instruments**

Organisational culture instruments try to find the right ingredients for organisational success - the effectiveness of organisation and the inclusion of

employees. When measuring ordinary organisations, these factors were found important by Ghosh and Srivastava (Ghosh and Srivastava, 2014):

1. Participation - ability to participate in decision making.
2. Respect for the individual - organisations trust and best use of employee potential.
3. Attitude to risk - shared courage to take risks openly.
4. Action orientation - propensity to achieve, not only discuss.
5. Trust - shared feeling that people in organisation act fair.
6. Openness - seniors are approachable, they communicate openly.
7. Power distance - taking the right stance is not punished.

Here the same elements appear like in *Truppenfuhrung*, observers' reports and research studies. It is important to note, that this kind of organisation did not evolve in the battlefield, it was intentionally developed to win battles, and constructed patiently long time before the war used its benefits. (Muth, 2011b).

### **Innovation culture**

Innovation culture has been studied in very different paradigms. Here author use a research by Dobni (Dobni, 2008), which measures 7 factors of organisational culture:

1. Implementation context - how ready and willing organisation is to develop and improve itself.
2. Organizational constituency - how much employees ideas are heard and welcome.
3. Organizational learning - how much continuous learning is happening in organisation.
4. Market orientation - how much organisation is aware and trying to meet market needs.
5. Innovation propensity - how much innovation and development is felt in everyday processes of organisation.

6. Value orientation - common understanding among employees, what creates value for the customer.
7. Employee creativity and empowerment - how often employees are empowered to improvise and create.

When we replace “market” to “battle” and “employee” to “soldier”, we will find many similarities between this culture description and effectiveness-obsessed culture of German Armed Forces.

Also, Essens (Essens *et al.*, 2005) study of learning organisational culture in German army concludes, that aspects of organisational learning and learning climate are „clearly present“ and aspects of learning at work and learning structure are „to some extent present“ in the case of German army.

### **Effectiveness of organizational culture scale**

Denison (Denison, Nieminen and Kotrba, 2014) researched the effectiveness of organisation cultures. His scale of effective organisation culture consists of Involvement, Consistency, Adaptability and Mission.

1. Involvement concerns the personal engagement of individuals within the organization and reflects a focus on the internal dynamics of the organization and on flexibility.
2. Consistency refers to shared values, and efficient systems and processes and reflects an internal and stable focus.
3. Adaptability refers to employees' ability to understand what the customer wants, to learn new skills, and to change in response to demand. The focus of adaptability is external and flexible.
4. Mission refers to an organization's purpose and direction and reflects a focus external to the organization and on stability.

It can be noted without doubt, that all these elements are clearly visible in German command culture.

### **2.2.10.1 Motivation theories**

#### Theory X and Y

Theory X assumes that subordinates are unmotivated and require close supervision. Theory Y implies that their subordinates are capable and motivated and accept greater responsibility. By letting subordinates accept responsibility, leaders initiate a Pygmalion effect. (Shamir, 2011b, p. 18).

#### Pygmalion effect

While this is not a motivational theory, Pygmalion effect might have impacted the performance of soldiers and officers in German Armed Forces. Pygmalion effect states, that students perform better, when teacher has higher expectations for them. It has been researched in multiple studies, in individual student level and also - in group level (Friedrich *et al.*, 2015). German officers, having high expectations of non-commissioned officers, might have induced the Pygmalion effect, thus getting better performance and responsibility. Same applies to the senior officers, having good impression, attitude and expectations towards junior officers. (Muth, 2011b, p. 185).

#### Self Determination theory (SDT)

SDT is one of the latest motivational theories, describing, how fulfilled needs of the individual lead to determination to accomplish the task. Those include:

1. relatedness,
2. autonomy,
3. achievement.

People feel related, when they do the task together, when their input is needed for somebody else. They feel autonomous, when they have personal space for decision-making, where nobody dictates, how exactly their tasks have to be done. Lastly, people feel sense of achievement, when they finish the task to the end by themselves. (Ryan and Deci, 2006).



Looking at the factors of SDT, it is visible, why whole German soldiers and officers were motivated to take responsibility and initiative – they were related by the higher commanders through the idea of intent, they were provided high latitude of autonomy, and they were constantly achieving missions by themselves.

### **2.2.10.2 Leadership theories**

The first pages of *Truppenfuhrung* might be a leadership theory by itself. Leaders were required to be *comerades* to their soldiers, and that added to group cohesion needed in hardships. (Muth, 2011b). “Leaders must live with their troops and share in their dangers and deprivations, their joys and sorrows”. (Condell and Zabecki, 2001, p. 12).

Truppenfuhrung required “leaders capable of judgement, with clear vision and foresight, and the ability to make independent and decisive decisions and carry them out unwaveringly and positively”, *also being* “impervious to the changes in the fortunes of war and possess full awareness of the high degree of responsibility placed on their shoulders”. It stated that “An officer is in every sense a leader and a teacher”, who “must be distinguished by superior knowledge and experience, by moral excellence, by self-discipline, and by high courage” and “must exert himself totally and not avoid responsibility. Willingness to accept responsibility is the most important quality of a leader.” It explained the need for this type of leadership - “The example and personal bearing of officers and other soldiers who are responsible for leadership has a decisive effect on the troops. The officer, who in the face of the enemy displays coolness, decisiveness, and courage, carries his troops with him.” (Condell and Zabecki, 2001).

#### Situational Leadership theory

Situational Leadership theory is combining and matching two domains - leadership style to maturity of followers. Leadership styles vary from *Directing*, *Coaching*, *Supporting* to - *Delegating* in the amount of directive and supportive behaviours.

Followers are divided into 4 categories - from *Developing* to *Developed*, measuring the competence and commitment. (Blanchard and Hersey, 1988).

Addressing the *Truppenfuhrung*, it required *Developed* - competent and committed soldiers, to be led by competent and committed officers, by employing *Delegating* leadership style. The same was true, when talking about hierarchical levels above - senior officers demanded the highest competence and commitment from junior officers and rewarded them by delegating enormous autonomy.

### Transformational Leadership theory

Leadership style, depicted in *Truppenfuhrung*, and witnessed by observers, is very close to Transformational leadership. Here author used the model of Deep Leadership, the Finnish Defence Forces version of Transformational Leadership, as it is made and used primarily for military. (Nissinen, 2001).

Deep Leadership Model promotes 4 behaviours of the leader:

1. Trust (Idealised Influence),
2. Appreciation (Individualised Consideration),
3. Enthusiasm (Inspirational Motivation),
4. Learning (Intellectual Stimulation),

and demotes 2 leadership flaws:

1. Micromanagement (Transactional Leadership),
2. Passiveness (Laissez-Faire leadership style).

Leader earns Trust, when he is competent, makes sound professional and ethical decisions, ensures the order and standards. He invokes Appreciation, when he knows and cares for the subordinates and their problems. Leader inspires Enthusiasm, when he explains the goal, its importance, shows the action plan and team members' roles, and participates himself in the action. He achieves Learning, when he is leaving room for subordinates to solve problems by themselves, who is taking well-intended mistakes as a learning opportunities. (Nissinen, 2001).

Leader puts team on a hold, when he shows Passiveness - procrastinates decisions, no matter, if he does that to avoid responsibility or to gain more time and information. Leader, who Micromanages, is lowering morale of the troops and taking his focus away from situational awareness and most important decisions. (Nissinen, 2001).

Transformational Leadership is providing high team results, measured in effectiveness of organisation, satisfaction of team members and extra effort by team members to achieve organisational tasks. When we compare behaviours and the outcomes, it is very likely, that German Armed Forces officers would have been scored high in Deep Leadership scale.

#### Constructive leadership theory

Constructive leadership (*Skogstad*) and Managerial grid (Blake and Mouton) are similar concepts, which measure leadership style by orientation towards task versus team. The most valued leadership has task completion and team welfare as objectives at the same time. This type is called “Sound management” (in earlier versions - Team management) in Managerial grid, and - Constructive leadership behavioural model. (Blanchard and Hersey, 1988), (Einarsen *et al.*, 2002).

Comparing these models with German Armed Forces officers – they were extremely task oriented, but at the same time – *Truppenfuhrung* required officers to build mutual trust with soldiers by understanding their feelings and deprivations. Observations confirm that these behaviours were also practiced, not only declared. (Muth, 2011b).

#### **2.2.11 Model of Command Culture Effectiveness**

Model of Command Culture Effectiveness is comprised of three blocks:

1. Foundation – “homework”, which has to be done behind and before (and then – continuously) implementing Mission Command. Foundation is the core of the organizational culture, which ensures, that Elements can work smoothly.

2. Elements – actions, behaviours, procedures of command, which are required to achieve Outcomes. This is the visible part of Mission Command.
3. Outcomes – the expected final results of the Elements. These are encountered after successful implementation of full Mission Command model.

In next paragraph author presents the empiric study on creation and validation of the scale for this model.

### **3 RESEARCH**

#### **3.1 Methods and sequence**

A combination of methods was used in order to analyse the concept of Mission Command in literature, gather perceptions of experts and create/validate the scale.

1. Doctrinal literature analysis – finding the elements of Mission Command.
2. Expert survey – assessing the importance of elements of Mission Command.
3. Scale development (abandoned).
4. Historical literature analysis – finding the original elements of Auftragstaktik.
5. Scale development and validation.

Author have followed the behavioural variables scale development procedures, as suggested by Churchill (Churchill, 1979). This procedure is comprised of pretesting, revision, development of a preliminary instrument, ascertaining internal consistency, detailed item analysis, and determination of validity.

#### **3.2 Doctrinal literature analysis – finding the elements of Mission Command.**

Author did literature analysis to find major elements of Mission Command. Publications, chosen for analysis were:

1. US Army doctrines on leadership and command (Army, 2015), (Headquarters, Department of the Army, 2019).
2. British army doctrines on leadership and command ('Army Field Manual Land Operations Army Doctrine Publication AC 71940', 2017), ('Developing Leaders A British Army Guide', 2014).

Author analysed these documents and found 7 elements of Mission Command, which prevailed in all publications:

1. Competence,
2. Mutual Trust,
3. Shared Understanding,
4. Commander's Intent,
5. Mission Orders,
6. Disciplined Initiative,
7. Risk Acceptance.

These elements became the starting point for expert survey.

### **3.3 Expert survey – assessing the importance of elements of Mission Command.**

Author did a survey to measure, how Mission Command elements, depicted in US Army and British army manuals on leadership and command, are seen by military professionals.

Author chose Delphi method, as a way to explore understanding of the phenomenon. Delphi method is interactive interview method of the panel of experts in two or more rounds, where results are analysed and presented back to the panel before the next round. 26 officers and researchers were contacted via email and LinkedIn, using author's contacts and their referred contacts. 11 of them responded in October 2020 and filled the survey via Google Forms, assessing each of the Mission Command elements on their relevance to the Mission Command Concept and adding further comments. Respondents were from US, UK, Denmark, Norway, Finland, Israel, Lithuania (having experience in United States Military Academy at West Point, Royal Military Academy at Sandhurst, Norwegian Defence University College, Baltic Defence College, National Defence University of Finland, US Army, Danish Home guard, Lithuanian Military Academy, Israel Defence Forces, Lithuanian Army, British Army, Finnish Defence Forces, Deep Lead Inc. and Royal Norwegian Navy. Their

military rank ranged from major to brigadier general, academic degrees - from bachelor to PhD. Some officers and researchers from Swedish Defence Forces, Canadian Defence Forces, German Defence Forces responded to invitation, but did not complete the survey. Here I present the average scores each element received and relevant comments. The question/statement used was: "This element is important part of Mission Command". I used Likert scale from 1 to 5, 1 meaning "Strongly disagree" and 5 meaning "Strongly agree".

Competence – 4.1. Comments were saying that competence lays the foundation for mutual trust.

Mutual Trust – 4.2. Comments showed that mutual trust allows Mission Command to work. It helps to release control over subordinates, and also helps subordinate to improvise.

Shared Understanding – 4.2. Comments stated the connection between shared understanding and achievement of final goal, especially – in changing situations.

Commander's Intent – 4.2. Comments were saying that intent is the central tenant of Mission Command, towards which all other elements should be directed.

Mission Orders – 3.4. Comments were sceptical on mission orders format, since 5 parts format was not used by Germans.

Disciplined Initiative – 4.0. Comments differed here from sceptical, saying that discipline limits initiative, to positive, saying that discipline is important part of military command.

Risk Acceptance – 3.9. Most comments were advocating more willingness to risk, than mitigation. Though, some claimed the opposite.

Interviewees were asked to suggest, which elements might be missing. Suggested additional factors were - Development of Mission Command culture, Student and problem centric adult learning, Commitment and determination to succeed, Intellect, The will to succeed and never quit.

At this stage abstract of this study was presented in the International Society of Military Sciences ISMS-2020 conference held in National Defence University of Finland in October 2020 (Dungveckis, 2020). It was well received by the participants, with supporting worries, like “*We never know if our forces are there (in Mission Command culture) yet*” and “*The instrument would help to quantify the elements of Mission Command and measure the status of units*”.

Author further devised 120 item questionnaire and did a second round of Delphi method survey in October 2020. 2 experts responded of 26 invited, assessing the scale items based on how relative they are to the measured construct. Scale from 0 to 4 was used. Average result of the assessment was 3.30 for the whole scale. At this stage this version of questionnaire development was abandoned, since author saw discrepancies between doctrinal elements of Mission Command and the expert comments. Thus, author went back to literature review, this time – more historical than doctrinal content, with an idea to find original, undistorted elements of *Auftragstaktik*. After, most appropriate items were taken from this to the new version of questionnaire.

### **3.4 Historical literature analysis – finding the original elements of Auftragstaktik.**

Comments of interviewees led author to further study of publications, which focused on exploring the command culture of German Armed Forces. The questions to answer were:

1. Are there compulsory prerequisites for the Mission Command (as an element “Competence” suggested in ADP 6-0 only since the newest edition of 2019)?

2. Are there additional elements, which were not clearly expressed in US Army and British Army Doctrines (as suggested in expert survey, like “Developing subordinates in the Mission Command culture/spirit/philosophy” or “Commitment and determination to succeed”)?



3. What are the exact and measurable expected outcomes of the properly executed Mission Command?

Looking for these answers author turned to investigate the culture, which has started the Auftragstaktik idea – Prussian-German armed forces. Most valuable publications and the backbone of the further research were: On the German Art of War (Condell and Zabecki, 2001), Command Culture (Muth, 2011b) and Transforming Command (Shamir, 2011a).

After finding the main authors and their work, clear outcomes of the command culture became obvious, and the model got new structure, which also included Foundations, a part, which was not predicted in initial model of the scale. Elements “Competence” and “Mutual Trust” went to Foundations part, as prerequisites of *Mission Command* type of command.

Additional elements (factors) appeared, and some were renamed to reflect the behaviours more exactly to the original idea and purpose, used in the German Armed Forces, e.g. “Mission orders” became “Orders, which save time”, and “Disciplined initiative” divided in two parts “Freedom for decision making” and new element “Determination to accomplish the mission”, which was described only partially in British and US publications, but obvious in *Truppenfuhrung* (Condell and Zabecki, 2001), Patterns of Conflict (Boyd, 1986) and Command Culture (Muth, 2011b).

### **3.5 Scale development**

#### **3.5.1 Generation of scale items**

Firstly, the inventory of items was generated that could be used to capture the essence of an Auftragstaktik command culture. Author have used the publications, described in chapter 2.1 and deconstructed effectiveness of command culture to 10 elements in 3 blocks of the model:

1. Foundations - Competence, Mutual trust, Constructive leadership

2. Elements - Clarity of mission, Speed in reaction, Freedom of action, Proactivity

3. Outcomes - Thriving in uncertainty, Independent decision making and Rapid exploitation of opportunities.

On the basis of previous research, a 76 items list was generated. The items are derived from the existing literature and consider constructs previously used in the description of Auftragstaktik culture. This resulted in multiple items for each of the determinants.

#### Content check

This pool was reviewed and corrected with the help of a group to check the face and content validity of the items. Review group consisted of intended scale respondents - 6 cadets at the military academy and experts - 5 military instructors and 3 researchers. They were probed for comments on the appropriateness of each item and ease of comprehension, and possible improvements in wording.

The author corrected 17 items and added 9 additional ones.

#### Edited item list

Thus, 85 items comprised new questionnaire (i.e., 5–10 items for each dimension).

Table 1. Factor/Items

<b>Concept</b>	<b>Variables</b>	<b>Indicators</b>	<b>Items</b>
<b>Foundati on</b>	Compete nce	Technical competence	PK1-2
		Tactical competence	PK3-5
	Mutual trust	Trust in team's technical competence (task cohesion)	TP1-2

		Trust in team's tactical competence (task cohesion)	TP3-6
		Collective efficacy	TP7-13
	Constructive leadership	Trust in person (social cohesion)	PV1-2
		Professional competence	PV3-5
<b>Elements</b>	Clarity of mission	Clarity of situation	KA1-2
		Clarity of intent	KA3-6
		Clarity of task	KA7-8
		Clarity of end state	KA9-11
	Speed in decision	Speed of observation	KG1-2
		Speed of orientation	KG3-4
		Speed of decision	KG5-7
		Speed of action	KG8-10
	Freedom of action	Shortness of information	KS1-2
		Independent decisions	KS3-5
		Focus on mission	KS6-7
		Essential reporting	KS8-11

	Proactivity	Sense of duty	KP1-2
		Support	KP3-4
		Perseverence	KP5-6
		Loss tolerance	KP7-10
<b>Outcomes</b>	Thriving in uncertainty	Decision making in uncertainty	RT1-3
		Acting in uncertainty	RT4-7
	Independent problem solving	Solving problems inside units	RS1-4
		Quick problem solving	RS5-7
	Rapid exploitation of opportunities	Changing plan to adapt and exploit possibilities	RG1-3
		Anticipating opportunities	RG4-6

The author further refined these items to develop the new scale and to assess its psychometric properties, as described in the next section.

### 3.5.2 Data acquisition

As the primary objective was to develop a generalized instrument to measure *Auftragstaktik* culture, the sample included Cadet battalion of the Military Academy of Lithuania, one battalion-sized unit (undisclosed) in the Air Force and one battalion-sized unit (undisclosed) in the Land Forces of Lithuanian Defence Forces.

The author developed the questionnaire in English and Lithuanian, but only the Lithuanian version was tested.

Author administered the scale items in exact original order, undispersed by factors or inside factors throughout the questionnaire using a 5-point Likert scale (with values ranging from 1 = strongly disagree to 5 = strongly agree).

The subjects selected will be those whom the instrument was intended. These respondents are the ones that are the recipients and, partially - creators of an *Auftragstaktik* culture in Cadet led battalion in Military Academy of Lithuania. The goal was to develop the sample, which will be the target audience for later implementations of the scale.

Total number of surveys administered was 235 cadets in Cadet battalion in Military Academy of Lithuania. All cadets - chain of command and subordinates were taken into the sample. The sample displayed exact characteristics of the population it was intended to measure.

The survey was electronically administered as online questionnaire via Moodle Learning Management System in Cadet battalion. Data were collected in February of 2021.

In all, 203 cadets responded to the survey. Survey was forced answer type, so none of responses had significant missing values. 3 responses were submitted after the analysis was done. 17 responses were likely were "straight-lined" - filled by answering all questions by one same value only (e.g. all "strongly agree"), so these were eliminated. In total, 181 usable surveys were entered into the analysis, producing an effective response rate of ~75 percent.

### **3.5.3 Exploratory factor analysis**

This scale was not existing before, so first Exploratory Factor Analysis (EFA) was performed to empirically find underlying factor structure. EFA was performed in order to find items, that are grouped together, as principal components,

measuring the same underlying construct. Data was analysed using IBM SPSS v27.

The Kaiser-Meyer-Olkin Measure of Sampling Adequacy test (KMO measure) result for item set was considered meritorious at 0.875, much higher than lowest suggested is  $>0.5$  (Dziuban and Shirkey, 1974). Chi-squared statistic was significant under  $p < 0.001$ , 12008,262, with 3570 degrees of freedom ( $\chi^2(3570) = 12008,262$ ) (Tanaka, 1987, p. 137). These two measures confirmed that the sample was adequate for exploratory factor analysis.

Correlations in the whole scale were high, Alpha = 0.970. Standard deviation of items ranged from 0.663 to 1.074, mean - from 2.99 to 4.19, communalities – from 0.598 to 0.874.

Further, EFA was done in three sequences, as each block of the model has to be analysed separately. Otherwise, the Foundation factors would highly correlate and interfere with Elements factors and also – Outcomes factors. Author used the principal component analysis (PCA) as the primary method of factor extraction (Conway and Huffcutt, 2003). Since inter-factor correlations were expected high, Promax method for rotation was chosen as the first choice (Dien, Beal and Berg, 2005).

#### EFA of Foundation block

Foundation block initially consisted of 3 factors – Competence, Mutual Trust, and Constructive Leadership, comprising of 23 items.

Principal components analysis showed KMO 0.891,  $\chi^2(253) = 2525.842$ , statistically significant under with  $p < .001$ . These two measures confirmed that the sample was adequate for exploratory factor analysis.

The component correlation matrix showed that the inter-factor correlations were significant, up to  $r=0.670$  so Promax rotation was selected for further extraction. Scree test suggested 5 factors with eigenvalue higher than 1. Then author used Parallel analysis engine (Costello and Osborne, 2005) (Vivek et al., 2017), which

suggested to use only 2 factors, whose eigenvalues in the author's data were higher than the randomly generated eigenvalues in the engine (Patil *et al.*, 2008).

Author did factor extractions with 2, 3 and 4 factors. 3 factor result proved to explain data to the underlying item definitions, with 57.917 % of total variance explained. 3 factors retained original meaning and most of the items remained in the same factors.

4 items were removed because of low factor loadings and/or high cross-loadings. Then Scale reliability test was done for each of the factor and 8 items were removed, which did not contribute or was unnecessary to the factor, 9 items left. The goal was to reduce the scale questionnaire size, while keeping each factor reliability alpha above 0.7.

- 1 Factor - Competence – 3 items, alpha 0.790.
- 2 Factor – Mutual Trust – 3 items, alpha 0.810.
- 3 Factor – Constructive Leadership – 3 items, alpha 0.804.

The primary method chosen to assess reliability was the internal consistency method (Tavakol and Dennick, 2011). Whole Foundation block scale with 9 items is internally consistent with alpha 0.843.

#### EFA of Elements block

Behaviours block initially consisted of 4 factors – Speed of reaction, Clarity of mission, Freedom of Action, and Proactivity, comprising of 42 items.

Principal components analysis showed KMO .894,  $\chi^2 (861) = 4842.107$ , statistically significant under  $p < .001$ . These two measures confirmed that the sample was adequate for exploratory factor analysis.

The component correlation matrix showed that the inter-factor correlations were significant, up to  $r = .769$  so Promax rotation was selected for further extraction. Scree test suggested 9 factors with Eigenvalue higher than 1. By using Parallel analysis engine (Vivek *et al.*, 2017), suggested to use only 3 factors, which

eigenvalues in the author's data were higher than the randomly generated eigenvalues in the engine (Patil *et al.*, 2008).

Author did factor extractions with 3, 4 and 5 and 6 factors. 6 factor result proved to explain data to the underlying item definitions, with 59.215 % of total variance explained. 6 factors were renamed accordingly, items moved between factors and factors were renamed to the current item meanings and used further in the scale of the Behaviours block.

7 items were removed because of low factor loadings and/or high cross-loadings. Then Scale reliability test was done for each of the factor and 11 items were removed, which did not contribute or was unnecessary to the factor, 24 items left. The goal was to reduce the scale questionnaire size, while keeping each factor reliability alpha above 0.7.

- 4 Factor - Effective decisions – 3 items, alpha 0.858.
- 5 Factor – Orders which save time – 4 items, alpha 0.744
- 6 Factor – Mission linked to intent – 4 items, alpha 0.844
- 7 Factor – Freedom for decision making – 6 items, alpha 0.793
- 8 Factor – Determination to accomplish the mission – 4 items, alpha 0.843.
- 9 Factor – Risk tolerance – 3 items, alpha 0.396. This factor has to be supported with additional items in the next iteration of the scale development because of low reliability (under 0.7).

Behaviours block scale with 24 items is internally consistent with alpha 0.895.

#### EFA of Outcomes block

Foundation block initially consisted of 3 factors – Thriving in Uncertainty, Independent Problem Solving, and Rapid Exploitation of Opportunities, comprising of 20 items.

Principal components analysis showed KMO .907,  $\chi^2$  (190) = 1977.277, statistically significant under with Sig <.001. These two measures confirmed that the sample was adequate for exploratory factor analysis.



The component correlation matrix showed that the inter-factor correlations were significant, up to  $r=.659$  so Promax rotation was selected for further extraction. Scree test suggested 4 factors with Eigenvalue higher than 1. By using Parallel analysis engine (Vivek *et al.*, 2017), suggested to use only 2 factors, which eigenvalues in the author's data were higher than the randomly generated eigenvalues in the engine (Patil *et al.*, 2008).

Author did factor extractions with 2, 3 and 4 factors. 3 factor result proved to explain data to the underlying item definitions, with 58.485 % of total variance explained. 3 factors retained original meaning, though were renamed with the help of remaining items. Most of the items remained in the same factors.

1 item was removed because of low factor loading. Then Scale reliability test was done for each of the factor and 9 items were removed, which did not contribute or was unnecessary to the factor, 10 items left. The goal was to reduce the scale questionnaire size, while keeping each factor reliability alpha above 0.7.

- 1 Factor – Quick and independent problem solving – 4 items, alpha 0.773.
- 2 Factor – Bold action in uncertainty – 2 items, alpha 0.761.
- 3 Factor – Search and exploitation of opportunities – 4 items, alpha 0.863.

Whole Outcomes block scale with 10 items appeared internally consistent with alpha 0.884.

### 3.6 Final theoretical model, scale factors and items

Original theoretical model was reformed by the conclusions of EFA. Foundations and Outcomes retained original factors, but Elements block has changed, since grouping of items in EFA did not go as expected in theoretical model, and showed different underlying structure of block.

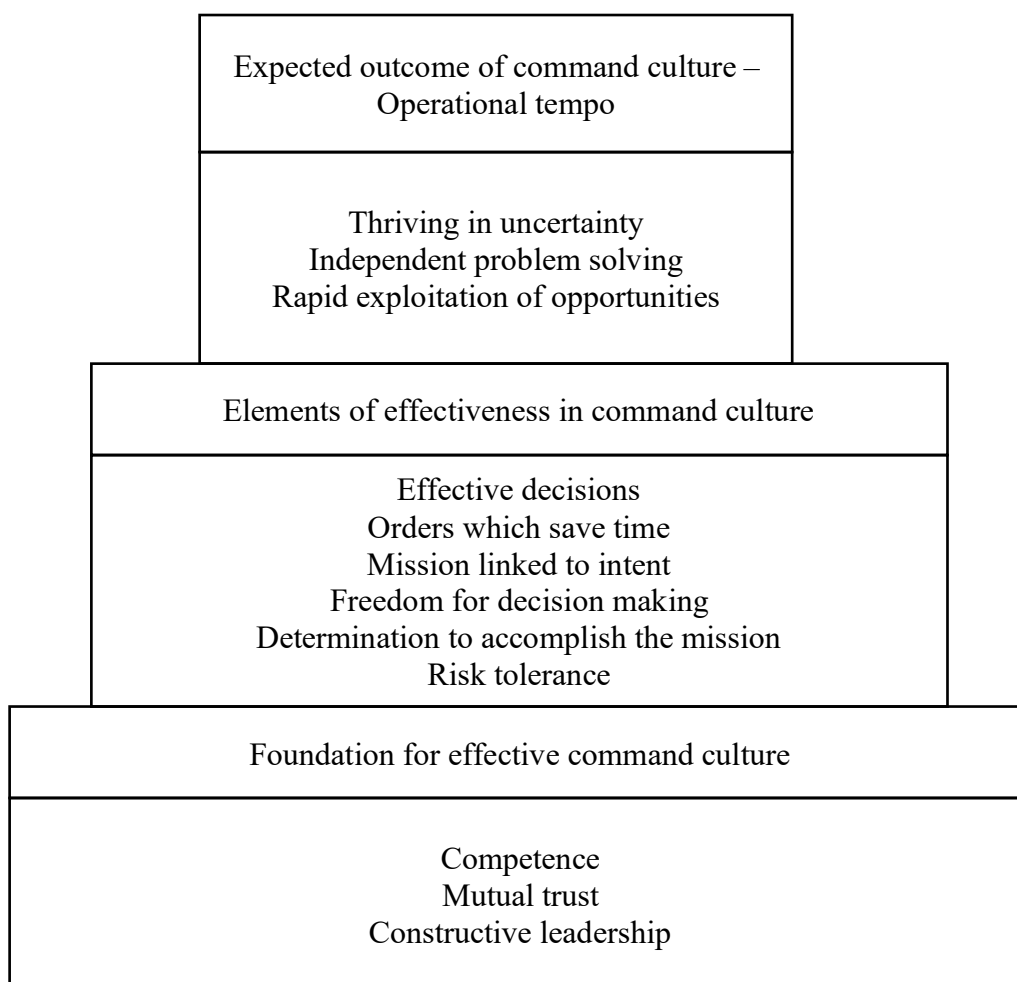


FIGURE 2. Theoretical model of command culture effectiveness

This model was further used as structure of refined scale.

Table 2. Final contents of the scale

Dimension	Factor / description	Items	Original item (Lithuanian)	English translation
<b>Foundation</b>	Competence – how capable of fighting are we?	PK 3 PK 4 PK 5	Mūšyje aš padėdū kitiems kariams kovoti Aš gebū išgyventi mūšyje Aš gebū įveikti priešą mūšyje	I help others to fight in battle I am able to survive in battlefield I can destroy enemy in battle
	Mutual trust – how much do we trust the skills and attitudes of our colleagues?	TP 7 TP 8 TP 13	Aš pasitikiu savo padalinio kariais Aš pasitikiu savo padalinio karių gebėjimais mūšyje Mūsų padalinys turi daug šansų laimėti mūšyje	I trust soldiers in my unit I trust my unit's soldiers' competences in battlefield My unit has big chance of winning in battle
	Constructive leadership – how well leader prepares team for the battle	PV 1 PV 2 PV 5	Aš pasitikiu savo vadu Aš gerai pažįstu savo vadą Mano vadas tinkamai parengė mus mūšiui	I trust my leader I know my leader well My leader well prepared us for the battle
<b>Behaviour</b>	Effective decisions – how quickly commander makes essential decisions	PV 3 PV 4 KG 3	Mano vadas rūpinasi tuo, kas svarbiausia mūšyje Mano vado sprendimai padeda mums laimėti mūšyje Mano vadas priima sprendimus pakankamai greitai	My leader takes care of the most important things in the battle Decisions of my leader helps us win in the battle My leader makes decisions quickly enough

Orders which save time – how timely and short are our orders	KG 6	Mes gauname operacinius įsakymus laiku	We receive operational orders in time
	KG 7	Aš greitai nusprendžiu, kaip vykdysime vado įsakymą	I decide quickly, how will we accomplish the order
	KG 8	Mes gauname trumpus operacinius įsakymus	Operational orders we receive are short
	KG 9	Mums užtenka laiko pasiruošti mūšiu	We have enough time to prepare for the battle
Mission linked to intent – how clear is the mission and how connected to the higher commander's intent	KA 4	Aš suprantu iš įsakymo, kuri mūsų dalis - pati svarbiausia	From the order I understand, which part of the battle is most important
	KA 5	Po vado pristatymo aš aiškiai įsivaizduoju mūsų eigą	After the presentation of the order I clearly visualize the course of battle
	KA 6	Mes diskutuojame su vadu iki tol, kol visas mūsų planas tampa aiškus	We discuss with leader until the plan is understood
	KA 7	Mums keliami aiškūs uždaviniai	We get clear tasks
Freedom for decision making – how free am I to decide and act independently	KS 4	Mano vadas suteikia didelę veiksmų laisvę užduoties vykdyme	My leader gives me wide freedom in accomplishment of the task
	KS 5	Man aišku, kuriuos sprendimus galiu priimti pats, neatsiklausęs vado	It is clear for me, which decisions I can take myself, without asking the leader.
	KS 9	Mums leidžia pirmiausiai veikti, ir pranešti po to	We are allowed act first and report after
	KS 10	Kai kovojame, mūsų netrukdo su reikalavimais pateikti informaciją	We are not disturbed with requirements to provide information during battle
	KP 4	Mano vadas remia mano sprendimus	My leader supports my decisions
	KP 9	Mano vadas toleruoja klaidas, kurias padarau, siekdamas įvykdyti jo ketinimą	My leader tolerates my mistakes, which are made while trying to achieve his intent
Determination to accomplish the mission – how	KS 7	Man svarbiausia - padalinio užduotis	My unit's mission is the important thing for me
	KP 1	Aš jaučiu pareigą įvykdyti padalinio užduotį.	I feel duty to accomplish my unit's mission
	KP 2	Aš darau viską, kad užduotis būtų įvykdyta	I do everything needed to achieve the mission

	much urge do I feel to finish the mission	KP 6	Aš nenuleidžiu rankų, net jei situacija labai sudėtinga	I do not give up even when situation is very difficult
	Risk tolerance – how used are we to the risk and losses	KP 7 KP 8 KP 10	Mes saugomės tik nuo svarbiausių pavojų Mes nesistengiame apsisaugoti nuo visko Mes suprantame, kad nuostoliai mūšyje yra neišvengiami	We protect only from the most important risks We do not try to protect from all risks We understand that losses in battle are inevitable
<b>Outcomes</b>	Quick and independent problem solving – how quickly we solve problems	RT 1 RT 2 RT 3 RS 7	Aš sprendžiu greitai, net ir turėdamas nepilną informaciją Man sprendimui priimti užtenka apytikslės informacijos Man svarbiau geras sprendimas laiku, nei tobulas - vėliau Aš sprendžiu iškilusias problemas iškart	I decide quickly, even if I have incomplete information Approximate information is enough for me to take the decision Good decision in time is more important for me than perfect – later I solve problems without hesitation
	Bold action in uncertainty – how decisively we act in chaos	RT 4 RT 7	Sumaištyje mes ne laukiame, o veikiame aktyviai Mes veikiame ryžtingai, net jei aplink chaosas	In confusion we do not wait, but act We act decisively even if chaos is around
	Search and exploitation of opportunities – how much we expect and use the opportunities	RG 1 RG 3 RG 4 RG 6	Mes greitai pasinaudojame netikėtomis galimybėmis mūšyje Mes keičiame planą mūšyje, jei tik pasitaiko geresnis variantas Mes aktyviai ieškome gerų progų mūšyje Mes esame pasiruošę išnaudoti progas	We rapidly take advantage of unexpected opportunities in battle We change plan during battle, if better alternative appears We actively seek good opportunities in battle We are prepared to use the chances

## 4 CONCLUSIONS

It can be concluded that:

- 1) literature review and surveys of experts in the Mission Command field ensured the content validity of the concept being measured.
- 2) the exploratory factor analysis results, together with the factors and their interpretation, and the reliability measure as reported here provide evidence of construct validity of the scale with a limitation of one factor – Risk tolerance - correlation factor being lower than 0.70

### 4.1 Research findings

The purpose of this study was to report the construction of a reliable and valid scale for measuring effectiveness of command culture. In the literature, author did not find sufficient scales, except of only CTEF model, aiming at effectiveness of command teams (Essens *et al.*, 2005). Expert survey that author performed in 7 militaries resulted the same answer – scale was not existing.

In this study author started with the theoretical framework. He identified possible cultural dimensions that could identify with each of the fundamental factors of effectiveness in command culture.

After 29 factor elements were described, author developed 89 scale items, which were tested with sample audience. In the end, 15 factors representing 46 items were derived as a measure of an command culture effectiveness.

### 4.2 Research limitations

Demographic factors were not included in the questionnaire, since vast majority of respondents represent white males, 18-22 years old.

Survey was administered as compulsory task for cadet battalion in the Military Academy. That might have led to forced and thus careless submissions.

Confirmatory Factor Analysis was not performed; thus, scale is not yet tested as a three-block model.

These limitations draw towards further research, areas of which are suggested in following chapters.

### **4.3 Significance**

The multi-factor command culture effectiveness scale could be used both descriptively and diagnostically. It presents a practical way to measure an organization's command culture effectiveness and could initially be used to establish a baseline level of command culture effectiveness. From there, it could be used as a metric to chart the organization's efforts as it moves to engender effective command culture. This opens door to benchmarking and further development of Command Culture in military units.

### **4.4 Further research**

Firstly, further research is required to test measurement equivalence of these scales - how Command Culture Effectiveness Scale differs in different levels of command, different operational environment contexts, organizations, countries.

Moreover, convergent validity might be measured with other scales of organizational culture (innovation scales, LEAN culture scales, organizational culture scales etc.)

Secondly, in this stage of development scale comprises three major building blocks of Command Culture – Foundation, Behaviours and Outcomes. These blocks and consisting elements have been tested using Exploratory Factor Analysis. It is important to continue and test scale as a three-stage model of Command Culture, using Confirmatory Factor Analysis, and testing not only correlation, but also – causality of the blocks.

Thirdly, it can be valuable to measure command culture effectiveness convergent validity with leader behaviour scales (e.g., Transformational Leadership scale) and practical outcomes of military units (training results, work engagement, sick leave, administration results, training, live firing) for possible correlations. That might show the scale is not only descriptive, but also – predictive. In that scenario scale could be used to predict the effectiveness of the unit in exercise or even – in battle.

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