REMOTE WORK – TOWARDS A DEFINITION THAT WORKS

Mgr. Mária Fáziková Doc. Ing. Katarína Melichová PhD.

Faculty of European Studies and Regional Development Slovak University of Agriculture in Nitra xfazikova@uniag.sk, katarina.melichova@uniag.sk

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Abstract:

The remote work gained in popularity mainly since the Covid-19 pandemic. While it's currently a widely researched concept, an unambiguous definition is still missing. It's also common to use different monikers, such as telework, telecommuting, distributed work, work from home or virtual work interchangeably, to describe the same or different ideas. The goal of this article is to explore and systemize the various definitions of these terms and identify the overlapping and contradictory elements. This was done via a literature review of 40 of the most recent scientific publications indexed mostly in WOS and SCOPUS databases. The research led to the conclusion that these terms are very similar and the overlap lies in the geographical distribution and the use of Information and Communication Technologies (ICT) for interaction. The term is still a "work in progress" and an unambiguous definition is still missing.

Introduction

Remote work, despite being a buzzword and an increasingly researched objective of studies by scholars across the world, is not an entirely new concept. In fact, its origins can be traced back to the mid-seventies of the 20th century, when Nilles, J.M., (1975) introduced the idea of working from home and using Information and Communication Technologies (ICT) as a response to rising commuting costs fueled by the oil crisis in the United States.

Since then, the world has undergone and is still going through an enormous technological transformation and information revolution. While advances in technology provided a fertile ground for the implementation of remote work arrangements, in 2015 only around 19% of EU workers engaged in them (Eurofound (2020)). And then, there came Covid-19.

The year 2020 started with a breakthrough of a widespread global health pandemic. Many governments, in their quest to protect their citizens from the virus, chose to introduce extensive stay-home orders, so-called lockdowns, and to close their national borders. This made it impossible to commute to work premises and thus, for many companies, adaptation to new business circumstances was necessary to survive (Henry, M.S., Le Roux, D.B., Parry, D.A., (2021)). According to the International Labour Organisation (2021), around 34% of all EU-based employees switched to teleworking in 2020.

Nowadays, it looks like the paradigm shift to remote work, introduced as a measure of protection and a temporary crisis management solution, is likely here to stay and will develop even further (Messenger, J.C., 2019).

Naturally, the interest in the research field of remote work has grown significantly, however, one of the key challenges is an absent unequivocal definition of the term itself (e.g. Allen, T. D., Golden, T. D., Shockley, K. M. (2015); Felstead, A., Henseke, G., (2017); Yankov, K.V. (2021); Lamovšek, A., Černe, M. (2023)).

The goal of this article is to offer a comprehensive review of definitions of key concepts in remote work literature and their defining characteristics to find out which of these definitions works the best.

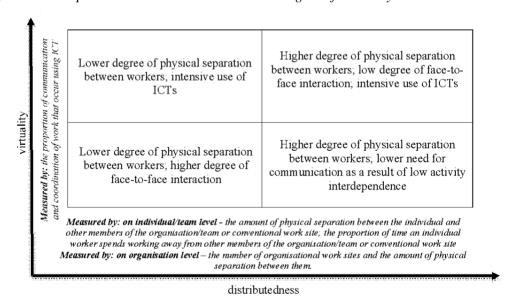
1. Conceptual framework for remote work

A very concise conceptual framework for remote and distributed work was proposed by Henry, M.S., Le Roux, D.B., Parry, D.A. (2021). By investigating different conceptualizations specifically of telework, remote and distributed work, telecommuting, virtual teams, and virtual and distributed organisation they proposed an integrated framework based on two criteria, that in various combinations could describe most of the concepts and their real-world implications related to remote and distributed work:

- **distributedness** which they define as a "combination of two factors":
 - o the degree of physical (geographical) separation between locations where work is performed; and
 - o the proportion of time that work is performed whilst work locations are physically separated;
- **virtuality** which they define as "the degree to which work activities are interdependent, and the extent to which communication and coordination of these activities are mediated by ICTs" (Henry, M.S., Le Roux, D.B., Parry, D.A. (2021)).

Authors themselves point out that this framework should provide a useful tool for researchers as a relatively broad conceptual foundation for their empirical research ventures into the topics of remote and distributed work.

Figure 1: Work practices delineation based on the degree of virtuality and distributedness



Source: Own elaboration based on Henry, M.S., Le Roux, D.B., Parry, D.A., (2021)

2. Methodology

The chosen methodological approach to achieve the stated objective is a literature review. An analysis regarding their degrees of virtuality and distributedness was conducted, as per Henry, M.S., Le Roux, D.B., Parry, D.A. (2021).

In total, a total of 30 of the most recent scientific publications indexed mostly in WOS and SCOPUS databases were studied. Keywords that were used for the search were: "remote work", "distributed work", "telework", "telecommuting", "digital nomads", "work from home", "hybrid work" and "virtual teams".

For the purpose of this article, the key takeaways from each concept's definitions were summarised.

3. Overview of the key concepts and takeaways

Finding an unambiguous definition of remote work is rather an intricate endeavour, a struggle more than 40 years old. Di MartinoV., Wirth, L., (1990) were solving this very challenge already back in the 90s in their popular work Telework: A new way of working and living and De Beer, A., Blanc, G., (1985) analysed different definitions of telework already back in 1985. Given that the term was born in the seventies, the dispute about the challenge of "defining a definition" appears to be an evergreen situation with different authors having different perspectives.

According to Lamovšek, A., Černe, M., (2023), the term *remote work* is an umbrella term and defines it as "Work that can be done using ICT and is done anywhere except the headquarters office." Garro Abarca, V.M., Palos-Sanchez, P.R., Rus-Arias, E., (2020) add an aspect of remote work being done from far away location and limited face-to-face interaction between employees: "Remote Work is defined as work done at a location far from the company headquarters or factory, where the worker has no personal contact with other co-workers, but is able to communicate with them using modern technology." Last but not least, the International Labour Organisation (2020) adds the possibility of engaging in remote work only on a part-time basis and takes into account different professions and status of employment. "Currently, there is no international statistical definition of remote work. However, remote work can be described as situations where the work is fully or partly carried out on an alternative worksite other than the default place of work. Remote work can be performed in a variety of possible locations, all of which can be viewed as an alternative to the location where the work could typically be expected to be carried out, taking into account the profession and the status of employment (International Labour Organisation (2020)).

Telework is a subcategory of remote work (International Labour Organisation (2020)) and its definitions mostly focus on the usage of Information and Communication Technologies to complete work. The distributedness aspect is present in many definitions yet the main star of most of them is the ICT (Di Martino, V., Wirth, L., (1990); Vitola, A., Baltina, I., (2013). For example, The European Framework Agreement on Telework (2002) defines telework as "a form of organising and/ or performing work, using information technology, in the context of an employment contract/relationship, where work, which could also be performed at the employers' premises, is carried out away from those premises on a regular basis."

The definitions of *telecommuting*, on the other hand, mostly shine the light on the fact that it is a type of work that reduces commuting while using ICT. The "father" of the concept of remote work Nilles, J.M. (1975) firstly notes that "A telecommuting network has computational and telecommunications components which enable employees of large organisations to work in offices close to (but generally not in) their homes, rather than commute long distances to a central office."

Next in line, *distributed work's* definitions are steered towards describing this concept with a lens of lack of physical presence. One of the most recent definitions by Rhymer, J., (2022)

describes distributed work as "principally characterised by a lack of physical proximity and by reliance on technology-mediated communication."

Hybrid work is a sort of a follow up to distributed work when the lack of physical presence is represented by the number of individuals working outside of their regular office or the number of days that employees spend working outside the office (Rhymer, J., (2022); Gifford, J., (2022)).

Possibly the concept that is the easiest to understand is **work from home** or **home-based telework**. According to Eurofound and the International Labour Organisation (2017), it simply means "Employees working from home regularly, using ICT."

Most definitions of *virtual work* enhance the geographical distribution as one of the key components of this way of working, similar to distributed work. For example, Allen, T. D., Golden, T. D., Shockley, K. M., (2015) describe it as "a broader term often used to describe individuals, groups of individuals, or organisations who do not interact face to face because of geographic dispersion yet who interact using technology in some fashion."

For *virtual teams* it is characteristic to work towards a common objective, working on interdependent tasks and to be dispersed across geography, organisation and/or time (e.g. Lurey, J.S., Raisinghani, M.S., (2001); Martins, L. L., Gilson, L. L., Maynard, M. T., (2004); Hertel, G., Geister, S., Konradt, U., (2005); Garro Abarca, V.M., Palos-Sanchez, P.R., Rus-Arias, E., (2020); Gilson, L. L., Maynard, M.T., Jones Young, N.C., Vartiainen, M., Hakonen, M., (2014)). The main difference between the definitions of virtual work and virtual teams is that the teams are interconnected through interdependent tasks, aiming to accomplish the same outcome.

Digital nomads are agreed to be professionals who perform their work from any part of the world, independently of the HQ of their companies or clients, using the internet and ICT to perform their work (Hannonen, O., (2020); Mancinelli, F., (2020)), a lifestyle described as embracing "extreme forms of mobile work" (Nash, C., Jarrahi, M. H., Sutherland, W., Phillips, G., (2018); Nash, C., Jarrahi, M. H., Sutherland, W., (2021)).

Selected definitions can be found in detail in Tab. 1 below.

 Table 1: Literature overview on virtuality and distributedness degree of select remote work concepts

Virtuality	Distributedness	Reference
Digital nomads		
"Achieve location independence by conducting their work in an online environment	transferring this independence to mobility by not consistently working in one designated personal office space but using the possibility to simultaneously work and travel to the extent that no permanent residence exists."	Reichenberger, I., (2017)
"Digital nomads' work is best described by the confluence of four key elements: digital work, gigwork,	"nomadic work and global travel adventure."	Nash, C., Jarrahi, M. H.,Sutherland,W., Phillips, G., (2018)
utilising digital technologies."	"The term "digital nomad" describes a category of mobile professionals, who perform their work remotely from anywhere in the world,	Hannonen, O., (2020)
"Digital nomads are individuals who, taking advantage of portable computing technologies and widespread internet access,	can work remotely from any location and use this freedom to explore the world."	Mancinelli, F., (2020)
Distributed work		
	"Encompass many different alternatives to working at the traditional office. These remote work options include satellite work centres, neighbourhood work centres, flexible work arrangements, generic offices (recently named hotelling), and telecommuting or telework."	Bélanger, F., Collins, R.W., (1998)
	"Arrangements that allow employees and their tasks to be shared across settings away from a central place of business or physical organisational location."	Gajendran, R.S., Harrison, D.A., (2007)
"We can distinguish between many types of distributed work on the basis of variations in ICT use,	location of work, and geographical distribution."	Lamovšek, A., Černe, M., (2023)
by reliance on technology-mediated communication."	"Distributed work is principally characterised by a lack of physical proximity and	Rhymer, J., (2022)
to some extent work with computer-mediated communication in order to achieve a common goal."	"The essential characteristics of distributed work are that employees work over geographical boundaries and	Bosch-Sijtsema, P. M., Sivunen, A., (2013)
Hybrid work		

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	"Physical distribution encompasses both how many individuals work outside of an office in a given group and how much time an individual spends working outside of the physical office."	Rhymer, J., (2022)
Remote work		
	"Currently, there is no international statistical definition of remote work. However, remote work can be described as situations where the work is fully or partly carried out on an alternative worksite other than the default place of work. Remote work can be performed in a variety of possible locations, all of which can be viewed as an alternative to the location where the work could typically be expected to be carried out, taking into account the profession and the status in employment."	International Labour Organisation, (2020)
"Remote work is simply work which can be done using ICT,	and is done anywhere except the headquarters office."	Lamovšek, A., Černe, M., (2023)
the worker has no personal contact with co-workers there, but is able to communicate with them using technology."	"A flexible work arrangement whereby workers work in locations, remote from their central offices or production facilities,	Di Martino, V., Wirth, L., (1990)
	"Remote work is defined as a flexible work arrangement in which an employee, under a written remote work agreement, is scheduled to perform work at an alternative worksite and is not expected to perform work at an agency worksite on a regular and recurring basis. A remote worker's official worksite may be within or outside the local commuting area of an agency worksite."	US Office of Personnel Management, (s.a).
where the worker has no personal contact with other co- workers, but is able to communicate with them using modern technology."	"Work done at a location far from the company headquarters or factory	Garro Abarca, V.M., Palos-Sanchez, P.R., Rus-Arias, E., (2020)
Telecommuting		
using technology to interact with others as needed to conduct work tasks."	"Work practice that involves members of an organisation substituting a portion of their typical work hours (ranging from a few hours per week to nearly full-time) to work away from a central workplace – typically principally from home -	Allen, T. D., Golden, T. D., Shockley, K. M., (2015)
"Has computational and telecommunications components	which enable employees of large organisations to work in offices close to (but generally not in) their homes, rather than commute long distances to a central office."	Nilles, J.M., (1975)
using electronic media to interact with others inside and outside the organisation."	"An alternative work arrangement in which employees perform tasks elsewhere that are normally done in a primary or central workplace, for at least some portion of their work schedule,	Gajendran, R.S., Harrison, D.A., (2007)
but the use of ICT is not obligatory, despite the fact that nowadays it is used almost all the time."	"Telecommuting is considered to be any work done in any location that reduces commuting,	Lamovšek, A., and Černe, M. (2023)
"The use of information and communication technologies	to replace or substitute for work environments that require individuals to commute to a traditional office."	Bélanger, F., Collins, R.W., (1998)
"The use of telecommunications technology	to partially or completely replace the commute to and from work."	Mokhtarian, P., (1991)

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communicating by way of computer-based technology."	"Working some portion of time away from the conventional workplace, often from home	Golden, T., Veiga, J., Simsek, Z., (2006)
work performed with the help of ICT"	"The term 'telecommuting' is also used in the US, as well as in India and Japan, to refer to work that obviates the need for commuter travel. Operational definitions typically fall into one of two overlapping categories: from outside the employer's premises (A), and work done from home (B).	Eurofound And The International Labour Office, (2017)
Telework		
"Telework is a form of organising and/or performing work, using information technology, in the context of an employment contract/relationship,	where work, which could also be performed at the employer's premises, is carried out away from those premises on a regular basis."	European Framework Agreement on Telework, (2002)
interacting through the use of technology."	"The term telework is generally used to connote a broader form of telecommuting that involves working from a variety of alternative locations outside of the central office (including full-time work from home but not necessarily limited to home-based work) and includes work from home-based businesses, telecenters, and call centres, and even work within an organisation's central office between individuals	Allen, T. D., Golden, T. D., Shockley, K. M., (2015)
"Telework is the use of information and communications technologies (ICTs), such as smartphones, tablets, laptops, and desktop computers, for work	that is performed outside the employer's premises."	Eurofound and The International Labour Office, (2017)
Telework is a subcategory of the broader concept of remote work. It includes workers who use information and communications technology (ICT) or landline telephones to carry out the work remotely."	"Similar to remote work, telework can be carried out in different locations outside the default place of work.	International Labour Office, (2020)
"Telework implies the use of ICT,	but location does not matter and telework can be done in the office."	Lamovšek, A., and Černe, M., (2023)
with the aid of Information and Telecommunication services."	"Telework (telecommuting) which is done partially or completely outside of the main company workplace	Hertel, G., Geister, S., Konradt, U., (2005)
the worker has no personal contact with co-workers there, but is able to communicate with them using new technology."	"Telework may be defined as work carried out in a location, where remote from central offices or production facilities	Di Martino, V., Wirth, L., (1990)
using digital technologies such as networks, laptops, mobile phones and the internet."	"Telework and ICT-based mobile work (TICTM) is any type of work arrangement where workers work remotely, away from an employer's premises or fixed location,	Eurofound, (2020)
	Telework refers to a work flexibility arrangement, approved in advance by a supervisor, that allows an employee to work from an approved alternative worksite other than the employee's official duty location for an approved number of days each pay period.	US Office of Personnel Managament (s.a.)

Virtual Teams/ Virtual work/ Global virtual teams		
Consequently, these teams have a low frequency of face- to-face contact and are able to collaborate through the use of emerging computer and communication technologies."	"Virtual teams can be dispersed across organisational, space, and/or time boundaries and are often cross-functional in nature, where team members come from a variety of organisational departments or business units.	Lurey, J.S., Raisinghani, M.S., (2001)
Virtual teams are: "Teams whose members use technology to varying degrees	in working across locational, temporal, and relational boundaries to accomplish an interdependent task."	Martins, L. L., Gilson, L. L., Maynard, M. T., (2004)
"A virtual team is a geographically dispersed group of individuals who work together to achieve a common goal. ICTs allow each team member to communicate and coordinate	from different locations in different time-zones outside the boundaries of the organisation."	Garro Abarca, V.M., Palos-Sanchez, P.R., Rus-Arias, E., (2020)
so that (d) communication and coordination is predominantly based on electronic communication media (e-mail, fax, phone, video conference, etc.)."	"Virtual teams consist of (a) two or more persons who (b) collaborate interactively to achieve common goals, while (c) at least one of the team members works at a different location, organisation, or at a different time	Hertel, G., Geister, S., Konradt, U., (2005)
who interact using technology in some fashion."	"Virtual work is a broader term often used to describe individuals, groups of individuals, or organisation who do not interact face to face because of geographic dispersion yet	Allen, T. D., Golden, T. D., Shockley, K. M., (2015)
technology-enhanced communications, and a dearth of face-to-face interaction."	Virtual work is: "Spatially or geographically dispersed work arrangements that are generally characterised by a relatively short life span,	Tworoger, L., Ruppel, C., Gong, B., Pohlman, R., (2013)
dependence on technology in work-related interactions between employees."	"Virtual work has been defined in many different ways, but common to these definitions are geographic dispersion and	Raghuram, S., Hill, S., Gibbs, J.L., Maruping, L.M., (2019)
together to achieve common goals using a combination of ICTs."	"The term "virtual work" differs from telework only by the geographical distribution, which in virtual work is not optional but necessary. Virtual teams are considered to be groups of geographically dispersed employees working	Lamovšek, A., Černe, M., (2023)
"(c) use technology-supported communication substantially more than face-to-face communication;"	"Global virtual teams are groups that (a) are identified by their organisation(s) and members as a team; (b) are responsible for making and/or implementing decisions important to the organisation's global strategy;" "and (d) work and live in different countries."	Maznevski, M. L., Chudoba, K. M., (2000)
Work from Home		
using ICT."	"Working from home' is considered to be home-based telework, while 'working at home' refers to work done at home using the home as a place of work and production without ICT. Home-based telework: Employees working from home regularly,	Eurofound and The International Labour Office, (2017)

Source: Own elaboration based on literature review

4. Systematisation of remote work concepts

The literature on definitions of different overlapping remote work concepts were analysed from the point of view of Henry, M.S., Le Roux, D.B., Parry, D.A., (2021) and their conceptual framework based on virtuality and distributedness. The main findings of the literature overview are listed in Tab.1. Next, the superimposition of the virtuality and distributedness based delineation onto the remote work definitions analysed in this paper is undertaken and brought into this conceptual framework as presented in Fig.2.

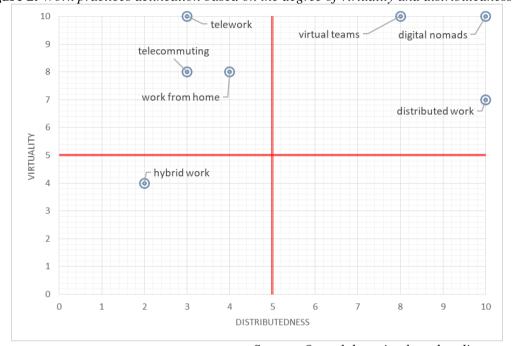


Figure 2: Work practices delineation based on the degree of virtuality and distributedness

Source: Own elaboration based on literature review

As observed, different definitions of remote work emphasise different aspects of this phenomenon. As per design, the two main characteristics are the degree of virtuality and distributedness and each definition emphasises those to a different extent. Figure 2 illustrates systematisation of definitions with regard to these two aspects. Hybrid work and digital nomads could be characterised as relative opposites. While the first one enjoys a relatively low degree of virtuality and distributedness, the latter one enjoys an extreme form of both. In between are the forms of remote work defined as telework, telecommuting, and work from home, characterised by a relatively high degree of virtuality. On the contrary, virtual teams and distributed work are characterised by a higher degree of both.

It seems, however, that although consensus is apparent when it comes to strong reliance on information and communication technologies as a key defining point of various overlapping concepts of remote work, we cannot say the same thing when investigating the degree of distributedness. What we can ascertain from this, is that spatial aspects of the increasingly more frequent phenomenon of remote work are of special significance in both research and policy contexts.

Conclusion

To conclude, the terms remote work, telework, distributed work, virtual work, and others defined in this paper are, more often than not, viewed as the same concept looked through a different lens. The concept is still in the process of being formalised and an unambiguous definition is missing. Different authors, actors, both private and public, or nation-states define remote work from slightly different angles. What they do seem to have in common is the geographical distribution and the use of ICT for interaction yet with unambiguous specifications of scope and width of either, with spatial aspect being the one that can be used more effectively to demarcate these concepts.

Furthermore, the importance of the spatial dimension of remote work goes beyond just defining the phenomenon. It carries with it a slew of crucial factors to be considered policy-wise. More specifically, the different spatial distributedness of remote workers brings about different economic, social, cultural, but especially institutional and legal considerations. For example, in remote work-intensive organisations, it is not that uncommon for employees of the same company to work in different countries, where some may have different and sometimes even incompatible social security systems, different rules for employers' contribution to health insurance, or in general different legal framework regulating the relationship between employer and employees. This translates into significant policy challenges for these companies as well as for policymakers in countries with a larger share of remote workers.

From the societal perspective, the benefits and the challenges are still yet to be researched in detail due to the relative novelty of the remote work concept (Wang, B., Liu, Y., Qian, J., Parker, S.K. (2021)). There are opportunities for remote work to reduce the carbon footprint of individuals or bring more work to rural and peripheral areas, alongside their digitalisation. What is clear is that remote work is here to stay and it is an exciting time to steer the direction of its success and implementation.

As the International Labour Organisation (2021) puts it: "[...] we are now engaged in an unprecedented, large-scale experiment in mass teleworking, and it seems likely that this expanded use of telework will not end with the end of the pandemic." It appears as if the true acceleration of the remote work phenomenon has just begun.

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