Future Competences – Competences for New Ways of Working

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Tiivistelmä

Tietotyötä on pitkään tehty päätoimisesti yhdestä toimipaikasta ja toimistosta käsin. Tapamme tehdä työtä ovat kuitenkin muuttuneet viime vuosikymmeninä. Keskeisiä syitä ovat toimintojen siirtäminen globalisaation myötä eri puolille maailmaa sekä tieto- ja viestintätekniikan tarjoamat mahdollisuudet vuorovaikutukseen ja yhteistyöhön myös etäältä käsin. Nämä muutokset tulevat jatkumaan myös tulevaisuudessa. Uudenlaiset työtavat, kuten mobiili- ja monipaikkainen työ sekä hajautettu, virtuaalinen yhteistyö, ovat yleistyneet. Vaikka nämä uudenlaiset työtavat eroavat toisistaan, yhdistää niitä keskeisesti tieto- ja viestintätekniikka toiminnan mahdollistajana sekä se, että työntekijät työskentelevät monesta paikasta käsin. Tässä raportissa pyritään selvittämään, millaisia osaamisvaatimuksia nämä uudet työtavat edellyttävät? Mitkä ovat ne yleiset osaamisvaatimukset, joita hajautettu työskentely edellyttää ilman että ne välttämättä määräytyvät työkuvauksen mukaan.

Osaamisella tarkoitetaan niitä ominaisuuksia, tietoja, kokemusta, persoonallisuuden piirteitä ja toimintatapoja, joita yksilö tai ryhmä tarvitsee suorittaakseen työnsä menestyksekkäästi. Analyysimme kohdistuu sekä yksilö- että kollektiivisiin ominaisuuksiin (millaisia ominaisuuksia toimija tarvitsee täyttämään työn vaatimukset) ja toiminnallisiin taitoihin (miten sujuva ja osaava työsuoritus on). Kirjallisuuskatsaus osoitti, että tutkimusten painopiste on ollut enemmän ominaisuuksien kuin toiminnallisten taitojen tunnistamisessa. Tutkimusten keskipisteenä ovat myös yleensä olleet johtajat työntekijöiden sijasta. Löydöksinä tutkimuksissa esitetään eripituisia listoja keskeisistä ominaisuuksista. Yhteenvetona työntekijöiden keskeisimmiksi ominaisuuksiksi on tunnistettu: itsensä johtaminen, kyky sopeutua uusiin ja epävarmoihin tilanteisiin, eri kulttuurien ymmärtäminen, avoin mieli ja kyky työskennellä itsenäisesti erillään muista. Työntekijöiden keskeisimmät toiminnalliset taidot liittyvät kommunikaatioon, ajan hallintaan ja tehokkaaseen tieto- ja viestintätekniikoiden käyttöön. Tutkimuksissa johtajien ominaisuuksista korostuu kyky motivoida ihmisiä ja tietty ajattelutapa. Globaalissa ympäristössä tätä ajattelutapaa kutsutaan globaaliksi mielenlaaduksi, mikä viittaa avoimeen mieleen, kykyyn ajatella ja nähdä asioita eri näkökulmista, eri kulttuurien ymmärtämiseen ja niiden huomioimiseen. Johtajien keskeiset toiminnalliset taidot liittyvät proaktiiviseen kommunikaatioon, tavoitteiden asettamiseen ja prosessien kehittämiseen. Kollektiivisista ominaisuuksista korostuu ryhmän tai tiimin kulttuuri, jolla tarkoitetaan tiedonjakoa, yhteistyöskentelyä sekä vastuiden ja tavoitteiden ymmärtämistä.

Tutkimuksessamme teimme 103 haastattelua 12 globaalissa suomalaisessa yrityksessä. Tutkimuksessamme esiin nousseet ominaisuudet ja toiminnalliset taidot ovat pitkälti samat kuin aikaisemmissa tutkimuksissa. Toisin kuin aikaisemmissa tutkimuksissa havaitsimme, että työntekijöillä ja johtajilla on paljon samoja osaamisvaatimuksia, joiden lisäksi johtajilta vaaditaan niin sanottua johtamisspesifistä osaamista. Työntekijöiltä ja johtajilta edellytetään kommunikaatiokykyä, erilaisuuksien ymmärtämistä (varsinkin kulttuurien), joustavuutta, aktiivisuutta, ulospäin suuntautuneisuutta, järjestelmällisyyttä ja avointa mieltä. Toiminnallisten taitojen osalta kommunikaatiotaidot ja erilaisuuksien ymmärtäminen nousivat selvästi kaikista tärkeimmiksi. Kommunikaatiotaidot viittaavat sekä suulliseen että kirjalliseen kommunikaatioon, kun käytetään eri sähköisiä välineitä. Tiukasti sidoksissa tähän on se, että ymmärretään henkilöä tai henkilöitä, joiden kanssa kommunikoidaan. Eli tunnetaan heidän taustansa ja kulttuurinsa, tiedetään mikä motivoi heitä jne. Erityisesti tämä korostuu, kun ollaan tekemisissä erimaalaisten ihmisten kanssa. Näiden ominaisuuksien lisäksi johtajat tarvitsevat osaamista liittyen laajemman kokonaiskuvan hallitsemiseen, ihmisten johtamiseen, asioiden johtamiseen, läsnäoloon ja eri lähestymistapojen käyttöön. Nämä osaamistarpeet eivät sinänsä vaikuta eroavan paikallisjohtajan osaamistarpeista, mutta se että globaalit johtajat ovat erillään alaisistaan, sekä maantieteellisesti että aikaerollisesti, aiheuttaa aivan eri asteen mutkikkuuksia ja haasteita. Tutkimuksemme toi selvästi esille, että vaikka hajautuneisuus asettaa uusia osaamisvaatimuksia, ei niitä juurikaan huomioida työntekijöitä rekrytoitaessa.

Executive Summary

In the past, knowledge work used to be carried out mainly in offices. Nowadays, as a result of globalization, and as information and communication technologies are advancing at an ever increasing speed, the contents of work are changing. This has led to new ways of working – such as mobile, multi-locational, remote, flexible, distributed, and virtual work – becoming more common. These terms, while distinct, share common traits in regards to location (on the move, separated by a large distance etc.), and information and communication technologies play a central role. This report focuses on identifying the competences of the future required by this type of work.

Competences are defined as characteristics or capabilities and operative actions that an individual or a team needs to carry out his/her task properly. The objects of our competence analysis are individual and collective characteristics, i.e. what kinds of characteristics are needed to meet a job's demands and skilful operative actions, i.e. how competences are shown during performance.

The review of existing studies revealed that the focus has been on identifying characteristics rather than skillful operative actions. Consequently, the studies tend to consist of lists of varying lengths describing these characteristics. Also leader competences have received more attention than employee competences.

To complement the literature review, we conducted 103 interviews in 12 global companies. Unlike previous studies, we identified a set of competences (operative actions, characteristics) that both global employees and leaders need: communication skills, understanding (cultural) differences, being flexible, proactive, outgoing and systematic, and having an open mind. Out of these, communication skills and understanding differences were seen as the most important. In addition, leaders need competences such as focusing on the bigger picture, management skills, people skills, having presence and using different approaches. These are not veritably different from the 'local' leader competences, but being separated geographically across several time zones adds completely different complexities and challenges to the leaders.

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Introduction

Traditionally knowledge workers, i.e. white collar workers, have done most of their work in offices. However, as a result of globalization and as information and communication technologies are advancing at an ever increasing speed, the contents of work have been changing. This has led to the current situation where employees have their work space in more locations than one, and new ways of working, such as mobile, remote, flexible, distributed work and collaboration from multiple locations, have become more common.

The prevalence of working and collaborating from multiple locations has increased rapidly during the last 10 years and continues to expand, as several reviews show, although the definitions and indicators used may vary (e.g. Felstead et al., 2005; Halford, 2005; Hislop & Axtell, 2007; Vartiainen & Hyrkkänen, 2010). In Europe, telework, including home-based telework (at least one day/week), supplementary home-based work, mobile eWork and freelance telework in SOHOs[1], increased from 6% in 1999 to 13% in 2002 (Gareis et al., 2006). The Fourth European Working Conditions Survey (Parent-Thirion et al., 2007) shows that in 2005, only 51% of the working population in the European Union worked at their workplace all the time, while 21% never worked at their workplace. This indirectly shows the increased portion of working in multiple locations. Furthermore, 9% of workers always worked in locations outside the home and company premises. However, The WorldatWork Special Report 'Telework 2011' shows that first time since WorldatWork began studying the telework phenomenon in 2003, the number of teleworkers has dropped in USA. The number of teleworkers declined as the overall working population shrank. The total number of people who worked from home or remotely for an entire day at least once a month in 2010 was 26.2 million, down from 33.7 million in 2008 (see Figure 1). This figure, 26 million, represents nearly 20% of the U.S. working adult population of 139 million (as of fourth quarter 2010).
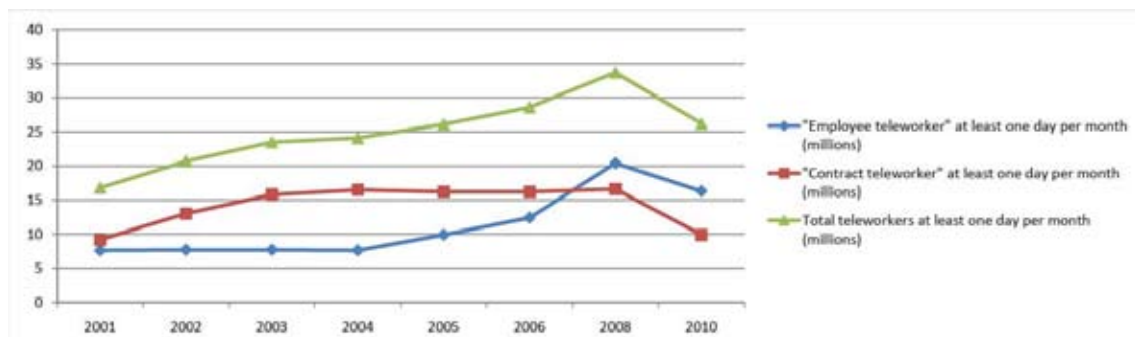

Figure 1. *The teleworker trend line in USA (The WorldatWork Special Report 'Telework 2011', p. 3).*

In 2010, although the total number of teleworkers (working remotely or from home at least once a month, also in the month prior to the survey) decreased, the percentage of people who teleworked more often than once per month increased. In 2010, 84% of teleworkers worked remotely or from home one day per week or more, up from 72% in 2008. The overall decline in 2010 is likely due to a combination of factors: fewer Americans in the workforce due to high unemployment, higher anxiety surrounding job security, and lack of awareness of teleworking options. Behind the long-term growing trend are the technological enablers including the increased use of broadband connections at home and wireless access to the Internet from anywhere. The former US data from 2006 of the same research demonstrated that during the month prior to the survey, 24.6 million had worked at a customer or client's place of business, 24 million in their car, 20.2 million in a café or restaurant, 17.8 million in a hotel or motel, 11.5 million in a park or other outdoor location, 10.6 million on an airplane, train or underground, and 9.1 million in an airport or railway station or on an underground platform.

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1 Self-employed teleworkers in Small Office Home Offices (SOHOs).

As it is evident that new ways of working require new skills and competences, this report focuses on the competences needed in the future. We will present both findings from previous studies and from our own study. First, we will briefly discuss and explain some of the relevant terminology. Second, we will proceed to present findings from previously published works concerning the competences relevant for new ways of working. In the empirical section we will present our findings regarding the relevant competences, based on over 100 interviews conducted in 12 global companies.

1 Definitions

1.1 Competences

The competences needed in new ways of working can be divided into three levels: (a) strategic core competences reflecting resources and capabilities of the whole work system to achieve and maintain a competitive advantage (Hamel, 1994; Javidan, 1998; Prahalad & Hamel, 1990), (b) collective competences reflecting projects' and teams' joint capabilities to act flexibly according to the context's requirements (e.g. Hansson, 1998), and (c) individual competences reflecting capabilities that an individual needs to carry out his/her task (e.g. Boyatzis, 1982; Spencer & Spencer, 1993). In this report, only individual and collective competences are dealt with, as the new ways of working under study usually concern distributed teams and projects with team members working from multiple locations. In literature, several definitions of competences exist both on the individual and team level as shown below.

A competency[1] is used in general to denote a characteristic of a person that results in effective performance on the job (Boyatzis, 1982, p. 21).

 "A competency is a set of observable performance dimensions, including individual knowledge, skills, attitudes, and behaviors, as well as collective team, process, and organizational capabilities, that are linked to high performance, and provide the organization with sustainable competitive advantage." (Athey & Orth, 1999)

Based on the above definition, Athey and Orth state that competences can include individual, team or organizational capabilities. They list some examples:

-       Knowledge or skills associated with current job performance

-       Emerging knowledge or skills required for future success

-       Intellectual or behavioral best practices of high performing people or teams

-       Process capabilities that enhance organizational or business performance

-       New ways of thinking or behaving that provide distinctive competitive advantage

Competences are also defined as learned abilities to perform a task, duty or role in a particular work setting, integrating several types of knowledge, skills and attitudes (e.g. Roe, 2002, see Hertel et al., 2006). More recently the term has been used to refer to a wider cluster of related knowledge, skills, and attitudes.

Collective competence is a group's ability to work together towards a common goal. This includes the group's ability to solve problems together, interpersonal competence to work together with different individuals (Hansson, 1998, Sandberg & Targama, 1998), knowledge and repertoire of procedures shared by a team or a project in their work context. A collective competence is not related to any individual person, but resides instead in the groups of individuals. A group's competence to achieve a joint goal remains even if individuals leave an organization or a team. Interaction and communication are emphasized as forming the basis for shared understanding, which in turn is considered the basis for the creation of collective competence in a group (Sandberg & Targama, 1998). Team competences can be viewed in two distinct groups:

1.   team-specific competences which are specific to a particular team and/or task and have meaning only to specific team members; and

2.   team generic competences that are general and transportable to all teams. (Horvath &Tobin, 2001)

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1 In this report, term 'competence' is used to refer to term 'competency' regarding them as synonyms.

Thus, it can be stated that competences are characteristics or capabilities and operative actions that an individual or a group needs to carry out his/her/its task. Individual characteristics are grouped into surface characteristics (knowledge and traits) and core characteristics (motives, traits and self-concept) (Spencer & Spencer, 1993). Operative actions refer to performance process necessary for task execution. Competences can be analysed from the perspectives of work, worker and outcomes. Accordingly, the objects of competence analysis are: (a) *job demands*, i.e., what kind of competences are required in a job, (b) *individual* and *collective* characteristics, i.e., what kind of characteristics are needed to meet the job requirements, (c) *skilful operative actions*, i.e., how competences are shown during individual or group performance, and (d) *outcomes of actions*, i.e., how a skilful action is seen in performance results (Figure 2). In the next chapter the previous studies will be analysed according to this framework, i.e. individual (employee and leader) and collective characteristics, and skilful operative actions.
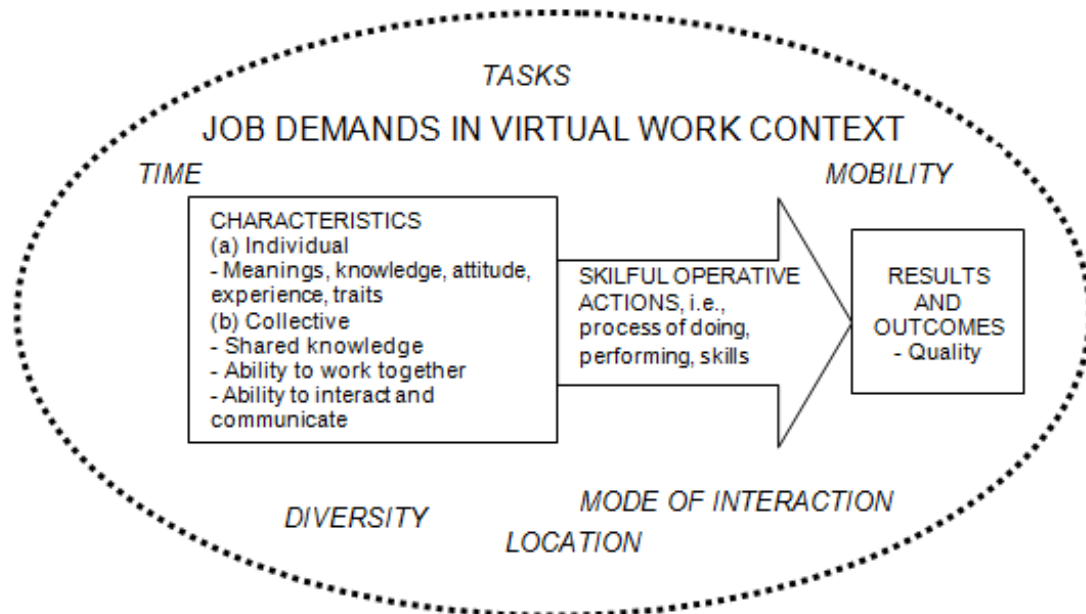
Figure 2. *The analysis frame of collective and individual competences (Vartiainen et al., 2003, p. 211).*

1.2 New Ways of Working

New ways of working is used with reference to such terms as telework, multi-locational and mobile work, remote work, distributed work, virtual work and global work.

From Telework to Mobile, Multi-locational Work

Remote work is "work done by an individual while at a different location than the person(s) directly supervising and/or paying for it." (Mokhtarian, 1991)

Telework is characterised by the distance (a spatial and often temporal dispersion) and the use of ICT (Taskin & Devos, 2005). Thus, telework is defined as "working outside the conventional office using telecommunication-related technologies to interact with supervisors, co-workers and clients." (Baffour & Betsy, 2000).

A teleworker is someone (Daniels et al., 2001):

1. Who spends a fraction of working time, no matter how small, within a defined period at home, at a remote office or engaged in nomadic working.

2. For whom a fraction of work tasks, no matter how small, necessitate the use of ICTs, even if this simply is the telephone. (Lamond et al., 2003)

On the individual level, new ways of working usually refers to telework. Telework as a form of new type of work has the deepest roots, dating back over thirty years (Pekkola, 2002). Telework provides the viewpoint of an individual working apart at a location other than an employer's office or plant. In telework, many of the central dimensions of distributed and virtual work meet: working remotely in a different place and time than others in a workplace and using information and communication technologies to interact and work with others when needed. Next, we will briefly summarise the history and development of the concepts of telework and mobile, multi-locational work (Vartiainen & Hyrkkänen, 2010). It is shown that with the development of enabling technologies and infrastructures the variety of ways of working and working locations has increased (Figure 3).
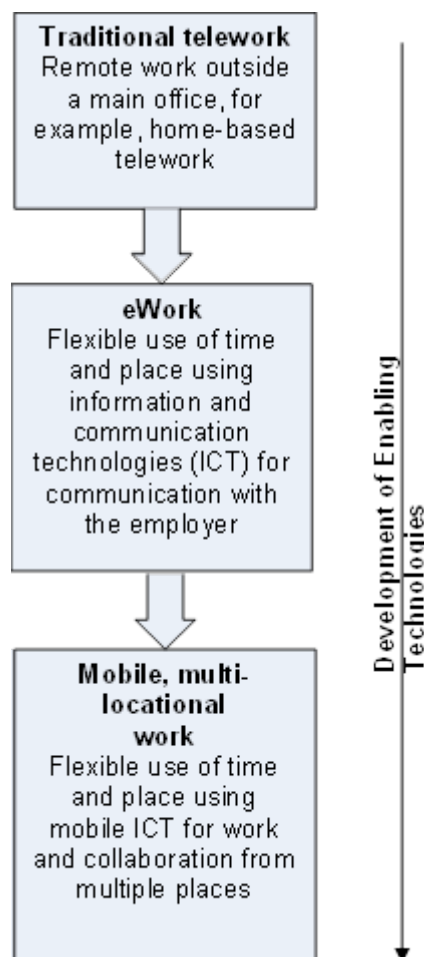
Figure 3. *The path from traditional telework to the concept of mobile, multi-locational work (Vartiainen & Hyrkkänen, 2010, 119).*

At the beginning, there were the terms 'telework' and 'remote work'. The concepts were used in a generic manner to refer to all kinds of work and work arrangements carried out outside a main office. The use of ICT as a communication link between the teleworker and the employer was included into the concept of telework quite early. This often meant home-based telework. Full nomadicity only became possible after the development of portable computers and communication devices. In continental Europe, the term 'eWork' was later used to refer to all those work practices that make use of ICT to increase efficiency, flexibility (in terms of time and place) and the sustainability of resource use. eWork was defined as including the following specific types of work (ECATT 2000, 8–11; see also Korte & Wynne, 1996, 3):

1. Home-based telework or homeworking (Sullivan 2003; Halford, 2005) is the most widely recognised type of eWork. Individuals who work at home were further divided according to the amount of working time spent at home. 'Permanent teleworkers' are those who spend more than 90 per cent of their working time at home and 'Supplementary teleworkers' are those

who spend less than one full day per week working from home. They are also called 'Occasional teleworkers', to distinguish them from regular teleworkers.

2. Concept of Self-employed teleworkers in Small Office Home Offices (SOHOs) was used for private entrepreneurs, such as consultants or plumbers, working and communicating with their contractors, partners, and clients by means of the new technologies.

3. Mobile workers were defined as employees who 'spend some paid working time away from their home and away from their main place of work, e.g. on business trips, in the field, travelling, or on a customer's premises'.

According to Lilischkis (2003), this type of working in many places could be called 'multi-locational work'. Halford (2005) used the term 'hybrid workspace' to describe the combination of organisational (i.e. office), and domestic (i.e. home), spaces mediated by cyberspace. Hislop and Axtell (2007) added a third dimension of 'locations beyond the home & office' to this concept of 'hybridity' and defined this type of multi-locational work as 'mobile telework' or 'multi-location work'. According to them (Hislop & Axtell, 2009), by using ICT it is increasingly possible to work not only at home and office but also in public spaces such as airports, hotel lobbies and cafes, sometimes referred to as 'non-places' because of their transience, as well as in mobile locations such as cars and planes.

From Conventional Face-to-Face to Collaboration from Multiple Locations

Distributed teams are teams of which the team members are geographically separated from each other (Rooij, 2001). The term 'distributed team' is related to the term 'virtual team', which is comprised of members who are located in more than one physical location. This type of team work has fostered the extensive use of various forms of computer-mediated communication that enable geographically dispersed members to coordinate their individual efforts and inputs (Peters & Manz, 2007, see Ebrahim et al., 2009).

Virtual teams have three main attributes (Cohen & Gibson, 2003):

1. A functioning team with interdependent task management, having shared responsibility for outcomes, and collectively managing relationships across organizational boundaries.

2. Team members are geographically dispersed,

3. and they rely on technology-mediated communication.

According to Ebrahim et al. (2009), virtual teams can be separated into four categories:

1. Teleworkers: A single manager of a team at one location.

2. Remote team: A single manager of a team distributed across multiple locations.

3. Matrixed teleworkers: Multiple managers of a team at one location.

4. Matrixed remote workers: Multiple managers across multiple locations.

Thus, the main types of non-conventional teams are: (1) distributed, (2) virtual and (3) mobile virtual teams (Figure 4). Team members working in different locations and their geographical distance from each other make a distributed team. A team becomes virtual when group members communicate and collaborate with each other from different locations via electrical media. Physical mobility of group members adds a new feature to distributed work. Mobile, virtual teams are always distributed, but not all distributed, virtual teams are mobile. Virtuality, as the use of ICT for communication and collaboration, makes a team into a distributed virtual team or mobile virtual team.
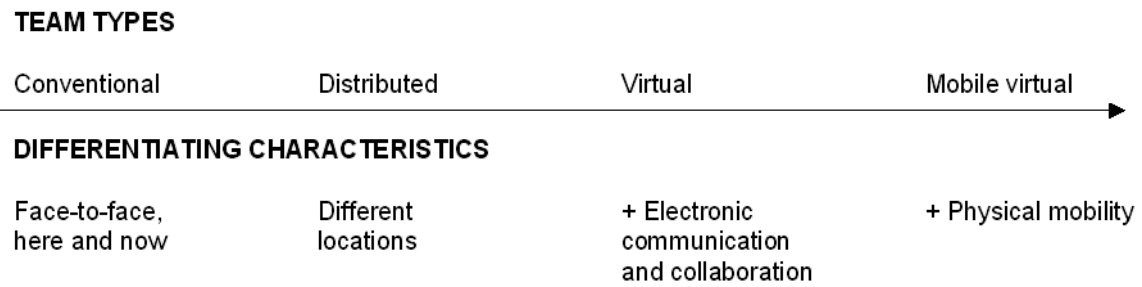
TEAM TYPES

| Conventional | Distributed | Virtual | Mobile virtual |

DIFFERENTIATING CHARACTERISTICS

| Face-to-face, here and now | Different locations | + Electronic communication and collaboration | + Physical mobility |

Figure 4. *The types of groups and teams by increasing contextual complexity.*

To summarise, conventional groups and teams differ from distributed, virtual, and mobile teams especially in three characteristics: the geographical distance between their members, the mode of interaction, and physical mobility. Conventional groups and teams are co-located, communicate face-to-face, and work towards a joint goal here and now. It can also be concluded that there are multiple types of global groups and teams (Table 1). The variety is dependent on the constellation of the factors that were described above. The minimum specification of a global group or team is its members' crossing geographical boundaries and diversity. The need to communicate by using collaboration technologies makes it a global virtual group or team, and physical mobility of at least some members makes it a global mobile virtual group or team. Global virtual teams are always, to some degree, dispersed and crossing geographical borders, some team members may be physically mobile, working over time zones in simultaneous temporary limited projects, using collaboration technologies to communicate with their team members and management.

Table 1. *Summary of minimum differences in the features of the contextual complexity of global teams (Vartiainen 2008).*

Conventional team	Global team	Global virtual team	Global virtual mobile team
Characteristics	Characteristics	Characteristics	Characteristics
Same place	Multiple places: at least one member in different continent	Multiple places: at least one member in different continent	Multiple places: at least one member in different continent
Fixed workplace	Fixed but distributed places	Fixed but distributed places	Using different places: at least one member travels while doing joint tasks
Same time	Same or different time	Same or different time	Same or different time
Permanent work and tasks	Permanent work or many projects, often multi-tasking	Permanent work or many projects, often multi-tasking	Permanent work or many projects, often multi-tasking
Members with similar backgrounds	Members with similar backgrounds or at least one person with different cultural background	Members with similar backgrounds or at least one person with different cultural background	Members with similar backgrounds, but probability of members' diversity increases
Face-to-face communication	ICT mediated communication with a manager	ICT mediated communication	ICT mediated communication

2 Previous Studies

In this chapter we present and discuss previous studies concerning new ways of working. The chapter is divided into sub-chapters according to what kind of new way of working the findings concern (telework and global, distributed and virtual work), in order to see more clearly whether there appears to be different competence demands depending on the type of work environment. In the sub-chapters we attempt to present somewhat more comprehensibly a few studies while summarizing the other (see Table 2-5), to give the reader a better insight into the field.

2.1 General

Writing about knowledge work in the future, Holtshouse (2010) listed skills that would be most valuable in the future. Based on 125 answers (professionals and executives in North America, Europe and South America) from a survey of ten different skills and expertise possibilities, the top valued skill was team/collaboration skills followed by specialized technical expertise. The other skills were, in order, analytics/modelling, systems thinking and analysis, entrepreneurial skills, project management, strategy and thinking, knowledge management, international experience and general management.

2.2 Telework

For flexible working practices, the importance of supportive organisational cultures has been emphasised. These are characterised by flexibility, trust, and openness (Lamond et al., 2003).

2.2.1 Employee and Leader Characteristics and Skilful Operative Actions

It has been argued that teleworkers possibly need less socialisation initially than a typical worker to be functional off-site. There is also some evidence to suggest that teleworkers value autonomy more than other workers and resist socialisation, except where it coincides with personal values related to work achievement (Omari & Standen, 1996). Lamond et al. (2003) speculate that in teleworking the importance of personality might be intensified as the feedback, and correction processes, are not present in the same way as for office workers. Thus, he thinks the following traits to be helpful for teleworkers: conscientiousness, personal competences, inter-personal competences, and technical competences (see Table 2). Lamond et al. assume that the aspects of personality, indicated in the research, that predict good performance in non-teleworking contexts will be strengthened in the teleworking setting.

The four competence clusters suggested by Lamond et al. are based on what they think may be influential in adaptation to teleworking. Although they note that there has been very little systematic research examining the impact of different teleworking practices and personality dimensions or competences on the performance of teleworkers, or other indicators of successful adaptation.

Table 2. *Summary of teleworker characteristics and skilful operative actions.*

Characteristics	Skilful Operative Action	Reference & Method
- Trustworthiness - Self-motivation - Confidence - Ability to work independently	- Achieving clear understanding with their supervisors as to the performance objectives and goals. - They should learn how to effectively provide and receive feedback - Time management skills - Being computer and communications technology literate - Having the ability to speak clearly by encoding messages sent out effectively - Being a good listener	Baffour & Betsey (2000). Literature
- **Conscientiousness**. Persistence, care, capacity for hard work and being responsible - Persons higher on extraversion, agreeableness and open to experience (especially in jobs with high level of communication) - **Personal competences** (Self-discipline, self-direction, self-motivation, capacity for self-assessment, tough mindedness, tenacity, personal integrity and self-confidence)	- **Inter-personal competences** (strong verbal and written communication skills, negotiation skills, trusting others and assertiveness) - Generic task competences (organisation skills, practical orientation, basing decisions on facts, flexibility, ability to take independent decisions, time management skills and having consistent, productive and organised work habits) - **Technical competences** (information and communication technology literacy and good subject matter knowledge)	Lamond et al., 2003. Literature overview + predictions based on "Big Five" traits
- Being comfortable & handle social isolation - Ability to "do-it-yourself" and taking responsibility - Self management	- Time management	Taskin & Devos (2005). Own research work + literature

A very few studies have focused on the competences of telemanagers. However, Table 3 shows some identified characteristics and skilful operative actions.

Table 3. *Summary of telemanager characteristics and skilful operative actions.*

Characteristics	Skilful Operative Action	Reference & Method
- Understand the direct reports' strengths, talents and weaknesses - Understand the direct reports' personality traits, skills and work styles	- Telemanagers need to focus more on work outcomes or results in evaluating the performance of teleworkers	Baffour & Betsey (2000). Literature
- Have previous telework experience	- Provide teleworkers with supportive teleworking environments - Focus on managing the outputs, the process and the context of teleworking	Lamond et al., 2003. Literature overview + predictions based on "Big Five" traits

Summarising these studies, it seems that the key characteristics of teleworkers revolve around self-leadership; the ability to work independently (in isolation), motivate oneself, self-discipline etc. The skilful operative actions that seem essential are communication skills, managing one´s time and being proficient with information and communication technologies. What can be pointed out from the few studies concerning telemanagers is the need for the managers to focus more closely on the outcomes and results of their workers.

2.3 Global, Distributed and Virtual Work

2.3.1 Employee Characteristics and Skilful Operative Actions

According to Horvath and Tobin (2001), empirical research supports a positive relationship between performance and six competences (four in the broad category of teamwork skills and two in teamwork attitudes):

- **Communication** means using verbal, nonverbal and written communication processes to achieve results, and understanding when and where to use various communication processes. In a virtual environment individuals must be skilled at communication without nonverbal cues.

- **Relationship Building and Management** is the ability to effectively manage and develop task and process interactions with others, and to manage stress and ambiguity. Individuals in virtual teams need to learn how to share work, support team decisions and find agreeable solutions in an expedient manner.

- **Leadership** is the ability to influence, direct, coordinate and coach others in a diverse environment and to assess and provide pertinent information and feedback on the individual and group level of analysis. This involves linking with employees, setting clear expectations and providing necessary feedback electronically. Members should have the flexibility and adaptability to shift role responsibilities based on the needs.

- **Decisions making and implementation** is the ability to integrate information by questioning others and converting decisions into actions.

- **Collective understanding** is an attraction to the collective level of understanding. It involves the capacity to see and accept the collective level in a dispersed atmosphere. Virtual team members need to learn skills to constructively voice disagreement and agreement in order to collectively and constructively work together.

- **Swift trust** is a collective perception and relating that allows for the managing of vulnerability, uncertainty, risk and expectations where the opinions of team members are valued and respected almost immediately.

Within the competences discussed, it is likely that specific sub-competences will need to be identified in order to maximize virtual team performance. The findings from the above and other studies are summarized in Table 4.

Table 4. *Summary of employee characteristics and skilful operative actions in global, distributed and virtual work.*

Characteristics	Skilful Operative action	Reference & Method
	- Interpersonal team skills, adaptation to the social system of base and host companies	Crandall & Wallace (1998)
	- Technical skills, work-process skills, communication skills, leadership skills, management skills	Haywood (1998). Real world examples
- Responsibility - Dependability - Independence - Self-sufficiency		Jarvenpaa & Leidner (1999). Based on 350 master's students from 28 universities participating in a global virtual collaboration
- Good at managing their complex contexts - Comfortable with the ambiguity and uncertainty of juggling multiple priorities - Ability handle loosely coupled or uncoupled activities - Time management skills - Self-reliance and self-management		Mohrman (1999). Literature + two longitudinal multiple company studies
- Remote work self-efficacy		Staples et al. (1999). Own theory
- Independence of face-to-face interaction and tolerance to instability - Knows project management techniques - Understands formal and informal organisation - Is aware of major technology - Understands personal limits - Understands the importance of cultural differences - Is aware how own behavior affects others	- Can develop personal plans, etc. - Can identify important local stakeholders, etc. - Can plan for the use of technology, etc. - Can set limits and say no, etc. - Can discuss dimensions of cultural differences, etc. - Is able to collect and act on feedback from others, etc.	Duarte & Snyder (2001). Literature, real life examples & own experience
- Knowledge of company policies, procedures, and cultural norms, independent, interdependent, resourceful and innovative, assertiveness, able to set boundaries, self-starter and self-stopper, adaptable and flexible, reliable, trustworthy, and has integrity, cooperative, focused. - Desirable characteristics and qualities: committed, service orientation	- Communication skills, job/ responsible competence, technical tool competence. - Organisational and time management competences, hardware and software troubleshooting abilities, problem-solving and independent decision-making skills, conflict management	Hoefling (2001). Literature + case examples
- Communication - Relationship building and management - Leadership - Decision making and implementation	- Collective understanding - Swift trust	Horvath & Tobin (2001). Literature review based on empirical research

	- Media competence, i.e., person's ability to use various media purposefully in his or her actions. - Communication competence, i.e., an ability to communicate and act purposefully in a situation with and without media	Meyer et al. (2001)
- Programming competences - Recognise the needs of customers of the project		Crowston & Scozzi (2002). 7477 virtual open source software projects
1. Self-management 2. Communication 3. Cultural sensitivity and awareness - Cognitively understand the myriad differences - Perceptively aware of the team members' cultural values and patterns - Ability to identify and recognize potential cultural conflicts 4. Trust - Develop trust based on perceived similarities, responsiveness and dependability - Understand worthiness is assessed based on behaviors and not merely good intentions 5. Comfort with Technology - Competent and confident to use information and communication technologies - Openness to learn new technologies - Changed mindset for use of technology to collaborate in new ways	Self-management: - Become one's own coach and leader - Set personal agendas - Motivated to take appropriate action - Behave proactively and manage themselves Communication: - Select appropriate transmission medium - Learn to interpret the signals sent by team members - Clarify misunderstanding by overcoming language and cultural barriers	Blackburn et al. (2003). Literature review + 25 interviews with virtual team managers, facilitators and consultants
- Multiple IQs (e.g. political, network, social, emotional, cultural, innovative, intuitive and organizational) - Learning styles (e.g. accommodator, assimilator, diverger or converger) - Thinking styles (e.g. monarchic, hierarchic, oligarchic or anarchic) - Level of team work experience on global virtual teams - Level of functional expertise reflected in accomplishments and professional self-efficacy - Capacity to adjust to new and/or novel environments		Harvey et al. (2004). Based on published studies
- Accepting cultural differences - High personal motivation to communicate effectively - Ability for intercultural communication - Developing a global mindset	- Develop trusting intra-team relationships based on collaboratively negotiated communication protocols - Appropriate information technology skills	Zakaria et al. (2004). Literature

- Professional expertise and technical training
- Cognitive abilities
- Task/work-related knowledge, skills and abilities
- Teamwork knowledge, skills and abilities
- Telecooperation knowledge, skills and abilities
- Self-management skills:
  • Independence Includes the ability to plan and organize one's own activities without external support and is highly related to self-efficacy beliefs
  • Persistence
    Includes aspects of self-motivation, endurance of goal striving and continuing activities after interruptions
  • Learning motivation Includes the intrinsic interest in new and unknown contents.
  • Creativity
    Creative problem solving.
- Interpersonal trust
- Intercultural skills
		Hertel et al. (2006). Own competence model, theoretical analyses of the specific challenges of telecooperation + qualitative in-depth interviews with business managers of virtual teams

- Independence, self-motivation, self-management - Cultural sensitivity - Work experience and expertise - Structured work style - Trustworthiness, honesty, openness and responsible - Willingness to cooperate - Readiness to travel - Patience	- Communication skills - ICT tools usage skills - Flexibility - Proactive communication - Language skills - Working processes compliance - Written expression skills - Control of multi-project complexity - Ability to see the bigger picture - Control of information flow	Kokko et al. (2007). 102 interviews with people working in virtual organizational units

While the above table outlines many different characteristics and skilful actions, some of them appear to be more common than others. It seems that in global and virtual work the key characteristics of an employee are self-management, the ability to tolerate instability or new situations, understanding different cultures and in general having an open mindset. Beside the skilful actions related to the previously mentioned characteristics, communication and the ability to use information and communication tools were stressed in many of the studies.

2.3.2 Leader Characteristics and Skilful Operative Actions

Staples et al. (1999) studied remotely managed employees (defined as working in a different building than their manager). Based on 631 responses to a questionnaire they found that there is a significant relationship between IT capabilities and remote work self-efficacy. For this reason, managers in virtual organisations should see IT as a key enabler of remote work management. Fulfilling the employees' IT needs is therefore important. Further, they concluded that in order for remote workers to be effective, their managers need to be good communicators. The remote managers must have good listening skills, and need to be able to manage meetings and their employees' time effectively. Remote managers need to be able to use information technology effectively to aid communication, and to be available when the employees need coaching or other help. Remote managers should also support team building and social activities. However, all of these central aspects can be learned; hence training plays an important role in virtual organisations. In general, it can be concluded that it may be possible to enhance employees' work performance through management efforts to improve employees' remote work self-efficacy.

According to Mewton (2005), leaders need to act as emotional guides; sharing their visions and creating emotional meaning will inspire people to do their best work. After a thorough review of existing literature, Joshi and Lazarova (2005) concluded that the previous studies did not enable them to distil the key competences needed by leaders of multinational teams. The previous studies presented them with a long list of normative competences. For example, previous studies indicate that in order to be successful in cross-cultural interactions, managers need to be: flexible, tolerant, have global business savvy, successful in negotiations, able to balance local versus global tensions and so on. The literature suggests that global competences comprise:

- certain personality factors (e.g. openness),

- a cognitive component (knowledge about foreign cultures), and

- a behavioural component (e.g. ability to change behaviour according to cultural cues).

To study competences of multinational team leaders Joshi and Lazarova (2005) conducted semi-structured interviews with 89 multinational team (MNT) members who reported to 50 team leaders. Overall four competences were identified as important by MNT leaders and members across multiple locations:

- Communication

- Direction and goal setting

- Facilitating teamwork

- Motivating and inspiring

As these competences had universal appeal among the respondents, Joshi and Lazarova suggest that they may be viewed as core competences or minimum requirements of effective MNT leadership. Some competences were identified as important mainly by the MNT leaders or members. For example, leaders tended to identify empowering team members and managing cultural diversity as important MNT leader competences. There were also some leadership competences identified as primarily important by team members in some locations rather than in others. For example, a majority of team members in China, Russia and Eastern Europe identified mentoring and coaching and staffing/resource acquisition as important leader competences.

Cummings (2007) gathered data from 129 teams working across different units of a multinational company and the results suggest that leader communication with team members mitigates the negative impact of high geographical dispersion. For this reason, leaders should communicate more frequently than they may typically do with team members who are dispersed across different units of a multinational company, as well as create norms that encourage team members to communicate among themselves frequently and openly. (Joshi & Lazarova, 2005)

Kho (2001) identified five global leadership competences based on a literature review:

- **Cultural empathy and adaptability** means mastering competences such as the ability to be inquisitive, to gain a more intimate understanding of another culture, to see the world from other persons' perspectives and to be flexible in an environment.

- **Global mindset** means understanding the worldwide business environment from a global perspective, recognizing global business opportunities and understanding what needs to change and what needs to stay the same from country to country.

- **Individual development/factors** concerns developing characteristics such as adventurousness, self-awareness, curiosity, tolerance for ambiguity and stress-reduction.

- **Relational skills and support systems** focus on the importance of having an adaptive and supportive spouse and being able to create a culturally synergistic environment.

- **Professional competence: Management and Leadership development**. Overseas experience can enhance trainer skills as a result of having gained more patience and perspective. Management challenges are easier to resolve when one communicates fluently and understands the culture.

Additionally Kho interviewed 12 people after completing their overseas assignment and found support that the above competences are important.

Based on survey responses from more than 200 leaders from 16 countries and on more than 50 interviews of leaders who have lived and worked in more than 60 countries, Cohen (2008) describes what it takes to be a successful global leader, although he does not specify what he means by successful. Survey respondents and interviewees listed critical competences needed to be a successful global leader in the following categories:

- **Global business acumen** (29.5%) encompasses the ability to comprehend the business environment in its totality. This includes entrepreneurial and financial skills and domain, industry and business knowledge.

- **People leadership** (27.2%) encompasses communication skills, ability to motivate and inspire people, human resource skills, networking and development.

- **Leadership characteristics** (16.6%) encompass mental and emotional behaviours (including self-assurance, energy and enthusiasm, being learning focused and displaying empathy). It also includes a common set of core values and the ability to remain authentic regardless of the situational and environmental challenges.

- **Business leadership** (14.2%) encompasses strategic decision-making, efficient resource allocation, effective time management, problem solving ability, ease in managing complexities, and ability to stay flexible. It also includes the ability to adapt a leadership style to a variety of situations, creativity, innovation and having a strategic or visionary mindset.

- **World view** (12.5%) encompasses global environment awareness, cultural adaptation, and social, political and economic trends.

Cohen concludes that successful global leaders are entrepreneurial. In this context entrepreneurial means someone who is an innovator; one who recognises opportunities and organises resources to take advantage of the opportunity. Successful global leaders understand that developing talent is a top priority and they understand the dynamics of global business. They understand the need to develop global business savvy including being technology perceptive; demonstrating financial acumen; and being skilled in the areas of strategic marketing, enterprise knowledge, organizational behaviour and operations management. Effective leaders understand the need to balance time spent thinking, doing and communicating. Successful global leaders share a set of core values, such as integrity, excellence, respect and perseverance. (Cohen, 2008)

In one of the more comprehensive studies, researchers (Gregersen et al., 1998; Black et al., 1999) interviewed 130 executives in 50 firms across Europe (n=15), North-America (n=25) and Asia (n=10). Of these interviews 90 were with senior executives and 40 people identified by the executives as exemplars of future global leadership. In addition, the researchers sent a survey to human resource managers responsible for executive development. They received usable surveys from 108 U.S Fortune 500 firms in 1997.

Their research revealed that a global leader needs a set of context specific abilities and must possess a core of certain characteristics. Their conclusion is that global leadership success is a function of capabilities driven by both business specific dynamics and general global dynamics. Global leaders are consistently competent in four important areas: inquisitiveness, perspective, character and savvy (Gregersen et al., 1998, Black et al., 1999, pp. xi-xii). Not all the leadership

characteristics are equally related to both the global dynamics and general global dynamics (Black et al., 1999, p. 27).

Inquisitiveness is the essence of global leadership, even if it is more an attitude, a state of mind, than a skill. This means that exemplar global leaders are constantly curious and eager for knowledge. They ask tough questions, field tough questions and pursue observations and inquiries, and actively seek new information, investigate the world and challenge what other people generally take for granted. (Black et al., 1999, pp. 27-28, 41-42, 51-56)

Perspective is about how the leaders look at the world, how they embrace or manage uncertainty and balance tensions. Global leaders accept and ultimately exploit competing ways of doing things. They not only tolerate duality; nor do they try to avoid it; instead, they develop a perspective that embraces duality. They know that global and local must coexist within many areas of their companies. Successful global leaders embrace the duality of a situation in order to formulate better definitions of problems and opportunities; to make better sense of an international marketplace laden with complex and often conflicting data; and to act on those insights in spite of significant uncertainties. (Black et al., 1999, pp. 28-29, 78-87, 95-97, 105-106, 109)

Character is about emotional connection and unwavering integrity, or having and demonstrating a strong commitment to personal and company standards. Global leaders demonstrate character via the ability to connect emotionally with people from various backgrounds and through holding firm to high ethical standards and consistently supporting the company's interests. An effective global leader possesses three abilities, and can use them across cultures: sincere interest in and concern for others; a heightened ability to listen to people (ability to pick up verbal and non-verbal communication); and a strong capacity to clearly understand different viewpoints (overcome cultural barriers, ability to understand many different sorts of people and being familiar with local conditions). Also, emotionally connecting with people promotes goodwill, which encourages the employees to give the leader the benefit of the doubt on difficult matters. (Black et al., 1999, pp. 29, 111-117, 119-121, 124, 131, 147)

Savvy can be divided into two parts: business and organisational. Global leaders must have a clear sense of what needs to be done and how to access the resources to make it happen. At the same time they must have the support and commitment of the employees. Organisational savvy stems primarily from the dispersion dynamics. In order to successfully implement global initiatives, global leaders need to know who to tap and what organisational resources are available in order to successfully reach beyond the limits of ordinary command and control. Business savvy arises primarily in response to duality dynamics. Global leaders must figure out which activities need to be globally integrated and which need to be locally adapted, as well as how to satisfy both demands, in order to maximise the moneymaking opportunities for the company. (Black *et al.,* 1999, pp. 29)

Perhaps the largest study on global leadership is an initiative called GLOBE. Being part of a 170 researchers-strong study of global leadership (called GLOBE), which gathered data on cultural values and practices and leadership attributes from over 17000 managers in 62 societal cultures, Javidan et al. (2006) conclude that to succeed global leaders need to have a global mindset, tolerate high level of ambiguity and show cultural adaptability and flexibility. *Tolerance of ambiguity* refers to a new paradigm and new ways of doing things that global leaders face in every new country they work in. This kind of situation requires learning new ideas quickly and letting go of what has already been learned. *Cultural adaptability* refers to leaders' abilities to understand other cultures and behave in ways that help to achieve goals and build strong and positive relations with local citizens. It refers also to the mental and psychological ability to move from one situation and country to another. This and other studies regarding global, distributed and virtual leader competences are summarized in Table 5.

Table 5. Summary of leader characteristics and skilful operative actions in global distributed and virtual work.

Characteristics	Skilful Operative Action	Reference & Method
– Cultural empathy – Integrity – Being comfortable in dealing with people from different cultures – Possessing a global perspective		Ali & Camp (1996). 185 usable questionnaires from presidents or CEOs of Pennsylvania firms engaged in international operations
– International negotiation – Global awareness – International strategy – International marketing – Cultural empathy		Birchall et al. (1996). 55 valid responses to a survey consisting of 28 competences
- An objectives-oriented management style	- An ability to determine the status of a task or a project and correcting the project plan when needed. An ability to develop shared processes and practical performance metrics, to refine estimating skills of team members, to increase visibility, prototyping and early integration, and to define project reporting mechanisms, to mentor and train	Haywood (1998). Real world examples
	- - Good skills in listening, managing meetings, managing employees working time, coaching and supporting in IT, team building and arranging social activities	Staples, Hulland & Higgins (1998)
- Effective in handling of conflict; addressing the perceived discontent as early as noticed and to address as much as possible only the concerned individual	- Provide guidelines on how often to communicate and strive for a regular pattern of communication - Ensuring that team members have a sense of complementary objectives and share in the overall aim of the team	Jarvenpaa & Leidner (1999). Based on 350 master's students from 28 universities participating in a global virtual collaboration
	- Spend time building contexts for effective performance - Manage activities rather than people	Mohrman (1999). Based on two longitudinal multiple company studies
	- Good communicator - Good listening skills - Ability to manage meetings - Manage employees time - Ability to use IT effectively	Staples et al. (1999). Based on 631 responses to a questionnaire
- An open, positive attitude that focuses on solutions rather than reasons to discontinue virtual work arrangements - A result-oriented management style	- Effective communication skills, both formal and informal with employees working remotely and at the primary business location - An ability to delegate effectively, to follow up to ensure that work is accomplished	Cascio (2000). Literature

− Business savvy − Know how to use their personal influence − Have a global perspective − A strong character − Know how to motivate people − Act like entrepreneurs			Conner (2000). Interviews with 20 senior (global) managers at GM
− Ability to transact business in another country − Ability to change leadership style based on the situation − Knowledge of the company's worldwide business structures − Knowledge of international business issues − Network of professional contacts worldwide − Openness − Flexibility − Low ethnocentrism			Caliguri & Di Santo (2001). Focus groups (in total 50 people) with global HR managers and business unit leaders
- Understanding cross-cultural differences	- Abilities to select appropriate communication and collaboration technologies, building and maintaining trust, networking, developing processes		Duarte & Snyder (2001). Literature, real life examples & own experience
- Inspiring and motivating visionary	- Abilities to act as a result catalyst, facilitator, barrier buster, business analyser, coach, role model of desirable behaviour, leading without resorting to authoritarian methods, listening skills		Fisher & Fisher (2001)
- Result-oriented management style	- Ability to build commitment, to focus and coordinate remote resources, to network, to create environment for knowledge sharing, integrating by developing processes, guidelines, and infrastructure to meet the team's needs		Hoefling (2001). Literature + case examples
- Cultural empathy and adaptability - Global mindset - Individual development/ factors - Relational skills and support systems - Professional competence: management and leadership development			Kho (2001). Literature review + 12 interviews
− *Globally Literate* • personal literacy (understanding and valuing oneself) • social literacy (engaging and challenging other people) • business literacy (focusing and mobilizing one's organisation) • cultural literacy (valuing and leveraging cultural differences)			Rosen & Digh (2001). Conducted in-depth, face-to-face interviews with CEOs of more than 75 companies in 28 countries and a survey of 1000 senior executives around the world

– A cosmopolitan mindset – Cross-functional and cross-cultural process skills – Astute observer (with genuine interest) of other cultures – Talented in verbal and non-verbal communication – Mentally and physically resilient and energetic – High tolerance level (of ambiguity, frustration and uncertainty) – Pragmatic rather than dogmatic – Enormous capacity to learn and adapt – String sense of adventure – Possess emotional global intelligence		Kets de Vries & Florent-Treacy (2002). Interviews with over 500 senior executives who have participated in the first author's seminars + observational data (recording or notes)
- Capability to deal with paradox and contradiction - Mentor - Emphatic	- Perform multiple leadership roles simultaneously - Intensive communication - Provide role clarity - Assert authority without being perceived as overbearing or inflexible	Kayworth & Leidner (2002). Data from 13 student teams with team members from France Mexico and the U.S.
- Thinking globally - Appreciating cultural diversity - Developing technological savvy - Sharing leadership	- Building partnerships and alliances	Goldsmith et al. (2003). Panels, dialogue, and focus groups + 200 interviews with potential leaders from 120 international companies
– Communication skills – Motivation to learn – Flexibility – Open-mindedness – Respect for others – Sensitivity		Bueno & Tubbs (2004). Structured interviews with 26 business leaders with international experience
	- Team building and empowerment	Kirkman et al. (2004)
	- To build intra-team participation, ensure that all the ideas are heard, and monitor participation rates - Cross-cultural communication and understanding (ensuring that there is a collective sense of belonging) - Ensure that team values, task assignments and plans are shared - Co-ordinate activities/tasks, motivate team members, monitor and/or facilitate collaboration and address/resolve conflict	Zakaria et al., (2004). Literature on global virtual team leaders
- Integrator - Initiator - Scheduler	- Frequent communication with team members.	Yoo & Alavi (2004). Studying virtual teams of governmental employees

- Certain personality factors (e.g. openness) - Have a cognitive component (knowledge about foreign cultures) - Behavioural component (e.g. ability to change behaviour according to cultural cues) - Communication - Facilitating teamwork	- Motivating and inspiring - Direction and goal setting	Joshi & Lazarova (2005). Review of existing literature + semi-structured interviews with 89 MNT members
- Self-awareness. Knowing oneself and being open to others without judgement - Compassion and empathy, in order to create trust and genuine connections - Integrity. Committing to one's beliefs	- Establish a vision and inspire the employees toward continuous growth, commitment to business goals and team viability - Active listening	Mewton (2005). Consulting experience
	- Use highly participative approaches to establishing distributed work environments - Define and publish formal policies and procedures for distributed work - Establish explicit, tangible performance measures - Develop formal agreements about regular interaction	Ware & Grantham (2005)
- *Understanding* Being sensitive to schedules of members, appreciating their opinions and suggestions, caring about member's problems, getting to know team members and expressing personal interest in them - *Leadership attitude* Assertive yet not too "bossy", caring, relates to team members at their own levels and maintains a consistent attitude over the life of the project.	- *Communication* Continuous feedback, engaging in regular and prompt communication and clarifies tasks. - *Role clarity* Clearly defined responsibilities of all members, exercising authority and mentoring virtual team members.	Shachaf & Hara (2005). Own framework
- Global mindset - Tolerate high level of ambiguity - Show cultural adaptability and flexibility		Javidan et al. (2006). Gathered data on cultural values and practices and leadership attributes from over 17000 managers in 62 societal cultures
- Assertiveness and determination - Propensity to trust employees - Earlier experience of virtual work - Peoples skills - Trustworthiness, honesty, openness	- Result-oriented management style - Leadership actions - Information sharing and comprehensive communication - Coordination and organizing skills - Time management - Macro management	Kokko et al. (2007). 102 interviews with people working in virtual organizational units
- Visionary - Open minded - "Ethical leaders," who embody their values in all that they do and promote		Werhane (2007). Small qualitative study of American women business leaders

	- Communicate frequently and encourage team members to communicate among themselves frequently and openly	Cummings (2007). Data from 129 teams working across different units of a multinational company
- Global business acumen - People leadership - Leadership characteristics - Business leadership - World view		Cohen (2008). Survey (200 leaders from 16 countries) + more than 50 global leader interviews

The above table demonstrates that global and virtual team leaders have been the focus of many studies and there are some published papers regarding the overview of the existing studies. We will examine in more detail two of the above mentioned papers before summarising our own findings. First, Mendenhall and Osland (2002) reviewed the literature in the field and found 53 competences associated with the construct of global leadership. This large number of competences they regrouped and categorised into the following six factors (see Figure 5):

- **Relationship**, i.e. competences related to developing and maintaining interpersonal relationships in global/cross-cultural contexts.

- **Traits**, i.e., core personality or habitual behavioural tendencies.

- **Business Expertise**, i.e. expertise in global business knowledge.

- **Organising Expertise**, i.e. skills relating to organising and structuring human and administrative processes in global contexts.

- **Cognitive**, i.e. core internal information processing tendencies and world-view, and

- **Vision**, i.e. the ability to discern where an organization should go and the capability to rally subordinates to strive to achieve the vision. (Mendenhall, 2006)
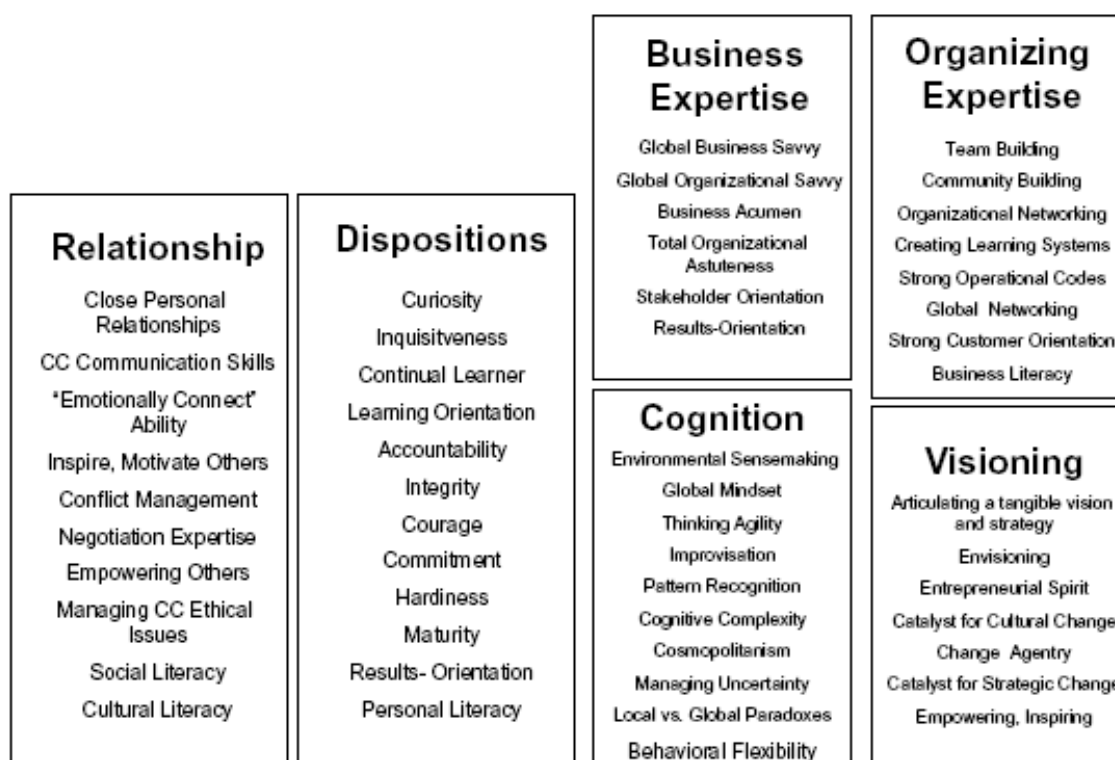

Figure 5. *Global leadership dimensions (Mendenhall, 2006).*

Second, in her review of existing frameworks and literature of global leadership competences, Jokinen (2005) identifies three main types or levels of global leadership competences:

- **Core of global leadership competences** are competences that are seen as fundamental to the development of other characteristics and thus represent more the global leadership potential than the end-state competences. These include self-awareness, engagement in personal transformation and inquisitiveness.

- **Desired mental characteristics** consist of optimism, self-regulation, social judgement skills and acceptance of complexity and its contradictions.

- **The behavioural level global leadership competences** are the more explicit skills and tangible knowledge that refer to concrete actions producing visible results. These include social skills, networking skills and knowledge.

Of these two overview papers, Jokinen's is clearly broader or vaguer in concept while Mendenhall and Osland's paper is both specific (specific competences) and general (grouping individual competences). Compared to the employee and team member studies, it seems clear that the results of the leader competences studies are more focused on the practical side of skilful actions, and the divide between characteristics and skilful actions actually becomes less distinct. Nevertheless, in our opinion, it seems that the key characteristics, to simplify, revolve around the ability to motivate people and having a certain mindset. In a global context the mindset is referred to as global mindset, consisting of having an open mind, trying to see issues from different viewpoints, and understanding and taking into account different cultures. The skilful operative actions are focused around proactive communication, setting goals and directions and developing processes or a context for effective performance to meet the set goals.

2.3.3   Team (Collective) Characteristics and Skilful Operative Actions

While the focus has been on global leaders, there have been far fewer studies focusing on the collective competences. Nonetheless, Table 6 presents some relevant literature.

Table 6. Summary of team characteristics and skilful operative actions in distributed, virtual and global work.

Characteristics	Skilful Operative action	Reference & Method
- High trust	- Clear definition of responsibilities	Jarvenpaa & Leidner (1999). Based on 350 master's students from 28 universities participating in a global virtual collaboration
- Keeping everyone aligned requires also negotiation and collaboration skills	- To manage their relations laterally as well as with multiple hierarchies	Mohrman (1999). Literature review
- Cohesive team culture		Hoefling (2001). Literature + case examples

	1. Establish team's goals - Clearly establish goals and define team's roles - Preliminary face-to-face meeting and series of team-building exercises - Reach consensus around goals and roles 2. Establish team's norms - Develop a code of conduct and set of norms - Use specific modes of communication and acceptable response times - Document archiving in shared space - Establish task priorities 3. Team problem solving & conflict management - Ability to solve complex problems by bargaining and negotiating - Develop creative mechanism by combining computer technology and videoconferencing - Develop early warning systems to alert potential conflict 4. Team learning - Learn from each other - Build on each other's work - Create a safe, secure team environment - Encourage easy collaboration - Create a ´community of practice´ 5. Balancing relationship & task team - Take opportunities to build social ties - Share learning experiences - Get together and reconnect in space as much as possible	Blackburn et al. (2003). Literature review + 25 interviews with virtual team managers, facilitators and consultants
	- Creating a state of shared understanding about goals and objectives, task requirements and interdependencies, roles and responsibilities, and member expertise	Malhotra & Majchrzak (2004). 54 effective virtual teams
- Communication skills for enabling collaboration, addressing conflicts, sustaining intra-team relationships and	- Create an effective knowledge sharing culture - Collectively develop a global mindset (being open minded, embed appropriate behaviours, and being sensitive to the divergence)	Zakaria et al. (2004). Literature
- Defined roles and responsibilities - Trust - Goal clarity - Communication practices - Common operations models - Commitment and we-spirit - Common language and understanding - Local expertise - Cultural richness due to diversity	- Open and frequent communication - Adequate face-to-face meetings - Knowing the other team members - Time difference enabling shift work	Kokko et al. (2007). 102 interviews with people working in virtual organizational units

These studies clearly show that team culture is the key collective competence. Team culture can be viewed from a broader perspective to include a shared collaboration culture, norms, understanding of responsibilities, goals and objectives. The aspect of team culture can be seen as an extension to some of the identified leader competences, such as setting goals and directions and developing processes, implying that the leader perhaps initiates these, but they must be implemented and finalized on the collective level.

3 Data Collection

The data was collected in twelve global companies that have operations also in Finland. In each company, one or two global teams, units or projects were selected for the research. The leaders of the teams or projects plus several members were interviewed. In addition, senior managers in charge of business/strategy, HR and IT were interviewed. A total of 103 interviews were conducted. The semi-structured interviews were in general about global collaboration and work. The questions regarding individual competences that the interviewees were asked were:

- Which special competences and characteristics of you and your team members are required to work in a global setting?

- Which leadership competences and characteristics does a leader need in a global setting?

- How would you improve leadership in the global CWE?

Thus, we were looking to identify the more general competences that arise from working in a global setting, not necessarily task or position specific competences.

Interview answers were transcribed and analysed qualitatively by using a text-analysis program Atlas.ti. The results were also quantitatively analysed, in other words, counting how many interviewees mentioned which competence. In addition to individual competences, collective competences were also looked for.

4   Results

Our interviews clearly show that both global employees and leaders need the same kind of general competences, on top of which there are leader specific competence areas or clusters (Figure 6 and Tables 6 & 7). The arrows in the figure indicate between which clusters are closely related to each other.
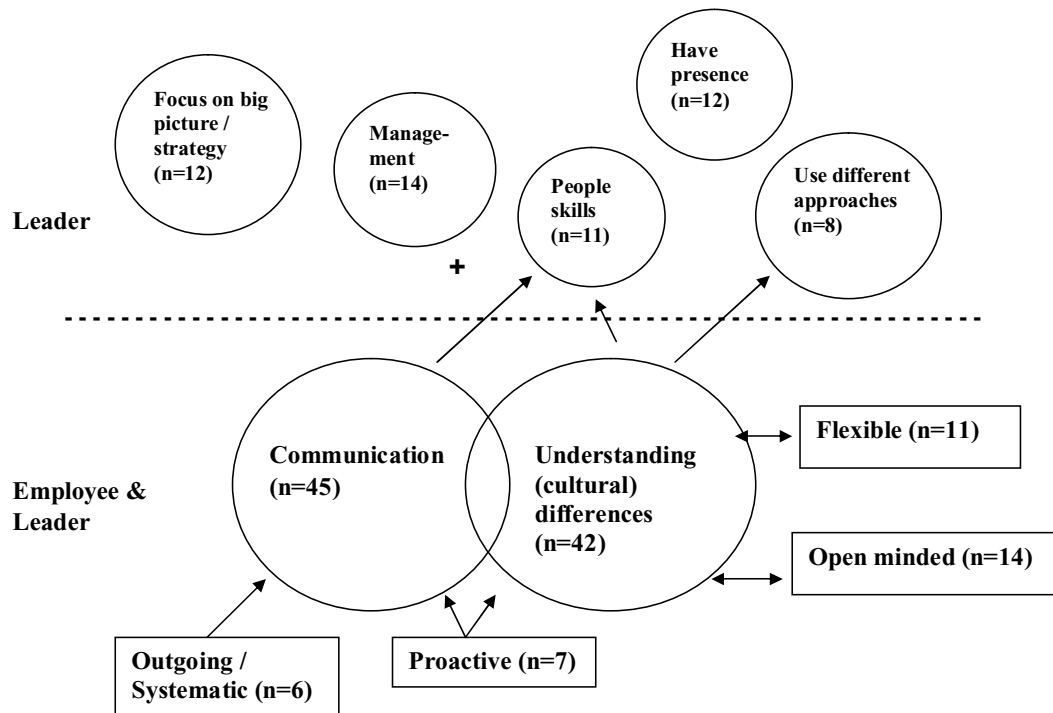
Figure 6. *Key competences of employees and leaders in global environments.*

4.1 Employee and Leader Competences

Communication (n=45). Communication can be divided into three main areas: language, oral and written. In a virtual environment people need to know how to use the tools effectively and how to virtually communicate effectively. Part of this is being actively involved in the meetings and discussion.

> *"[In virtual] meetings it goes easily to that one leads the discussion and then the others say when they are asked if they ask do they have anything to comment: 'No'. In a live situation you might see that some might have easier to participate in the discussion if we are in the same space."*

One key component of communication was seen as being able to express opinions or facts, sometimes regarding complex issues, in a very clear and short, but understandable, way.

> *"…communication; the way people are expressing their thoughts, the way people are explaining their ideas and suggestions, people's listening abilities."*

In distributed environments the biggest frustrations can be linked to not being able to communicate. In a distributed environment and when people from different cultures with different languages are involved, the chances of misunderstandings are great.

> *"So basically, any kind of skills that make guessing from the other side less needed. Because*

somehow a lot of communication goes lost already anyway under all circumstances, but then definitely if you just have the voice part available and nothing visible, then basically there's a lot of cues that otherwise you might get that you would never get over a phone call or over a conference, or via email for example."

"I think that you have to have really good communication skills. You have to be very clear, whether it's in writing or verbal, to really connect with people, especially if a lot of your interaction is over the phone or over email. Because if you're sitting in the same location, you can walk over to someone to chat with him or her and explain things or draw things out, but over the phone you're limited in that way. So it's very important to have those very strong communication skills."

Using the appropriate tools was seen as a part of good communication which in general meant avoiding e-mails and instead using telephones or other richer media.

Part of communication is naturally language skills, which in all the companies meant at least English. In some cases, it was seen that the lack of English skills had a clear negative effect on communication. Lacking language skills can be seen as causing insecurity or unwillingness to participate in discussions and to express opinions. Skills in other local language(s) were seen as beneficial, not only from the point of view of being able to work more effectively with locals but also as bringing new understanding:

"Many times even little language skills opens up a culture. Through it you get understanding clearly more than through some intermediary language, like English which everybody uses. Ok, it is yes, but many times through language genuine interest [increases] toward the other culture."

Not all are fluent in both writing and speaking a language, and consequently, working in a distributed environment through technology can be seen as facilitating communication also in that regard:

"I think that's the benefit of being able to write it online, I think a lot of people with English as a second language are a lot more comfortable typing something or writing something and phrasing it just right, rather than having to ask the question by calling someone and speaking is a different story."

When expressing ideas and communicating, one needs to consider the other culture(s) involved in the discussion.

Understanding (cultural) differences (n=42). Tightly related to communication, and crucial for collaboration, is understanding the people involved. This means understanding the culture they are from, the different customs and habits, their motivations and how things work in different places.

"Well, you have to know it works different in different countries, I think… You have to be, I think you have to understand that it just doesn't work in the same way everywhere. So that's, I don't know if you have to be a specific way, but anyway, you have to realize that it's different from different areas."

People need to understand the differences between various countries in terms of communication and what one means when saying different things and behaving in different manners. The importance of cultural issues was mentioned nearly in every interview.

"For example, if you try hard to ask something from Asia and you get no answer, you need to understand what it means that you did not get a straight answer and also know to ask indirectly enough. You can not necessarily ask directly that will this succeed or not. You must sensitively understand that in the other end there might be a problem and they do not want to tell us directly that it cannot be done. So this kind of cultural understanding."

Open-minded (n=14). One needs to keep an open mind, be able to act and think globally, be interested in new things, or other ways of seeing issues. One should think and take into consideration more than just local aspects and issues. Us all being different calls for openness and ability to interact with people we do not know virtually.

> *"You cannot start with [assuming] that everything works as they work at home or that things are done as they are done there. You need go with eyes wide open into the traffic to wonder that how from here and how does this work and adapt. A certain kind of flexibility to different situations."*

Flexible (n=11) is not only related to cultures and mindset. In a global team, working hours are not just from 9 to 5. One has to be flexible, also due to different time zones. Working in a global team requires willingness to meet at times one would not normally meet.

Proactive (n=7). As people are not sitting in the same office, people in distributed teams should be more proactive. Team members should communicate proactively; listen actively and ask relevant questions. They should also get acquainted with each other; find out the preferences and strengths of each team member.

Outgoing and systematic (n=6). Certain characteristics came up only once or in a few interviews, but it is worth pointing out two particular characteristics that were mentioned and which are partially contradictory. The interviewees who brought up the characteristics of being outgoing and having a structured work style, seemed to think that one is either one or the other. Some interviewees thought that it is good to be outgoing when working remotely, while others stated that usually people who are outgoing have a tendency or preference to be in the same location with the others and thus might actually be a hindrance in remote working. It was thought that there should be people who work in a structured and systematic way, as in virtual collaboration it is important that information and communication is regular, clear and up to date.

Naturally one characteristic that is useful in a distributed environment is the ability to work alone, being able to manage oneself and one's work and not need constant supervision and face to face contact with other people.

Table 7. *Summary of global employee and leader characteristics and skilful operative actions.*

Characteristics	Skilful Operative action
- Communication skills	- Use ICT tools effectively. - Be actively involved in the meetings and discussion - Express opinions or facts in a brief but understandable way - Use (practice) local language(s)
- Understanding (cultural) differences	- Actively seek to understand the people and culture involved.
- Open minded	- Keep your mind open for new things, and other ways of looking at issues
- Flexible	- You have to be flexible with your work hours
- Proactive	- Listen actively and ask relevant follow up questions. - Get to know the people you work with
- Outgoing and systematic	- Stay actively in touch with colleagues. - Communicate and share information on a regular basis

4.2 Leader Specific Competences

As mentioned earlier, the above competences apply to both globally distributed employees and leaders. In fact, several interviewees stated that leaders need no additional specific competences. Others repeated some of the same key competences, such as communication and understanding different cultures, and pointed out that these are even more important for leaders. For example:

> "That does the guy on the other side of the Atlantic have things good or bad, is he on top of the situation or not. Yes, it is like you should always do personal communication. It takes a lot of time. You need to reserve a lot of time. Talking to people, you gotta talk all the time more and more the further away they are."

There were also mentions that leading from a distance is always more difficult than leading in close proximity. Finding ways or mechanisms of influence that work locally with different cultures, languages and time zones are the key challenges.

Focusing on the Bigger Picture and Strategy (n=12). Leaders need to be able to see things from a broader perspective. Understanding team or project specific issues is not enough; in global operations, leaders need to understand how business is done in different places, and understand different markets. Furthermore, leaders need to be able to communicate the essential aspects of the broader picture to the team members. On the team or project level, one cannot micromanage. Instead, the focus must be on setting a common direction and creating common processes which will guide people in their work, and on delegating. The processes created should work equally around the globe.

Management (n=14). Leaders in distributed environments also need to have a stronger managerial grip. At the end of the day, goals need to be met and things need to be done, which is why it is important to monitor, follow progress, and make sure that regular reports on progress and other vital issues are received. A structured management way was seen as working well in a global environment, as leaders need to be up to date on many aspects and are geographically separated from their team members most of the time. Again, it should be pointed out that exercising a strong managerial grip does not mean micromanaging issues and people.

People Skills (n=11). Leading always involves other people, thus knowing how to motivate, communicate and deal with different people was seen as very important.

> "You have to also quite a lot know how to read [between the lines], because there is that everybody do not speak it out. In some cultures you do not say it out aloud, you just have to recognize the things from there somehow."

Having Presence (n=12). Even if the leader is separated from the subordinates, he/she still needs to have presence and be available. In practice this means having virtual presence and travelling a lot to meet people face to face. Being in different locations should not considerably affect the availability of the leader; he or she should be available when needed. In the virtual space this means the active use of tools and technologies and contacting/replying to people as quickly as possible. Being present in the virtual space is not enough, leaders also need to be physically present, which means a lot of travelling:

> "When you reach the leadership level, you need to be more than just a face on a screen. You need to be willing to show up in a location, present very publicly, respond to questions... And that, you reach a point where you're now accessible, so that someone has had the opportunity to talk to you, has had the opportunity to see you speak, knows that you've been involved locally, has had an opportunity at least to come talk to you personally."

Being locally present from time to time was also said to help to give the leader a better understanding of local issues.

Ability to Use Different Approaches (n=8). In dealing with people from various cultures and backgrounds and communicating with different interest groups, leaders need to be able to use different approaches, methods or ways with different people or situations. Not everybody can be lead and motivated in the same way, which is why the leader must be able to change his/her behaviour according to situations.

> "… all people cannot be [lead] in the same way; they are not motivated by the same style of leadership and giving orders works somewhere and is even expected in some places, while in other places you have to discuss more…"

Other Competences. Patience is a valuable characteristic of a global leader as communication and coming to a common understanding with people from different cultures, across different time zones, can be time consuming and demanding. Being able to build relationships worldwide is another important leadership attribute, as achieving change by oneself is difficult. Table 7 summarizes the competences needed by a global leader.

Table 8. Summary of global leader specific characteristics and skilful operative actions.

Characteristics	Skilful Operative action
- Focus on the bigger picture and strategy	- Seek to understand different markets; how business is done in different places and what is important locally. - Communicate the essential aspects of the broader picture to the team members. - Set a common direction and create common processes.
- Management	- Follow progress; make sure you get regular reports on progress and other vital issues.
- People skills	- Learn how to motivate, communicate and deal with different people
- Have presence	- Visit other locations/offices. - Be actively involved in the virtual space; active use of tools and technologies
- Able to use different approaches	- Appropriately change behaviour according to situations

4.3 Collective Competences

While the focus of the interviews and the content of the answers were mostly related to the individual, employee and leader, competences, certain key collective competences came clearly forward:

- Common goals

- Common processes and operations models

- Open communication and transparency

Unsurprisingly, in a highly distributed and global environment it was seen as important that there are common goals which everybody in a team know and understand. Also, in order for collaboration to be efficient, it was thought that the processes and methods of working need to be the same everywhere. It was seen as inefficient and causing confusion if people or offices have different methods and approaches for the same issues. This is also why there should be a common virtual workspace, allowing people to have access to common files. Just like on the individual level, open and transparent communication plays a key role also on the collective level. Besides having frequent virtual meetings, it was thought that team members should also meet face to face, ideally at least twice a year in a global team or project.

Table 9. Collective characteristics and skilful operative actions.

Characteristics	Skilful Operative action
- Common goals	- Make sure everybody knows the goals and each other's responsibilities
- Common processes and operations models	- Open communication and transparency

Characteristics	Skilful Operative action
- Common goals	- Make sure everybody knows the goals and each other's responsibilities
- Common processes and operations models	- Open communication and transparency

5   Discussion

Previous studies on new ways of working have identified many relevant competences. Even if the different new ways of working have their own distinct definitions and traits, certain competences or competence areas seemed to be relevant based on the previous studies. Self-management or leadership (e.g. the ability to work independently or in isolation, motivate oneself and self-discipline) was one common theme, which is not that surprising as one central aspect of new ways of working is being separated from one's colleagues. The physical separation can also be seen as a major contributor to two other key competences: communication skills and being proficient with information and communication technologies.

In studies where the focus was on people working in an international or global environment, additional competence requirements, such as being able to tolerate instability or new situations, understanding different cultures and in general having a more open mindset, became clearer. From the point of view of the leadership, new ways of working require leaders to focus more closely on the outcomes and results of their workers. In addition, leaders need to communicate proactively, set goals and directions and develop processes or a context for effective performance to meet the set goals It should be noted that most studies of leaders in new ways of working seem to concentrate on virtual team leaders or global leaders. It was stressed that global leaders need to have a global mindset, consisting of having an open mind, trying to see issues from different viewpoints, understanding and taking into account different cultures.

Few studies focused on collective competences, outlining team culture as a key collective competence. Team culture can be viewed from a broader perspective to include a shared collaboration culture, norms, understanding of responsibilities, goals and objectives.

As seen in the overview of previous studies, global and virtual work has received the most attention from the academic community and the topic of leadership competences has been clearly more popular than employee or team competences. In general, the literature is more focused on characteristics than skilful operative actions. There are already plentiful studies on characteristics, which is why there are also several meta-analysis papers where different authors have grouped the characteristics into fewer key categories.

The competences that we presented (Figure 6 and Tables 6-8) have already been mentioned in one or more earlier studies. Our findings are quite similar to those of an earlier study in which we participated (Kokko et al., 2007) that is based on the same theoretical foundation. There are two aspects in our results that differ from previous studies. The first is that both employees and leaders need the same kinds of competences in a global environment (with leaders then having certain additional competence needs). The second is that of these common competences two stand clearly above the rest: communication and understanding differences. In most cases they were named one after another and seen to be highly interconnected.

Many of the identified leadership competences seem to be such competences that are also relevant in more 'local' leadership, but it could be seen that these issues are specially important and challenging when working in a distributed and global environment.

It is clear that new ways of working sets specific competence needs. What is interesting to note is that while it was agreed in all the studied companies that people need these certain kinds of competences for new ways of working, not one company said that this is also considered when recruiting new people. Instead, employers still focus on the task description and the rest the employee will need to learn or figure out on the way. If people excel in our identified competence areas, they should potentially be more effective workers. Our results can also be used to improve training of employees, as it shows which competence areas are crucial. As the identified competences are such that they can be learned and improved in process of time,

earlier exposure to new ways of working should be beneficial, e.g. having courses during studies that consist of for example virtual team work.

Our study has some inherent limitations. As the interview guideline contained many more questions than those related to competences, in most cases the topic was not explored in depth and with some interviewees the topic was not discussed at all. Also because of this, the answers tended to be rather short and list like; people usually naming three competences, without much description and examples. Thus, future research should be more clearly focused on competences. As this study contributes to an already vast number of studies listing desired competences, in the future research could focus more on trying to find connections, between the competences and high performing individuals and teams.

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As a result of globalization, and as information and communication technologies are advancing at an ever increasing speed, the contents of work are changing. In consequence, the new ways of working – mobile, multi-locational, remote, flexible, distributed, and virtual work – are becoming more and more common. It is evident that new ways of working require also new skills and competences. This report, compiled within the FUTUREX – Future Experts project, focuses on identifying the competences of the future required by this type of work. Findings from previous studies and from the study carried out by Johan Lönnblad and Matti Vartiainen from Aalto university, will be presented in this report.

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