

What do you know?

Easing Soldiers' transition to the civilian labour market by making knowledge understandable

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Abstract

The purpose of this study was to broaden the understanding of how armed forces make the knowledge of their soldiers understandable to civilian actors and the soldiers themselves. A case study was carried out in which the Bundeswehr (the German armed forces) was used as a case. Observations, questionnaires and interviews were used as data collecting techniques. The dynamic theory of organisational knowledge creation (Nonaka, 1994; Nonaka & Takeuchi, 1995) was used to analyse the data. Empirical data show that the Bundeswehr uses qualified letters of recommendation and other forms of documents and certification of soldiers' education and assignments to communicate towards civilian actors. The Bundeswehr are making efforts to further standardise and formalise these processes. Through externalisation of soldiers' knowledge and combination with knowledge from the civilian labour market, soldiers could create an understand of their own knowledge, where it can be used in a civilian context, how this relates to their individual situation and how this constitute possible individual career paths. By using several different forms of knowledge conversion, it is possible that the chance for a soldier to receive a career related recommendation which is suitable, increases.

Keywords: Armed forces, Bundeswehr, Preretirement planning, Human resource management, Knowledge creation, Knowledge management, Lifelong learning.

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1 Introduction

Many soldiers in professional armies serve only a limited number of years. In Germany, for example, serving between 4-13 years is most common (Spangenberg, Heikenroth & Frantz, 1999). Soldiers then have to face a mid-life transition from the armed forces to the civilian labour market (Lenz, 1967). There are a lot of soldiers going through this transition. In Germany alone, 10,000 to 15,000 soldiers leave the German armed forces each year (Berufsförderungsdienst, 2013a). Military retirement is according to some an "abrupt change" (Graves, 2005, p. 32), which can affect the person going through this transition to a large extent. Spangenberg, Heikenroth & Frantz (1999) showed that non-commissioned officers (NCOs) who had served 12 or more years experienced this transition as a heavy burden. Brunger, Serrato & Ogden (2013) found substance abuse to be a common coping strategy for former British military personnel, especially in the initial phases of the transition to the civilian labour market. The authors argued that former military personnel received none or little help from the armed forces. One day they were civilians and had to go to the job centre to look for a job.

The consequences for not aiding soldiers' transition can be dire. A study of the British armed forces, Kapur, While, Blatchley, Bray & Harrison (2009) showed that in Britain, the risk of retirees committing suicide was greatest within the first two years of discharge. Dandeker, Wessely, Iversen & Ross (2006) use the UK as an example to highlight a situation where not everyone is eligible for aid (and where resources are scarce) in their transition to the civilian job market, even though they might need it. In response to this, Brunger, Serrato & Ogden (2013) argue that "The military needs to ensure that support is provided for all personnel, and that it goes beyond basic vocational advice." (p. 96).

There are several ways to aid the transition of former soldiers to the civilian labour market. A country can choose to reserve places in government departments for former soldiers, as in Italy (Villiani, 2006). The UK is helping former solders with career guidance (Brunger, Serrato & Ogden, 2013). The USA offers college scholarships to most service members when they leave the military (Gilroy and Williams, 2006). Additional skills training and civilian qualifications programs are also suggested by Gilroy and Williams (2006) and can be found in Germany, for example (Spangenberg, Heikenroth & Frantz, 1999).

Making the skills and knowledge of soldiers understandable has only recently come under scientific scrutiny, as in the study by Adolfsson, Diedrich, Lavén & Walter (2012) who investigated how the

Swedish armed forces where trying to make the skills and knowledge of their soldiers understandable to civilian actors. This study intends to continue exploring the phenomenon of making soldiers' skills and knowledge understandable.

1.1 Purpose and Research Questions

Given the fact that military personnel have a limited contract period and given the fact that the transition to the civilian labour market seems to be problematic for many soldiers, it raises the question of how to (further) aid soldiers in their military-to-civilian transition. The purpose of this study is therefore to uncover different ways in which armed forces can support its soldiers in the transition to the civilian labour market by making their skills and knowledge understandable to different civilian actors (for example employers) and the soldiers themselves. In order to achieve this purpose, two research questions are used to guide the process:

Research Question 1: How do the armed forces work with easing the transition of its soldiers to the civilian labour market by making the skills and knowledge of the soldiers understandable to actors on the civilian labour market?

Research Question 2: How do the armed forces work with easing the transition of its soldiers to the civilian labour market by making the skills and knowledge of the soldiers understandable to the soldiers themselves?

This study intends to describe different knowledge conversions and analyse how they might lead to an understanding of soldiers' knowledge within different actors (civilians and the soldiers themselves) and thereby ease the transition of soldiers to the civilian labour market. The study does not intend to illustrate if the measures described actually lead to an understanding within different actors or not.

2 Previous Research

In order to understand this problem and how others have tried to solve it, it is important to look at previous research.

Gilroy & Williams (2006, p. 468) noted: "for those who are interested in only a short term of service, mechanisms that help with the transition to civilian life can also be attractive incentives to serve." There are of course other measures to raise attractiveness. The most obvious way is to increase payment for soldiers, a measure taken by France, once it introduced an all-volunteer force (Daffix, Medina & Nidier, 2006). Other measures are quality of life initiatives (for example work-life-balance initiatives), help with child care or improved pensions (Gilroy and Williams, 2006). Since the purpose of this study is to look at making knowledge understandable to different actors, I will first look at transferability of skills and then review the literature on soldiers' preretirement planning.

2.1 Transferability of Skills and Knowledge

Some soldiers do not seem to need support in their military-to-civilian transition. They focus on jobs, which are similar to the ones they have carried out during their military career. To give an example, Baruch & Quick (2007) illustrated how high ranking military had little trouble to transition to civilian labour market. They often started working in the defence industry with administrative tasks. Adolfsson et al. (2012) found that some people use the time in the military to prepare themselves for uniformed professions such as police officer, fire fighter, security expert or ambulance driver. Indeed, there is an obvious overlap between what is learned in the military and the kind of work described above. The ability to handle pressured situations where lives are at stake can be found in all these types of jobs.

Higate (2001) also noted that former military personnel tend to move into careers which have a lot in common with the armed forces, for example prison guard or the (private) security sector, even though the author argues that this has to do with continuity and masculinity, rather than the skills and knowledge acquired. Brunger, Serrato & Ogden (2013) could show that identity does play an important role in this transition. Spangenberg, Heikenroth & Frantz (1999) illustrated that many young men identify themselves with the military very quick, once they start to serve. However, this is surly not the only factor contributing to a successful transition to the civilian labour market. Skills and knowledge obviously play an important role as well. But what about the ones who go into a

sector where their skills and knowledge are not as obvious?

Kleykamp (2007) illustrated a trend of employers to treat former soldiers with "transferable" skills (in this case administrative skills) equally, or more positive than civilians with similar experience. The study could show an opposite trend for soldiers having served in combat divisions. There was a tendency that these people received fewer call-backs after having sent in their resume in response to a job ad. It could illustrate how people serving in combat divisions have not learned anything useful to the civilian labour market. However, academic literature argues against this. The problem seems to be that civilian actors do not understand the skills and knowledge of soldiers. A study by Adolfsson et al. (2012) show that Sweden has made initial efforts to make the skills of soldiers understandable to actors outside the military.

Many people think about firing a rifle but neglect all the training that soldiers in the armed forces usually receive. Magnum and Ball (1987) could illustrate that the transferability of military training did not differ significantly from training received at proprietary business colleges and vocational/technical schools. On the other hand, the skills transfer for military provided training was significantly lower than training provided by the employer or through an apprenticeship. The authors argue for institutional linkage between the training provider and the employer. This is an important aspect. The training provider is embedded in the civilian context and even though the armed forces train their personnel in similar skills, they usually have their own language for expressing the knowledge of soldiers. A civilian employer who provides on-the-job training or offers apprenticeships is better at expressing the skills and knowledge in a way so that others in this context can understand it. This phenomenon could be seen within business schools or vocational/technical schools as well but the language to describe skills and knowledge is usually formalised to a higher degree. An engineering degree, for example, is usually the same, regardless of whether it is a civilian or military degree.

When the armed forces aim at easing the transition of its soldiers to the civilian labour market, it is very important to make the skills and knowledge of a person understandable to actors on the labour market. A person might have worked with "material management" in the military. This person might have had to make sure that the right material is at the right place at the right time, which is exactly what happens in the logistic sector. How can the armed forces make the implicit knowledge (Polanyi, 1967) of its soldiers understandable to civilians? In other words; how do the armed forces "convert" the skills, the knowledge, the training and the experience of its soldiers in order to make them understandable to civilians? This is what I want to answer in my first research question.

2.2 Preretirement Planning

Making the skills and knowledge of a formed member of the armed forces visible on the civilian labour market is an important aspect of easing the transition to the civilian labour market. However, when looking at easing the transition of soldiers to the civilian labour market, one always has to keep in mind the individual going through this transition and how to aid these individuals.

Military personnel often retire from their military career at a relatively young age and therefore have to go through a mid-life military-to-civilian transition. Few have saved enough money to be able to retire completely from the labour market, which means that most have to pursue a (second) civilian career (Graves, 2005). For them it is therefore helpful to engage in preretirement planning in order to be able to successfully transition to a civilian career (Bürkle, 1989; Spiegel & Shultz, 2003). Vigoda-Gadot, Baruch & Grimland (2010) noted: "Good retirement preparation will allow the retirees to better understand second career reality. The preparation will affect expectations from the new organization and will enable retirees to overcome difficulties and frustrations in their new career workplaces. The retirees will probably make second career choices that they feel will fit the skills and values acquired in their first career and will enhance their probability of fit for the chosen second career." (p. 383). Many soldiers know the exact date of their leave from the armed forces (Wolpert, 2010; Spangenberg, Heikenroth & Frantz, 1999). Unfortunately, even though soldiers know this, many of them still did not develop a long-term plan for their civilian life (Graves, 2005) or focused at the wrong things while planning (Spangenberg, Heikenroth & Frantz, 1999). How come? Fuller & Redfering (1976) show that preretirement planning was the only factor which had significant effect on retirement adjustment; those who adjusted well were those who had planned well.

A German study showed that there are different coping styles in the transition from military to civilian work life. Some soldiers knew the civilian labour market well and used possibilities of further education/training to gain additional competences in order to get an advantage on the civilian labour market, whereas others took seemingly random courses or did not educate themselves at all. The study also showed that many were concerned with the possibility of securing material living standards, having to move, whether or not their wives would have to change jobs and if their kids had to change schools. Fewer focused on the more important aspects like current employment levels, their own possibility to find a job in a specific sector or the necessary additional qualifications they would need for this (Spangenberg, Heikenroth & Frantz, 1999).

One reason for not planning ahead could be the level of transferability of the skills and knowledge a soldier acquires during his or her time in the armed forces. McClure (1992) argues that those whose skills can be transferred to civilian life are those that plan their retirement in a good way and those who do not have any (or few) skills which can be transferred to the civilian labour market are those who later run into problems in their transition to civilian life.

Again, this might be because the soldiers have not learned anything valuable for the civilian labour market. However, it is much more likely that soldiers are not aware of what they know or how it could be used in a civilian context. A sergeant might for example have trained others to become soldiers. This person will have had to rely on discipline, leadership and social skills. These are three aspects which are highly valued when working with (troubled) youth. This parallel between these military and civilian careers is not something that comes to mind directly but the importance of such an understanding of the civilian labour market is crucial when considering a second career. The soldier will have to know their situation and ask themselves "What is the larger marketplace for your emergent career competencies?" as Arthur and Rousseau (1996, p. 35) formulated it. Or in other words "where can I use the competences I have gained so far?" In this study the second research question focuses on how the armed forces contribute to making the knowledge of the soldiers understandable to themselves and thereby intend to aid them on their search for civilian jobs.

3 Theoretical Framework

In a career transition Arthur and Rousseau (1996) recommend to "use what you are presently good at to help you become good at something new." (p. 35). This requires the soldier to know his/her own knowledge.

3.1 Knowledge

When investigating knowledge, its transfer from one context to another, we first have to ask ourselves, what is knowledge? Gustavsson (2000) has made an important contribution by analysing three different traditions of the way we could view knowledge. According to Gustavsson (2000) the three views on knowledge are the scientific knowledge (which can be gained through empiric methods, rationalism or constructivism), the practical knowledge and the ethical-political actions of people. Andersson and Fejes (2010) have taken a closer look at these definitions. In the scientific knowledge paradigm, knowledge is gathered and stored. It is very unlike the paradigm of knowledge as something practical. In the practical paradigm, knowledge is something which is used to solve a certain problem. Like the ethical-political paradigm it is focused on actions. When looking closer at the paradigm of knowledge as something practical we can outline several sub paradigms. There is the traditional view of knowledge as something we have, in order to solve a certain task. This implies that knowledge is something you have and therefore it can be measured, stored and transferred (Orlikowski, 2002). Ryle (1949) offers an example of this. According to Ryle (1949), knowledge is divided in either knowing what (a person has knowledge about certain facts) and knowing how (a person has knowledge about how to solve a certain task but at the same time this person is able to articulate this knowledge). In contrast to this, there is the theory of Polanyi (1967) where knowledge is either explicit and can be verbalised or implicit (meaning that people have knowledge about how to solve a certain task but are not aware of the fact that they have this knowledge or are or unable to articulate it. Implicit knowledge is therefore "deeply rooted in action, commitment, and involvement in a specific context" (Nonaka, 1994, p. 16).

The other sub paradigm of practical knowledge can in one sentence be said to view knowledge as something situated in a context. Lave and Wenger (1991) have in their book argued that knowledge is bound to the context in which it is used and is that learning takes place in *communities of practice* (Lave & Wenger, 1991). Brown and Duguid (1991) have shown how beneficial these

communities can be for an organisation but so far, there is little known on how a person can transfer what has been learned to another context or community. On the other hand, Orlikowski (2002) has argued that knowing is not only situated in a context but an ongoing accomplishment.

3.2 Dynamic Theory of Organisational Knowledge Creation

Orlikowski's (2002), Lave & Wenger's (1991) and Polanyi's (1967) theories all emphasise a strong link between knowledge and its context. However, neither the theories of Orlikowski (2002) nor Lave & Wenger (1991) theory offer any theoretical or practical insight on how to transfer knowledge from one context to another. Therefore, the dynamic theory of organisational knowledge creation (Nonaka, 1994; Nonaka & Takeuchi, 1995) was chosen for the study at hand. Nonaka & Takeuchi (1995) argue that implicit knowledge is "hard to formalise and communicate" (p. 59) but at the same time offer both theoretical and practical insight on how to conduct the conversion and transfer of knowledge, which make their theory the most suited to fit the purpose of this study.

The dynamic theory of organisational knowledge creation (Nonaka, 1994; Nonaka & Takeuchi, 1995) builds on the one from Polanyi (1967) and even though it primarily focuses on knowledge within an organisation the theory also states that knowledge can be used in different contexts (at an inter-organisational level). In other words, knowledge created in a military context could also be used in a civilian context. I will adapt the theory to fit this study by using it primarily to analyse intra-organisational processes instead of inter-organisational processes.

Nonaka & Takeuchi (1995) argue that knowledge is developed by individuals but it is the job of the organisation to articulate this knowledge in order to make it useful. This articulation and conversion of knowledge (in order to make it understandable to different actors) is exactly what armed forces are working with to aid soldier's military-to-civilian transition and it makes this theory especially interesting for my study.

The theory postulates that knowledge is created through four types of knowledge conversions which are based on social processes. The processes are:

Socialisation: a conversion from tacit knowledge to tacit knowledge between individuals, usually by observation, imitating and experience

Externalisation: a conversion from tacit to explicit knowledge by using metaphors and analogies **Combination:** a conversion based on, for example, reorganisation or re-contextualisation of existing explicit knowledge to create further knowledge

Internalisation: a conversion from explicit to tacit knowledge in order to absorb the knowledge of previous steps. Action is highlighted as an important attribute in this process.

The theory states that these are not separate processes but that they influence each other and can take place simultaneously. This allows for an ongoing dialogue between tacit and explicit knowledge within an organisation, which is crucial to drive the creation of new concepts and ideas (new knowledge) (Nonaka, 1994; Nonaka & Takeuchi, 1995).

The four processes, described above, can create a lot of new knowledge. Can any of this knowledge can be considered redundant? Indeed, redundancy is a key factor of knowledge creation according to Nonaka (1994) and Nonaka & Takeuchi (1995). The authors argue that by creating more information than is needed immediately by a single individual, this information can contribute to the creation of new knowledge and new concepts in a social process. One could claim that creating a redundancy of knowledge also increases the probability that knowledge, which can be used in another situation or to solve another problem, is also created.

4 Methodology

"[T]he use of an appropriate methodological approach is, to some extent, the seal of guarantee of any scientific work" (Brito, 1992, p. 92). In other words; it is important for every researcher to make sure that what is measured can actually answer the research question(s).

The purpose of this study is to explore a phenomenon and the research questions are focused at finding out the process of how the armed forces can aid their soldiers in the transition to civilian labour market by making soldier's knowledge understandable. Therefore, I chose a case study. This allows me to use several different data collecting techniques, resulting in a more holistic study of the phenomenon than any other form of research design (Hakim, 2000).

I have chosen a triangulation (Denzin, 1970; Cohen, Manion & Morrison, 2000) approach in my data collection. Triangulation combines two or more methods of data collection and make it possible to "map out, or explain more fully, the richness and complexity of human behavior by studying it from more than one standpoint." (Cohen, Manion & Morrison, 2000, p.112). The concept of triangulation was initially used to determine different geographical positions by, for example, maritime navigators and (ironically) military strategists (Cohen, Manion & Morrison, 2000). Denzin (1970) argues that by using several different methods for data collection, more credible data can be obtained. Since this study aims to investigate how the armed forces aid soldiers both on an organisational (and intra-organisational) level as well as on an individual level, this study also uses what Cohen, Manion & Morrison (2000, p. 113) have described as "combined levels of triangulation".

By conduction this study I hope to uncover several methods which contribute to a successful transition of soldiers to the civilian labour market and thereby contribute to a theoretical understanding of the processes described in 1.2. It is important to remember that this initial understanding does not entail if potential processes influence each other, since this study is an exploratory investigation.

4.1 Setting

According to Bryman (2008), an exemplifying case, is a case which is chosen to exemplify its broader category, of which it is a member. Needless to say, in order to answer the research

questions, of how armed forces ease the transition of its soldiers, a military context would have to be chosen. This context would also have to have processes in place which intends to make the knowledge of soldiers understandable to different actors.

As my exemplifying case, I choose the *Bundeswehr* (the German armed forces). In Germany, there are laws stating that after every form of employment the employee shall receive a qualified letter of recommendation. This means that knowledge is made understandable to others. The Bundeswehr also writes qualified letters of recommendation to communicate the knowledge of their (former) soldiers to civilian actors which makes it a good case for answering my first research question.

Before investigating the German case it is important to explain that each soldier in Germany has the right to funding for further education (after their time of military service) as well as continued wages during the time of further education. The level of funding and the length of continued wages depend primarily on the time of service, the longer someone has served, the more time and money this person has for further education.

An important institution for the Bundeswehr when helping soldiers in their transition to civilian life is a *Bundeswehrfachschule*. A Bundeswehrfachschule is a form of school (currently 10 of these are found in Germany) which is organised entirely by the armed forces to aid former soldiers in their transition to civilian life and, therefore, an obvious choice for this study. Only soldiers and former soldiers, having served a minimum of 4 years, can attend these schools. The officers in Germany usually have, or receive an academic/college education (which makes the attendance at a Bundeswehrfachschule redundant). As stated earlier in the text, high ranking officers seem to have little problem in finding civilian work. Therefore, this context allows the investigation of the NCOs (the middle and lower ranks) of the armed forces.

The German armed forces spend a lot of money on further education of their soldiers in accordance with German law. The office in charge for reintegrating soldiers in the German context is the Berufsförderungsdienst (BFD). This could be translated to "career facilitation agency". Before the soldiers can receive any funding they have to be counselled by a BFD-consultant. The soldiers must know what they want to do (and be able to express this) in order to receive any funding. The Bundeswehr helps in this process by hiring external companies, like *VAB-Teamwork*, who offer career identification seminars in which knowledge of soldiers are made understandable to themselves. This makes the VAB-Teamwork seminars and the Bundeswehrfachschule interesting to investigate in order to answer the second research questions.

VAB-Teamwork is not the only private company which aids soldiers in this transition. Therefore this study also included two of the private companies, which can aid soldiers in their military-to-civilian transition. *Soldcom* (not the actual name of the company, please see chapter 4.5) operates a homepage where companies can put up ads specifically for soldiers and for former soldiers. Both jobs ads and advertisement for further education can be found on this homepage. Through an online tool, it is also possible to find suitable jobs or further education based on previous experiences, and time in the armed forces, which makes this company interesting to include in this study. *Logitrade* (not the actual name of the company, please see chapter 4.5) is one of the companies who announced their services on Soldcom. Logistrade focuses on further education within the sectors logistics and trade.

It is also important to mention the *Association of Soldiers* (not the actual name of the organisation, please see chapter 4.5). The Association of Soldiers is an organisation which represents the interests of its members (soldiers, former soldiers, reservists and others who are engaged in this context) much like a lobby-organisation or a union. The Association of Soldiers is interested in the successful transition of soldiers to the civilian labour market and contributes to the discussion on how to best aid soldiers in this transition.

4.2 Data

Table 1: Compilation of data

Source	Type of data
German Armed Forces	
BFD	Organisational documents
Bundeswehr	1 interview
Bundeswehrfachschule	6 interviews 6 Questionnaires from pupils taking a "pre-course" 8 Questionnaires from people doing an apprenticeship at a Bundeswehrfachschule
Civilians	
VAB-Teamwork	Organisational documents, 5 observations, 2 Interviews
Logitrade	1 Interview
Soldcom	Organisational documents, 1 Interview
Association of Soldiers	Organisational documents, 1 Interview

The 12 interviews were all held in German. The length of the interviews ranged from one 1:52h to 15min. For more information about the interview participants and their fictive names, please see

appendix 8.1. Three of the interviews were carried out by phone due to long distance. All interviews were recorded, except for the interview with Respondent D, who did not agree to be recorded (notes were made during and after the telephone interview with this respondent). The combined data from the notes and the transcribed interview resulted in 112 pages of data (plus 21 pages of transcribed notes from the observations). The combined time for the observations is approximately 8-9 hours.

When making direct citations in the text, the fictive name, the date of the interview and the time (hour:minute:second) when the quote started are mentioned.

4.3 Research Process

The process started with the investigation of VAB-Teamwork and their seminar. At the seminar, observations were carried out in order to see the process first hand and to get an deeper understanding of how to make knowledge understandable to soldiers. I observed the seminar and I also participated, as an observer, in three one-on-one talks with participants where individual recommendations of possible career paths were given. In line with the triangulation approach described earlier, the observations were followed by interviews (with questions based on observations from the seminar) of the manager of VAB-Teamwork as well as three participants of the seminar (see appendix 8.2). Due to the fact that many did not want to participate in an interview or claimed that they had no time, a questionnaire with open ended questions based on the questions for the soldiers (see appendix 8.3) was designed and handed out to one class of pupils in the precourse and one class of pupils already doing an apprenticeship. These data gathering techniques intended to capture processes on an individual (soldier) level.

Through referral, I got in touch with different actors in the military-to-civilian transition which contributed to a broader understanding of this process. Some of the referrals had gone through the transition and found civilian work. In line with the triangulation approach, I also wanted to see if the trends from the interviews with the soldiers could also be found on an organisational level and decided to interview a representative of the Association of Soldiers, which can be said to represent the interest of its members (the soldiers) on an organisational level. In order to understand the employer side of this process I also interviewed two people from different private companies. A lot of effort was put in to ensure multiple sources of data collection, which is in line with the triangulation approach (Denzin, 1970; Cohen, Manion & Morrison, 2000), as well the argument of Yin (1994) who claims that multiple sources gives the researcher a broader understanding of

attitudes, behaviours and historical issues and Dubois & Gadde (2002) who argue that using multiple sources allow the researcher to make discoveries about topics unknown to the researcher.

Interviews were carried out using a "general interview guide approach" (Turner, 2010, p. 755). This means that a general interview guide with questions was created before each interview but the formulation of these questions varied between the interviews. Since the participants had very heterogeneous roles (some were going through this process and others were helping soldiers in this process) in this transition, a standardised interview guide was not possible. Questions were added or taken away depending on the role of the interviewee (see appendix 8.2). Turner (2010) recommended pilot interviews before starting the actual interviews but due to the nature of the phenomenon this was also not possible. Instead, I continuously had to evaluate if the interviewed person understood the question and through an iterative process derived different suitable formulations, depending on the person.

In order to avoid forcing the empirical finding into pre-existing categories, when analysing the data, an abductive approach, where the researcher goes back and forth between empirical findings and theory (Dubois & Gadde, 2002), was used. The dynamic theory of organisational knowledge creation (Nonaka, 1994; Nonaka & Takeuchi, 1995), described in chapter 3.2, was combined with existing data and memos (written during the entire process) in order to create a fit between reality and theory (Glaser, 1978).

4.4 Reliability, Replicability and Validity

Bryman (2008) mentions three quality criteria in scientific research; reliability, replicability and validity. The reliability of a study concerns whether or not the results from a study can be replicated. Replicability concern whether or not the study itself can be replicated and validity indicate whether or not what is actually measured is what the researcher intended to measure (construct validity), whether or not what is measured allow for causal interpretation (internal validity) and whether or not the results of a study can be generalised beyond the specific research context (external validity) (Bryman, 2008).

By triangulating, different types of data collecting techniques were used in this study, which lowers the risk of measurement errors (and possible artefacts). This allows the researcher to argue for appropriate levels of reliability in this study. Critics might argue that the use of a general interview guide lowered reliability of this study but as mentioned, a semi-structured interview would not have been possible. To compensate for this, interviews were carried out with different actors in the process of aiding soldiers in their transition to the civilian labour market as well as with soldiers and former soldiers.

The replicability of this study can be said to be sufficient, due to the fact that the general interview guide is added in the appendix together with a detailed list of interview participants. This allows for scrutiny and the possibility to replicate this study. The list of participants is not entirely complete. This is done on purpose to assure the anonymity of participants, especially for those in the armed forces and the private companies where further information might have jeopardised participants' anonymity.

Using several sources of data collection allows the researcher to increase internal validity (Bryman, 2008; Yin, 2009). Given the fact that several sources were used in this study, it can be said that a high level of internal validity can be argued for.

Internal validity describes the possibility to make claims about causal connection of variables. This is not discussed, since it is not the purpose of this study.

External validity deals with the question of whether the results of a study can be generalised beyond the specific research context. It is important to note that the purpose of this study is exploratory. The results contribute (primarily) to a theoretical understanding. This theoretical understanding may be used and may be relevant in praxis as well but the aim of this study is to illustrate how the armed forces can aid its soldiers in their transition to civilian life by making knowledge understandable to different actors. In other words, to explore measures which might be connected to a successful transition to the civilian labour market. Further studies are required to prove if, how and why these measures are connected to a successful transition of soldiers to civilian employment.

4.5 Ethical Considerations

The study was carried out using only voluntary participants who's anonymity is guaranteed. Participants were informed that they could refuse to answer a question or end their participation at any time. No actual names are used in this text. The names of the organisations Soldcom, Logitrade and Association of Soldiers are fictive names in order to guarantee anonymity for participants in this study. VAB-Teamwork asked if their name could be stated in this study, therefore the actual name of the organisation is used. No references to a person's gender are made. All participants were

informed about the purpose of the study before participation. The data gathered in this study will only be used for scientific purposes. The study fulfils all four criteria of Vetenskapsrådet (2002) and is hence is in line with current ethical standards of research.

5 Results and Analysis

The different measures taken by the Bundeswehr to create knowledge will be illustrated, related to the theoretical framework and analysed in the coming chapters. Measures taken by the Bundeswehr to makes soldier's knowledge understandable are sorted to one of the four processes suggested by Nonaka (1994) and Nonaka & Takeuchi (1995); socialisation, externalisation, combination and internalisation. Each sub-chapter will first answer research question 1 and then answer research question 2 (specified in 1.1). Chapter 5.3 focuses primarily on analysing how the different measures to make soldiers' knowledge understandable might affect internalisation of the knowledge created (without measuring if an internalisation has actually taking place).

Socialisation was found to take place during the time of service within the armed forces. As this study focuses on the transition to the civilian labour market (the end of service) and socialisation into the armed forces starts in the beginning of service, this process will not be covered in the results and analysis part. Further reading on military socialisation can, for example, be found in the study by Guimond (1995).

5.1 Externalisation

There are three ways the Bundeswehr works with externalising the knowledge and skills of its soldiers. Two measures are taken to externalise soldiers' knowledge in order to make it understandable to civilian actors, these are; qualified letters of recommendation and certificates of military education and assignments. One measure is found to externalise soldiers' knowledge in order to make it understandable to themselves; the career-identification-seminars offered by VAB-Teamwork.

First, I will illustrate how the Bundeswehr externalise knowledge to civilians and then investigate how knowledge is externalised to soldiers.

5.1.1 Making Soldiers' Knowledge Understandable to Civilian Actors

5.1.1.1 Qualified Letters of Recommendation

The most common way for the Bundeswehr to convert implicit to explicit knowledge in order to make it understandable to civilian actors is in this case to write a qualified letter of recommendation

at the end of each soldier's service. This letter describes what the soldier has done and how the soldier has worked during the time in the armed forces. The letter is written by the line manager (the officer responsible for a soldier) of the individual soldier (Respondent A, Respondent B & Respondent K).

Respondent K said that he/she had written qualified letters of recommendation. Respondent K described the process as letting the soldiers have a say in how this letter would be structured and would often write the part covering the "hard skills" (for example operating certain machines or working with a specific computer program) themselves. Respondent K noted:

Because they know, where they want to apply, where they want to go. I can look at their files and see what they have done [...]. If they say: "I worked with logistics. Before I was in the infantry but all of that does not interest me. I am only interested in the last three years, because I want to continue working in this sector", then I would say: "OK. More than two pages DIN A4 is always bad, because no one reads it". (Respondent K, 2014.03.06, 00:58:44)

Respondent K would then summarise everything the soldier has done before working with logistics in three sentences and write more on the competences this person has gained while working with logistics. Respondent K also mentioned "soft skills" and said that Respondent K would write about soft skills at the end of the letter. According to Respondent K, if this is done in a good way, the person writing this letter would mention aspects which are important in the sector to which the person wants to apply. Respondent K also said that typical soft skills found amongst soldier like "punctuality", "loyalty" or "project based work" are important, because:

The soldier does not quit, because he knows, he has to achieve the goal. I can't just stop in the middle of an attack and say: "that's it. I don't know what to do, I quit. I don't want to do this anymore." The Soldier MUST achieve the goal, that is what the soldier has learned. So if you give them a task, a project, they will usually try to achieve the goal. This is not an attitude, which all people in the private sector share. (Respondent K, 2014.03.06, 01:00:28)

The quality of such letters unfortunately depend highly on the individual line manager, both in the willingness to put effort into this letter of qualifications and the ability to formulate the

competences of the solder in such a way that civilian actors understand them, as noted by Respondent K:

You can see it in the qualified letters of recommendation, which are written. If they are poorly written, the private sector does not understand these. Then you have been "Zugführer" [which translates to train-manager but which also constitutes a military rank]. However, then everybody thinks of the Deutsche Bahn [a railway company], but that is completely different. This is not someone who has worked in a train and controlled tickets, the military rank [...] is similar to middle management. This person has had responsibilities for both people and for material. (Respondent K, 2014.03.06, 00:13:44)

This is a good example of a process in which a powerful language (Nonaka & Takeuchi, 1995) can be used to create meaning to civilian actors. If the civilian actor reading a letter understands it, then one could say that a successful knowledge conversion has taken place. If the knowledge is converted to make it understandable to civilians then the soldier will be on equal (or better) terms than civilians applying for the same job but if the knowledge conversion was unsuccessful then the person (for example an employer) reading it might come to the conclusion that the soldier does not have the required skills for a specific position. The soldier might then have a disadvantage in relation to other candidates.

5.1.1.2 Certificate of Military Education and Assignment

Another measure which is aimed to convert the implicit knowledge of soldiers' into an explicit form (in this case a certificate) is the "Bescheinigung und Nachweis zu zivilberuflicher Anerkennung militärischer Ausbildungen und Verwendungen" (Respondent A & Respondent K) which would roughly translate to "certificate of civilian recognition of military education and assignments." This this process is often referred to as "certificate of military education and assignment".

This certificate is important when the former soldier wants to do an apprenticeship or a higher form of education. In some cases the soldier will have to prove that he/she has skills within a certain field before getting admitted to further education. According to Respondent A, sometimes a person can also be eligible for a certain type of college education if the person has worked in a certain field for a specified number of years. The German system also allows the shortening of education when the

person can certify that he/she already has the knowledge gained in this part of the education.

Getting a certificate of military education and assignment is hard for many reasons. Usually soldiers do not know about this process, which I noticed during the observations of the VAB-Teamwork seminar. Contrary to a qualified letter of recommendation, soldiers have to apply for a certificate of military education and assignment at the BFD. The process of attaining a certificate of military education and assignment is also complicated since soldiers usually do not have a specific job title. The BFD will have to get in touch with the unit where a soldier has served and has to ask what the soldier has done. According to both Respondent A & Respondent K, even the ones who apply for this might not get it since the BFD might not be able to prove that this person has fulfilled their tasks, documents might be missing or the BFD might not have the resources to realise the process.

5.1.2 Making Soldiers' Knowledge Understandable to the Soldiers Themselves

5.1.2.1 Career-Identification-Seminars

A good example of making the knowledge of the soldier understandable to themselves is found in the "Berufsfindungsseminare" (career-identification-seminars). A career-identification-seminar can be attended during the time of active duty or when a soldier has commenced his or her further education at a Bundeswehrfachschule. In the Bundeswehrfachschule I investigated, a career-identification-seminar was mandatory for pupils taking a preparation course and was given by VAB-Teamwork.

The seminar I attended proved to be very insightful when it comes to discovering how skills and knowledge are made understandable to soldiers. Nonaka (1994) stresses the importance of social practice and dialogue to create knowledge and indeed, the seminar consist of several people, both soldiers and a coach.

Nonaka & Takeuchi (1995) argue that conversion of tacit to explicit knowledge involves the use of metaphors and analogies. A metaphor is an important tool which can be used to create a network of concepts (Nonaka & Takeuchi, 1995). The concept of a "suitable career" was used by Respondent A as a metaphor. This metaphor was further explained during the seminar; Respondent A wrote "realistic", "fitting the labour market" and "fitting to you" on the blackboard while continuously explaining these words by giving examples. The words remained on the black board throughout the seminar. According to Nonaka & Takeuchi (1995) a metaphor can also be used to illustrate contradictions. The use of the metaphor suitable career (and what a suitable career consists of) is a

good way to illustrate how these different concepts might contradict each other.

Respondent A used the career as a fire fighter to further illustrate the metaphor of a career which was not suitable for himself/herself. Working as a fire fighter is fitting to the labour market (there are open positions in this line of work) but it might not be fitting to the individual. Respondent A argues that he/she could never have been a fire fighter, since this involves climbing high ladders and Respondent A argues that he/she is not very fond of this task. A career choice will also have to be realistic. If a person did not finish high school or had bad grades in school, studying medicine or law could be very hard for this individual. If this person starts to study at the university, only to realise that this is too hard, a lot of time is wasted pursuing a career which is not realistic for that person.

In order to explain the analogies found in this seminar, I first have to explain the tests used. The first test can basically be said to be a form of IQ test. It measures language skills, maths skills and abstract reasoning. The second test covers interests of the participants and makes several claims like "I think it would be interesting to work with *SAP*". The participant can then rate on a scale from 1-5 how much they think this applies to themselves. The third part covers the participants' background. Topics like; grades from school, hobbies, mobility, length of service, assignment during time of service, possible general direction of career path (forced choice items) and motives in choosing career are asked about briefly.

Nonaka (1994) states: "Analogy allows the functional operation of new concepts or systems to be explored by reference to things that are already understood." (p. 21). The tests seem to be necessary in order to create a sort of reference point for the analogy. To exemplify; the second tests measures interests. One item covers whether or not the seminar participant would enjoy designing a company logo.

I would not argue that the tests themselves are the analogies, rather, what is measured in the tests can be used as an analogy. Designing a company logo is used to create a reference point. The item measuring interest in designing a company logo can then contribute to an understanding of the analogy "creativity" (Respondent A). It is possible to combine the analogy of creativity with the analogy of language skills (also measured in the tests) these two can then contribute to a recommendation of a possible career, where writing is an essential part; for example a journalist. It can therefore be argued that the analogies are used to externalise the knowledge of a person. The career recommendations can be argued to combine what the person knows (implicit knowledge of how a specific language is formulated in text) with interests of this person (creativity) and possible

vocations were the use of written word is very important.

According to Nonaka & Takeuchi (1995) analogies are used to resolve the contradictions shown by the metaphors by focusing on "structural/functional similarities between two things, and hence their differences" (Nonaka & Takeuchi, 1995, p. 67). By using different analogies, it is possible to get a broader understanding of the knowledge of a person. Writing a text and designing a logo are not entirely the same thing. Both involve a certain level of creativity but designing a logo could also be connected to "spacial thinking" as Respondent A expressed it.

Spacial thinking can be found in the first VAB-Teamwork tests. In one item, the seminar participant has to imagine a die, which is turned into various positions. It is possible to connect these two reference points (designing a logo and turning a die) to create the analogy of "technical design". This analogy can then be combined with knowledge of the civilian labour market and a result might be a recommendation of where this person could find a suitable career (for example in architecture).

Dialogue is an important aspect of the externalisation process (Nonaka & Takeuchi, 1995). This is found in the career-identification-seminar when coach and participants are gathered but this is also found in the one-on-one talk between the coach and the seminar participant. The recommendation and the test results are discussed in private. In this dialogue, the seminar participant receives two or three recommendations of possible career paths, base on what the seminar participant has scored on the different tests. These recommendations are then discussed.

The career-identification-seminar has shown to possibly make soldiers' knowledge understandable to themselves by dialogue, the use of metaphors and analogies. However, in the questionnaire and the interviews held later on with participants of this seminar there was a significant variance in the level of satisfaction with the recommendations. Everyone was over all happy with the seminar (it was a nice atmosphere and participants received tips and information about the civilian labour market) and many felt empowered by the recommendations since it was in line with what they were thinking about doing. Others were surprised with the recommendation as it showed new career paths which the participant had not thought about. Some still had no clear career path but said they felt more confident on how to think about their future career due to the VAB-Teamwork seminar. Yet others described the recommendation as being irrelevant to them. They argued that they could have/had already figured it out by themselves and it would not have been necessary to hire a psychologist for this.

The career-identification-seminar is another good example of externalisation. The use of dialogue, metaphors and analogies are apparent. At first glance, one might perceive a contradiction, since externalisation is aimed at making knowledge meaningful to a broader audience. In this seminar, knowledge is created through a group dialogue but the career recommendations are given to the individual solider, and no one else. Nonaka's (1994) theory does not state how and when knowledge is shared with a broader audience. The soldiers I talked to all said that they discussed the seminar and its results with others. This way the knowledge created in the career-identification-seminar becomes part of the larger internalisation process at the Bundeswehrfachschule, described in chapter 5.3.2.

5.2 Combination

As we have seen, the knowledge creation processes are indeed parallel and influence each other, in accordance with the dynamic theory of organisational knowledge creation (Nonaka, 1994; Nonaka & Takeuchi, 1995), described in chapter 3.2. In the seminar described above, knowledge was first made explicit and then combined with knowledge about the civilian context to give relevant recommendations. This combination can be seen in other aspects of the transition to civilian labour market as well.

I will first investigate two ways to combine different knowledge in order to create new knowledge which can be understood by civilian actors, these are; the Synopsis (a pilot project of the armed forces) and a summary of education, which the Association of Soldiers has called for.

I will then illustrate different ways to use combination in order to make soldiers' knowledge understandable to themselves, these contain; job fairs, internships and private companies.

5.2.1 Making Soldiers' Knowledge Understandable to Civilian Actors

5.2.1.1 Synopsis

According to Respondent B, the Bundeswehr has, on January 1st 2013, established a *Bildungszentrum* (educational centre). This centre is supposed to coordinate and create standards for all education within the Bundeswehr. These educational standards are supposed to be based on civilian standards. The educational centre looks at which competences the soldiers gain and how to make them understandable to civilians. A pilot project has started where cooperation with the actors in Germany; *Industrie- und Handelskammer (IHK)* and *Handwerkskammer (HHK)* who certifies most of the apprenticeships, is an essential part. The pilot project focuses on the security sector as

well as the logistic sector. The aim is to uncover which competence a soldier has learned during his/her time of service (both formal education and competences gained while working). These are then compared, the comparison is called *Synopsis*, with the demands of a certain type of civilian education, for example an apprenticeship. A "delta" is created. This delta is the gap between what the soldier can be said to know and what is needed to get a certain civilian certificate, for example "Fachkraft für Schutz und Sicherheit" (expert for protection and security). What the delta usually contains is described by Respondent B:

[...] typically a service-minded approach, customer orientation, for example marketing, or similar topics [...] which does not have any relevance in the armed forces. (Respondent B, 2014.02.09, 00:32:29)

The armed forces would then educate the soldiers in these areas so that they will have a good chance of later passing the test of either IHK or HHK and receive a civilian certificate. Since this is only a pilot project it is still unclear exactly how to further educate the soldier. Respondent B indicated that the Bundeswehr are hoping to one day be able to certify the soldiers themselves by using entirely civilian standards.

The over-all goal of the Bundeswehr is to reach a point where civilian actors have internalised the knowledge created though these processes. The Bundeswehr hopes that it would then be considered a bonus if someone has served in the military, since a soldier would have the exact same certificate as a civilian and could also show that he/she has not only simulated a situation during an education but was responsible for building a whole camp in an unknown terrain (in a foreign country), if I may take the expert on logistics as an example. So far these are just pilot projects and how they will be implemented remains to be seen.

For the individual soldier, this process could prove very important. The German context is characterised by a desire to formalise knowledge in the form of certificates, diplomas and qualified letters of recommendation. As it is now, the soldier might have worked with logistics for several years in the armed forces and has no certificate, which is understandable to civilian actors. Currently, a soldier is therefore not (always) on equal terms with others who have the same experience in a civilian context and a certificate of this experience, which would make the Synopsis an important contribution (Respondent B).

5.2.1.2 Summary of Education

The Association of Soldiers has written much about the Bundeswehr and had put up a list of demands to improve the quality of education within the Bundeswehr (Association of Soldiers, 2012) and to aid soldiers in their military-to-civilian transition by making their knowledge understandable to civilian actors. One interesting aspect of this list of demands is the creation of a *Bildungspass* this could be translated to "summary of education". During the interview Respondent K, one of the representatives of the Association of Soldiers, explained to me further what this Bildungspass would entail:

This is a form of personal educational folder for the educational certificates. The difference being that it is possible to push a button in the computer systems, which the Bundeswehr has, in which it does not only state: "he participated in the methodology course." But it also states: "this contains ..." and then you insert text blocks which have been matched to the private sector, for example IHK or HHK. (Respondent K, 2014.03.06, 00:14:38)

The aim is to make it clearer what a specific education at the armed forces contains. According to Respondent K, if the soldiers only receives a certificate saying, for example "Mr Schmidt has received education in leadership" the risk of underestimating this knowledge is high. If the Bundeswehr instead writes "Mr. Schmidt has received education in leadership which contains the courses A, B and C" and then explain these courses, it would be easier to understand for others, especially if it is written in a standardised way and formulated in a way which is common in the civilian sector. According to Respondent K, this is something which the German armed forces are currently discussing if and how to implement.

Combination involves "social processes to combine different bodies of explicit knowledge held by individuals" (Nonaka, 1994, p. 19). The armed forces have their own system for documenting knowledge. By "re-contextualisation" (Nonaka, 1994, p. 19) this knowledge is categories into civilian standards and a new form of knowledge is created, which can be understood by civilian actors. In other words; soldiers' knowledge is translated to civilian words in order for civilian actors to understand this knowledge. This form of knowledge conversion could be very important to the actors on the labour market. Few civilian are able to get access and insight into the military context. There are then two ways of making the knowledge of the soldiers understandable to civilians. Either enforce the military categorisation on the civilian labour market or adapt to the standards of the

civilian labour market.

In the Synopsis, (and in case the summary of education is implemented) the Bundeswehr are choosing the second way and I do believe that this way has a higher possibility to succeed because it decreases the gap between military and civilian context by using the same language. It becomes clearer to actors on the civilian labour market (and also to potential job candidates) that these two "worlds" are not that far apart and actually both part of the German society.

5.2.2 Making Soldiers' Knowledge Understandable to the Soldiers Themselves

5.2.2.1 Job Fairs and Internships

Job fairs are one form where knowledge of soldiers can be combined with knowledge of the civilian labour market. The armed forces sometimes organise job fairs and invite actors from the civilian themselves and the career labour market present opportunities (Berufsförderungsdienst, 2013b). According to Respondent A, Respondent F, Respondent G, Respondent H, Respondent I and Respondent J the possibility to get to know a certain sector could also take place through an internship. Soldiers have the possibility to do internships for 2-3 weeks at different civilian employers. These combination processes allow the soldiers to create an understanding of possible future career paths based on their existing knowledge and where this knowledge can be used in a civilian context.

5.2.2.2 Private Companies

The mere numbers of soldiers leaving the Bundeswehr each year (10,000 - 15,000 soldiers/year) means that former soldiers constitute a huge pool of potential candidates and due to this, some companies have started looking specifically for soldiers. The fact that soldiers have access to funding for further education means that they become very attractive for companies offering further education or the theoretical part of an apprenticeship.

There are companies who act as mediators in this process. Some offer information about possible employment or further education to soldiers (through collected job ads aimed at former soldiers). Soldcom is a homepage where soldiers can look for certain types of further educational possibilities. Soldiers can also enter what they have done during (and before) their time of military service, how long they have served and other data. Based on a combination of their situation, their skills and knowledge on the one hand and available vacancies on the other, they receive

recommendations of possible further educational steps.

Logitrade has a different approach. According to Respondent E (the manager of Logitrade), the company offers to do the theoretical part of a further education (for example an apprenticeship) and the practical part is done in other companies to which Logitrade has contact. These companies are usually interested in hiring the soldier after he/she has fulfilled the education and view the practical part of the education as a way to get to know the soldier.

Respondent E claimed to have contact with some consultants from the BFD and said that they offer consultation, beyond that of the BFD, to the soldiers:

Where we basically, want to clarify to the applicants [...]: "what are the sectors logistic and trade all about? How is this related to the context of the private sector? [...] what conditions are there, what possible career paths, which requirement do you have to fulfil?" But also: "what can you become and what income could you have?" Because the soldiers (or the former soldiers) are, when comparing to the private sector, a bit spoiled, when it comes to wages. This is how it is and we can act as a mirror to the private sector and say; "when you go into the private sector then these are the conditions." (Respondent E, 2014.02.17, 00:02:47)

In the case of Logitrade, the company can be said to fulfil some of the consultation which the BFD cannot or does not want to do. When Respondent E is asked about current and future challenges for the Bundeswehr in integrating the soldiers into civilian labour market he/she said:

They [the BFD] are supposed to place soldiers, which are hard to place, directly but I believe it is hard for the individual BFD-consultant, now. Before it was also hard to present real expertise about the [...] or qualification profiles of the different sectors. (Respondent E, 2014.02.17, 00:23:38)

This is another example of combination. Through social practices (consultations, job interviews and internships) the soldier, Logitrade and their partners combine what the soldier knows and look at whether or not it could be useful in the potential context.

5.3 Internalisation

The externalisation and combination processes described earlier have (ideally) generated new knowledge which can be internalised. In this chapter I will first analyse how these different forms of knowledge conversion might create an understanding of soldiers' knowledge within civilian actors and then analyse how to possibly make this knowledge understandable to the soldiers themselves.

5.3.1 Making Soldiers' Knowledge Understandable to Civilian Actors

In case a civilian actor understands what a soldier has learned during time of service, it can be argued that an internalisation of knowledge, to become tacit knowledge (an understanding) within the civilian actor, has taken place. When civilians internalise soldiers' knowledge, it gives the soldier the chance to compete on equal terms with people having gained the same knowledge in a civilian context. As we have seen, there are two ways the German armed forces currently work with creating knowledge so that it can be understood by civilian actors. When looking at the communication which the Bundeswehr do towards civilian actors, it is clear that these two processes are, so far, not standardised. If it is possible to create understanding within civilian actors through the qualified letters of recommendation and the certificate of military education and assignment depend highly on the individuals carrying out this communication. The Bundeswehr is making efforts to standardise these processes. According to Respondent B and Respondent K this is done because the current way of communicating soldiers' skills and knowledge are not always understood by civilian actors.

Some people that I have interviewed (Respondent A, Respondent B, Respondent C, Respondent E, Respondent F, Respondent G, Respondent I and Respondent K) think that soldiers sometimes have a disadvantage over civilians in the competition for employment. The time in the Bundeswehr is, by some, considered a time where nothing relevant is learned. As it is now, the soldiers do their time of service and at the end of this time they receive funding for further education, which is in line with civilian standards. It is possible that the Synopsis and the Bildungspass (described earlier in the text) are ways for the Bundeswehr to react to an increased average age of soldiers. Respondent A, Respondent B, Respondent E and Respondent K told me that German NCOs now generally server longer time than before. This means that people leaving the Bundeswehr are, on average, older. Many have done longer time of service. At the same time, there are an increasing number of

soldiers who do not have an education which is understood by civilian actors. It is very likely that a forty year old person is less motivated to go back to school when this person has a family which needs to be supported. In case this soldier does not have anything else (documented) to fall back on, the time in the armed forces has brought money and experiences but made it harder for this person to find civilian employment. By formalising and certifying the knowledge learned during time of service, in a way which becomes understandable to civilians, the Bundeswehr hopes to create knowledge which soldiers could use in search of civilian employment, at the end of service. This way, the soldier would not have to do an additional further education but could use what has been learned during time of service. This is exactly what happens to officers in the Bundeswehr and elsewhere. Bundeswehr officers receive a college education as part of their military career. This education is in line with civilian standards (for example law, medicine or public/business administration). As mentioned, Baruch and Quick (2007) could show that high ranking officers had little trouble finding civilian employment. Magnum and Ball (1987) showed that military training could be transferred to the civilian labour market, as long as there was an institutional linkage between training provider and employer (for example in business colleges and technical domains). The aim with the Synopsis, the use of civilian language to describe knowledge, seems to be to create this institutional linkage for NCOs as well and thereby make soldiers' knowledge understandable to civilian actors.

5.3.2 Making Soldiers' Knowledge Understandable to the Soldiers Themselves

When investigating how the Bundeswehr assists soldiers in their transition to the civilian labour market by making their knowledge understandable to themselves, the importance of the soldiers' current situation has become clear. Someone who is 17 years old usually has a greater chance and ability to further educate himself/herself than someone who is 34 years old, is married, has a house, and kids. The income proved to be an important aspect in this study. Some participants (Respondent A, Respondent F, Respondent G, Respondent H and Respondent I) claimed that they knew soldiers who "could" not choose a certain career path even if they had wanted to, since they were not able to cut down their household spending. They are used to a certain amount of money coming in to their bank accounts every month and sometimes have an unrealistic view of how much money their level of education is worth on the civilian labour market. This is an interesting aspect. By raising the salaries for soldiers, the Bundeswehr has aimed at making the time as a soldier more attractive but at the same time has made it harder for just these soldiers when transitioning to the civilian labour market. This makes the importance of other ways of creating attractiveness obvious and illustrates

the importance of also considering the soldier's individual situation, at the end of service.

Let us therefore look at ways to help the individual soldier to internalise the knowledge described in previous chapters. The soldiers I investigated all went to (or had gone to) a Bundeswehrfachschule. A Bundeswehrfachschule is operated entirely by civilian staff. Only soldiers and former soldiers can attend these schools. Approximately 5,000 of the 10,000 to 15,000 soldiers leaving the armed forces each year attend a Bundeswehrfachschule for some time. Many of the people I met at the Bundeswehrfachschule still had the status of soldier but at this school, no one wore their uniform. All of the soldiers in this study knew that they would not continue to work for the armed forces.

Nonaka & Takeuchi (1995) highlight action in the process of internalisation. This can be found in the context of the Bundeswehrfachschule. Many participants (Respondent A, Respondent B, Respondent C, Respondent F, Respondent G, Respondent H, Respondent I) said that the time at the Bundeswehrfachschule acted as a phase of orientation for themselves or for people they knew. Attending the Bundeswehrfachschule meant that they would start to take action; to think about their future career and take active steps to reach it. It seems the Bundeswehr aid the transition of soldier through the Bundeswehrfachschule by enabling them to internalise knowledge created in previous steps; about their own skills and knowledge, the civilian labour market and how this fits to their current situation and thereby create an understanding of a possible and suitable civilian career.

As shown in previous chapters there are many ways which Bundeswehr create knowledge in order to aid their soldiers in their military-to-civilian transition, how come?

Using the theory of Nonaka (1994) and Nonaka & Takeuchi (1995), it becomes clear that this is an example of how to create organisational redundancy which, according to the conceptual framework of this study, is a key factor in knowledge creation and which makes it easier to transfer tacit knowledge between organisational members. Redundancy in this case can be found in the many recommendations given to the soldier by family, friends, other people at the Bundeswehrfachschule, the BFD-consultant, private actors and many more.

It appears that the military-to-civilian transition involves a lot of confusion. Indeed, when asked what was missing to aid their transition to the civilian labour market some participants wrote in the questionnaire that they were missing a sort of check list of what needed to be done when going through the transition. Hunt (2007) has noted that soldiers do not have a blueprint of how to transition to the civilian job market. This is because it is not possible to make a blueprint of this transition which can be generalised to be relevant to all soldiers. There is no one-size-fits-all

approach of transitioning to the civilian labour market. Each person's career is an individual process (Arthur & Rousseau, 1996; Bürkle, 1989). What constitutes the right way of transitioning to the civilian labour market therefore depends on the individual soldier. Hence, the right way to make knowledge understandable to each soldier also depends on the individual.

To exemplify, some participants in my study were unsatisfied with the BFD-consultant. One participant (Respondent J) explicitly stated that it was the lack of knowledge of possible further educational steps which led to this participant's dissatisfaction and that this participant eventually stopped listening to the BFD-consultant and had to find out further educational steps alone. Some participants of the VAB-Teamwork seminar found this seminar to be very helpful (as could be seen in the questionnaires). They did not know what they wanted to work with. Others already knew what they wanted to work with and for them the recommendations where a "nice to know" but had no further relevance (for example Respondent C and Respondent G). The same can be said about Logitrade, which has specialised itself in the education of the sectors logistics and trade. Since they are an active actor in this context they can offer insights which the Bundeswehr might not be able to gather. Soldiers who plan to work in one of these two sectors may find the combination (described in chapter 5.2.2.2) in their consultation helpful, while others may not.

By using several different ways of converting knowledge, the Bundeswehr create a redundancy of knowledge. Although frustrating for some soldiers, this redundancy seem to make it more likely that a soldier finds the information which assists this soldier in the individual transition to the civilian labour market. If one way of converting knowledge does not assist the soldier, another might.

6 Conclusion

The aim of this study was to uncover how the armed forces work with making knowledge understandable to both civilian actors and the soldiers themselves and thereby easing the transition of soldiers to the civilian labour market. By conduction this study and using the dynamic theory of organisational knowledge creation (Nonaka, 1994; Nonaka & Takeuchi, 1995) to analyse the data, several interesting insights have emerged. Different ways of making knowledge understandable were illustrated. These can be used by armed forces but also by HR practitioners who want to work with knowledge management. The findings of this study might also be interesting for others who try to make knowledge of someone understandable. In this chapter the ways to make soldiers' knowledge understandable to themselves.

6.1 Making Soldiers' Knowledge Understandable to Civilian Actors

The study at hand contributes to an initial understanding of four measures (the qualified letters of recommendation, the certificate of military education and assignment, the Synopsis and the summary of education) which can be taken by armed forces to ease the transition of soldiers by making their knowledge understandable to civilian actors.

The Bundeswehr communicates the skills and knowledge of soldiers towards civilian actors by writing qualified letters of recommendation and creating a certificate where education and assignments are summarised at the request of the soldier. If this is a successful way to make the knowledge of soldiers understandable to civilian actors depends on the people writing these documents (if these persons are able to make soldiers' knowledge understandable to civilian actors). The study has shown how the Bundeswehr are trying to (further) achieve understanding of soldiers' knowledge within civilian actors by standardising and formalising their communication towards civilian actors. The pilot project of the Bildungszentrum aimed to externalise soldiers' knowledge and combine it with formulations and categories found in the civilian labour market as a way to create new knowledge which can (hopefully) be understood by civilian actors. A consequence of this could be that the Bundeswehr might create institutional linkage (Magnum & Ball, 1987) between themselves and the civilian labour market.

Continuous documentation (in a summary of education) of soldier's knowledge might further lead to civilian actors understanding this knowledge, if this documentation also uses formulations found

6.2 Making Soldiers' Knowledge Understandable to the Soldiers Themselves

In any organisation it is necessary to have an ongoing dialogue between tacit and explicit knowledge (Nonaka & Takeuchi, 1995). In the Bundeswehr context, several different ways to make knowledge understandable to the soldiers themselves are found.

Externalisation and combination of knowledge were found in the VAB-Teamwork seminar. However, the study also illustrates that it is too simplistic to just look at the knowledge of a person or possible career paths. In the planning phase of the transition to the civilian job market, there is not just a **looking back** at which skills and knowledge a person has. The civilian-to-be could also benefit from a combination of this knowledge with **future** career options (and understand these options), while also consider his or her **current** situation.

The study illustrated that the Bundeswehr assist the combination of soldiers' knowledge with knowledge of the civilian labour market by giving career advice, enabling soldiers to get to know the civilian labour market through internships and job fairs. In this study, companies embedded in the private sector were found to contribute to a combination of soldiers' knowledge and knowledge of the civilian labour market, which might further benefit the soldier by illustrating possible career paths.

It appears that it takes time for soldiers to create an understanding of their skills, their knowledge, where it can be used in a civilian context and how this relates to themselves. The Bundeswehr offer time and money for the soldiers to internalise how the different factors interact and thereby constitute a possible, individual career path of the soldier. Especially the time at the Bundeswehrfachschule allow the soldiers to start reflecting on their own skills and knowledge as well as their civilian career, before starting their next career path, as recommended by Bürkle (1989) as well as Spiegel and Shultz (2003).

According to the dynamic theory of organisational knowledge creation, an organisation should strive to create redundancy of knowledge (Nonaka, 1994). The possibility of different forms of knowledge conversion described above results in a variety of knowledge and recommendations given to the individual soldier. It is possible that the number of recommendations increase the possibility for the soldiers to find one or more relevant recommendations and thereby understand

their own knowledge, where it could be used in a civilian context and the soldiers' current situation, which could enable the soldiers to find an individually suitable career path.

6.3 Suggestions for Further Research

This study has illustrated several ways of making the knowledge of soldiers understandable to different (civilian) actors. Through different conversions new knowledge is created, which could be internalised by civilian actors. The initial insight gained in this study clearly illustrate the need for further research on this topic to answer whether or not the created knowledge is actually understood by civilian actors, which skills and knowledge need to be communicated in order to achieve internalisation in civilian actors and which formulations are optimal for creating understandable forms of communication. It also illustrates the need for continued research in this area to answer whether or not there are different forms to communicate and understand skills and knowledge in different private sectors. It is possible that the public sector communicates knowledge different to the industrial sector, for example.

Should the armed forces find a way to communicate the skills and knowledge of soldiers towards civilian actors, it could be possible to change the attitude of some people that little useful knowledge is learned in the military. If it is possible to create an understanding amongst civilian actors that the time in the military provides the individual with a lot of useful skills and knowledge, this could benefit the individual soldiers in their search for a civilian employment and further research is called for to answer if this is the case.

As mentioned before, the German context is characterised by documentation and formalisation. Further research will have to answer how armed forces work with the knowledge creation, in a country which has no standards to describe skills and knowledge. Are there other ways to create understanding amongst civilian actors which does not involve formalised knowledge?

This study has illustrated several ways in which the Bundeswehr are trying to aid the soldiers in their military to civilian transition by enabling them to internalise different forms of knowledge about their skills and knowledge, the civilian labour market and their current situation. Further studies are called for to illustrate the relationship between the measures and a concept of an individual career path.

Finding an individually suitable career path may ease soldiers' transition to the civilian labour market and a longitudinal study is called for to find out how a suitable career path affects a soldier's

military-to-civilian transition. Further research is also needed to understand which of these aspects are the most problematic for soldiers and refine tools for helping these soldiers.

How armed forces can assist soldiers in the internalisation of the knowledge described above, in countries which do not have institutions similar to a Bundeswehrfachschule also need to be answered by further research.

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8 Appendices

8.1 Appendix 1: Summary of Interview Participants

Name given in this study	Background	Date of the interview	Length of interview (hour:minute: second)	Interview method	Age of participant (years)
Respondent A	Manager of VAB- Teamwork	2014.01.28; 2014.01.31	01:10:59; 01:00:09	Face-to-face	-
Respondent B	Middle manager at the Bundeswehr	2014.02.09	01:17:54	Face-to-face	-
Respondent C	Soldier	2014.02.10	00:24:57	Face-to-face	35
Respondent D	Founder of Soldcom	2014.02.14	00:15:00	Telephone	-
Respondent E	Manager of Logitrade	2014.02.17	00:30:36	Telephone	-
Respondent F	Former soldier	2014.02.17	00:41:45	Telephone	32
Respondent G	Soldier	2014.02.19	00:31:14	Face-to-face	34
Respondent H	Soldier	2014.02.20	00:59:02	Face-to-face	27
Respondent I	Former soldier	2014.02.25	01:18:09	Face-to-face	37
Respondent J	Former soldier	2014.03.05	00:19:19	Face-to-face	32
Respondent K	Representative from Association of Soldiers	2014.03.06	01:52:31	Face-to-face	-

8.2 Appendix 2: Interview Guides

(translated to English)

Before I illustrate the interview guide it is important to explain that during the interviews the words "SaZ", "Soldat auf Zeit" or "Zeitsoldat" were used. All of these words mean a soldier, who serves for a limited time. In the interview guide this was translated to just "soldier" to make it easier to comprehend. Follow up questions were only used when appropriate (for example, if they had not already been answered by the participant).

8.2.1 General Interview Questions

What is the biggest challenge soldiers face in their military-to-civilian transition?

Follow up questions; how do the Bundeswehr work to make this transition easier? What challenges do the Bundeswehr face in aiding soldiers in their military-to-civilian transition? What are future challenges?

The soldiers were instead asked how they experience their military-to-civilian transition Follow up question; which aspect is the hardest?

What is the most important contribution which the Bundeswehr makes to ease the transition of soldiers to the civilian labour market?

If the participant had not mentioned anything about ways to make knowledge understandable to different actors, this was asked using follow up questions, for example; in what way does the Bundeswehr make soldiers' knowledge understandable to civilian actors?

What is the main task/the main purpose of a Bundeswehrfachschule? This question was reformulated to the soldiers to ask what they expect (for former soldiers; expected) from a Bundeswehrfachschule.

The private organisations were all asked about their role in soldiers' military-to-civilian transition in the beginning of the interview. They were also asked to describe how they work.

All company representatives were asked at some point in the interview how they perceived the soldiers way of looking for further educational steps or employment (purposeful or "looking what is

out there").

Soldiers were asked about this as well but questions were formulated like this:

Do you have a concept of your (future) career?

Follow up questions; how did you arrive at this concept? Who gave you the most helpful advice?

Did you visit any job fairs? Have you done an internship? How did this affect your career choice?

If not already answered by the interviewee; Can the time at the Bundeswehrfachschule be

considered a phase of orientation?

All civilian participants were asked if they had any experience from the Bundeswehr (if they had

done military service. If this question was answered with a "yes" then questions about length of

service and position were asked).

The VAB-Teamwork seminar was also asked about. Soldiers were asked what they thought about

the VAB-Teamwork seminar (and the recommendations given). Former soldiers were asked to think

about the career-identification-seminar given by VAB-Teamwork and then asked what they thought

about the seminars. Other participants in this study were asked if they had heard about VAB-

Teamwork. In case they had done so, follow up questions were used to find out what they knew

about VAB-Teamwork and their seminars.

How come some companies look specifically for (former) soldiers?

At the end of the interview:

Do you have anything to add?

Are you interested in reading the results of this study?

8.2.2 Further Questions to VAB-Teamwork

What do you want to measure with [test name inserted]?

Who has created this test?

Follow up questions; did you formulate some of the items yourself? How did you decide which

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items to include?

How were the categories created in the test measuring interests?

What do you base the career recommendations on?

Follow up question; do you have a database with professions?

Do you have any contact with former participants?

The part covering previous skills and knowledge is rather short, in comparison to the IQ test and the test measuring interests, how come?

Since you do not see the participant "in action" how can you know if a person is good at a specific skill (for example working with computers)?

I see that the test measures little of leadership skills and communicative skills, how come?

8.2.3 Further Questions to Respondent B (from the Bundeswehr)

What aid does a soldier receive at the end of their Bundeswehr service to aid in the transition to the civilian labour market?

What possibilities do soldiers have to further educate themselves?

Is there a limit to the time and amount of aid which can be given to the individual soldier?

Are soldiers able to choose which further education to pursue?

Do all soldiers complete their further education at a Bundeswehrfachschule?

Why does the Bundeswehr put so much effort in further education of its soldiers?

Are the educational steps of soldiers somehow documented?

What is the BFD? What is its primary function?

Is there any difference of the aid given to soldiers in their transition, while they are still soldiers and when they have become civilians?

What is the role of the Bildungszentrum?

The Association of Soldiers has put up a list of demands (amongst others to put in place an institute/department which is in charge of all educational steps and certification processes within the Bundeswehr) and points to the Bildungszentrum. How would the certification process described by the Association of Soldiers look like?

Follow up questions; who is carrying out this process? How are the results communicated to civilian actors? What is the aim of this process? How does this process make it easier for civilian actors to understand soldiers' competences? What is the difference between this process and the qualified letters of recommendation or the certificate of military education and assignment?

In the Bundeswehrfachschule I investigated, an apprenticeship to work with children and youth was offered, how is this received by the soldiers?

What skills and knowledge do the soldiers bring with them from their time of service, which are relevant to this education?

8.2.4 Further Questions to Soldiers

First I asked the participants four basic questions, these where:

- Length of service
- Age
- Which part of the military they had served in (Army, Navy, Air Force or SkB)
- If they had completed an education (for example an apprenticeship) before the time in the armed forces

Why did you want to serve in the Bundeswehr?

Why do you not continue to work for the Bundeswehr?

What did you do during time of service? What tasks did you carry out?

What have you learned during your time in the armed forces, which may be useful on the civilian

labour market?

What do you expect from the BFD?

How come you attend a Bundeswehrfachschule?

Follow up question; what will you do next?

How do you perceive your chances (to find suitable employment) on the civilian labour market?

Follow up question; do you think that your time at the Bundeswehr has given you any

advantages/disadvantages?

8.2.5 Further Questions to Former Soldiers

The interview guide for the participants, who had already gone through the military-to-civilian

transition are the same questions, only formulated in past tense. Furthermore, the interviews

contained:

Can you tell me what you are doing now and shortly describe how you got there?

Follow up question; how long was it since you left the Bundeswehr?

How long have you worked for your current employer?

Beyond this, I also asked questions about the current job of the person in order to find out why

he/she was interested in this specific employer or the specific tasks which the person carried out.

8.2.6 Further Questions to Soldcom

What kind of advertisement, directed to soldiers, can be found on your homepage?

How many vacancies are posted on your homepage?

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In which sector are most vacancies found?

Does your company have any contact to the BFD?

Follow up question; how does this look like?

Are the apprenticeships found on this homepage funded by the BFD?

Do you have any direct contact to the soldiers?

Follow up question; how does this look like?

I saw that you posted a poll on your Facebook page of soldiers' satisfaction level of the BFD, how come?

I saw that you posted statistics of who used your homepage based on different further educations. Do these numbers represent soldiers in different education or do these numbers represent the companies who post educational vacancies?

8.2.7 Further Questions to Logitrade

How come Logitrade is specialised on the sectors logistic and trade?

With which companies do you have contact? From which sectors?

Do you have an ongoing cooperation with some companies?

Follow up question; how do you get in contact to the companies you are cooperating with?

Does Logitrade only educate (former) soldiers?

When does the consultation of the soldier take place? How far in their military-to-civilian transition are soldiers then?

Does your company have any contact to the BFD?

Follow up question; how does this look like?

Are the apprenticeships you offer funded by the BFD?

Does the theoretical education take place at one location or do you have several?

Do soldiers sometimes take several educational steps?

8.2.8 Further Questions to the Representative from the Association of Soldiers

Whose interests do the Association of Soldier primarily represent?

What are the main tasks of the Association of Soldier?

A couple of years ago the Association of Soldiers published a list of demands to improve education within the Bundeswehr, how come?

Follow up questions; it has now been two years, have these demands been carried out? How does this affect the further education of soldiers? In this list of demands, the term "lifelong learning" can be found. This term is not found very often within the Bundeswehr, how come?

What is the role of the Bildungszentrum?

Concerning the certification of competences (which was part of the list of demands), which is to take place at the Bildungszentrum, could you describe this process?

What is the difference between an institute/department which certifies soldiers' competences and the summary of education?

What is the difference between these two (certificate and summary) and the current qualified letters of recommendation?

What is the difference to the "certificate of civilian recognition of military education and assignments"?

In case not already answered; are there efforts within the Bundeswehr to adapt the internal military

education to the civilian labour market? Follow up question; how is this done?

I read your article "Attention! Change Trains!" which described a cooperation between the Bundeswehr and the Deutsche Bahn, can you tell me more about this?

Follow up questions; is this project still in place? Are there similar projects?

8.3 Appendix 3: Questionnaire

(translated to English)

Questionnaire as part of a master thesis

I want to start by thanking you for participating in my study on the topic "transition to the civilian labour market".

Your answerers will be used for scientific purposes only and are not handed out to any other person. The data obtained from this questionnaire are treated strictly confidential and are anonymised in the analysis which makes it impossible to match any answers you give to you. Please put the filled out questionnaire in a sealed envelope addressed to me and leave it in the secretary before 22.02.2014.

At the end of the questionnaire you will find my email address. In case you have any questions or are interested in reading the final version of this thesis, you are free to contact me by sending me an email. The thesis will be finished by June, 2014.

In the following section you will find the questions. For the purpose of the study, it is very important that you answer the questions as openly as possible. There are no right or wrong answers. In case the space in the questionnaire is not enough to answer the question, you can use a separate sheet to continue with you answer (please also write the number of the question).

Please state your age:	Year	S	
Please state your gender :		□ Female	□ Male
Please state the complete time of your service :		ice: Year	S
Which area of the Bund	•	belong to?	
□ Navy	□ Army	☐ Air Force	□ SkB

1.	Why did you decide to enrol in the Bundeswehr?
2.	How come you are now leaving the Bundeswehr?
3.	Please describe shortly what kind of tasks you have been carrying out during your time of service (you are free to also write rank and assignment).
4.	When considering all that you have learned during your time at the Bundeswehr, what do you think you will be able to use on the civilian labour market?
5.	How do you experience your leave of the Bundeswehr and the transition to the civilian labour market?

0.	What are the most important assistance you receive from the Bundeswehr to assist you in this transition?
7.	What are you expecting from the BFD?
Q	What are you expecting from the Bundeswehrfachschule?
0.	what are you expecting from the bundeswent factischule:
9.	How come your are currently enrolled in a Bundeswehrfachschule?
10	. What are your plans after your current course?

11. Do you have a concept of a (future) career? If yes; how did you arrive at this concept?
12. How do you perceive your chances on the civilian labour market?
13. When considering the career-identification-seminar of VAB-Teamwork, do you think
the recommendations given to you have helped you? If yes; how?
14. What kind of support from the Bundeswehr are you currently missing?
Thank you for your participation!

Max Jonsson

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