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EVALUATION OF COUNTRIES FOR VIRTUAL WORKING

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Abstract. In the last decade the relevance of virtual working and the percentage of jobs done remotely has indeed appreciated in European countries. Remote work is a new feasible solution for the large and small scale companies, they intend their employees to work from a distance location. This solution, perhaps, will stay for the foreseeable future within organizations. The statistical data which is collected from Eurostat shows that distance working has made connection between employees from EU countries seamless, however, some countries are still not fully focused on virtual working. The obtained data presents that virtual working percentage during last five years has enabled the author of this paper to have a comparative analysis in terms of how each country utilize remote working. Afterward, the result of analysis presented and discussed. The main purpose of this article is to evaluate the countries that fully engage in the optimization of virtual working, the method to be used in this research are literature analysis and TOPSIS method. This article also shows that virtual working is becoming essential part of people's lifestyle in the near future, and most employees and employer will prefer it to any other forms of working.

Keywords: virtual work, TOPSIS method, labour markets, remote work.

Introduction

In today's society, working outside of the traditional workplace is becoming more common. Telework, virtual office, remote work, location independent working, and home office are just a few of the phrases used to describe the phenomena. In this article, we'll use the phrase "virtual working", which refers to working from a location other than the employer's designed workspace (Aczel et al., 2021). According to Gajendran and Harrison (2007), the positive and negative consequences of telecommuting on employees have been clearer as technology infrastructures have advanced over the previous few decades. Although the good effects of telecommuting, such as employee performance, job satisfaction, stress reduction, and reduced work-family conflict, are more widely recognized, the affected relationships with employees are a major issue that is sometimes forgotten. Working from home, has had no noticeable detrimental impact on employee interaction quality.

Modern manufacturing is defined by outsourcing networks, and enterprise's usage of this production method is likely to grow quickly in the future (Liston et al., 2008). As Fukson (2017) said, there are several advantages to remote working which includes the opportunity to locate more specialists (no geographical limitations), lower administrative expenditures for the office, less bookkeeping operations, and so on. Although many saw the shift to virtual working as a forced experiment in recent years, it has yielded a number of good outcomes, including a temporary reduction in greenhouse gas emissions, increased possibility for improved work-life balance, and cost savings. Remote working may also open up new career chances for persons who would otherwise be unable to find work, such as women and people with impairments. These advantages, as well as proof that remote working may be successful, suggest that remote working arrangements, at least in a hybrid version, are here to stay (OECD, 2021). The statistics and research in this article are used to determine which EU nations are the best for working remotely. Working with a country that has a larger percentage of virtual workers will result in a wide range of company organization alternatives. These findings highlight how working from home is becoming a more important part of people's lifestyle. Furthermore, in social surveys, data on job quality is rarely collected with data on where people work.

TOPSIS is the approach that will be employed in this study. It's also a significant part of the decision-making procedure. It collects and compares data from groups by giving a weight to each criterion and determining the best response to a decision-making issue using a distance calculation method (Tehreem et al., 2021). The TOPSIS method assumes that the criterion function is monotonic. This strategy has the benefit of allowing superfluous parameters to be substituted in cases when existing models are insufficient to tackle a range of decision-making difficulties.

Aim of the research: to determine which European countries made best advantage in working remotely.

Research tasks: 1) To collect the data of virtual working in different EU countries. 2) Analyze the data with TOPSIS method. 3) Rank the countries according to calculated results. 4) Find the best country for development of virtual work.

Research methods: scientific literature analysis and TOPSIS method.

1. Theoretical background

Virtual working, first appeared in the 1970s in California, when employees in the information technology (IT) business began using information and communication technology (ITC) equipment to work remotely from home. Teleworking, like prior industrial and clerical assignments, has been promoted as a way for women (and some men) to make an income while remaining present in the house and performing unpaid care labor (International Labour Organization, 2020).

The first set of keywords (virtual reality or augmented reality or extended reality or mixed reality) described the technology itself, which included all versions from virtual, augmented, mixed, and extended reality. Mikropoulos and Natsis (2011), for example, use the term virtual environment in their assessment, but they consider the same difficulties when it comes to virtual reality. Employees should develop new skills to adapt to digital work, which will boost their employability. According to the findings, human resource management should assist employees in using sophisticated technology in the workplace (Davies, 2021). Employees cannot cope with all of the obstacles posed by the recent pandemic crisis on their own, so HR professionals should assist them in improving their digital skills and planning their well-being. Leaders recognize the value of lifelong learning and developing talents in this regard, and as a result, they are preparing online training sessions (Narayandas et al., 2020). According to a recent survey of Chinese businesses, they prefer to invest rather than save money in order to improve their competitiveness. Sardeshmukh et al. (2012) stated that, 4.2 million of people spend nearly half of their working time on the same grounds and buildings as their homes, and the number of employees who claim they regularly work from home has climbed by a fifth in the previous decade. While the scale of the shift differs depending on the data sources and definitional standards employed, descriptive evidence shows that more work is being done outside of the traditional office. According to the US decennial Census of Population, the percentage of workers who conduct some or all of their job at home increased from 19.6% in 2003 to 24.1% in 2015. The same would be said for Europe as a whole. Around a quarter of workers in Europe claimed they mostly worked at home, on customer's facilities, on locations outside the factory or office, and in automobiles or other vehicles, according to Eurofound statistics from 2010. Three out of ten people claimed they worked in such places on a routine basis in 2015 (Felstead & Henseke, 2017).

Gallacher and Hossain (2020) discovered that 41% of employment in Canada can be done from home, with considerable differences between provinces, cities, and sectors. Then they discover that poorer workers, men, workers without a college diploma, ordinary workers, single workers, local firm workers, seasonal or contractual workers, part-time workers, younger workers, and non-immigrant workers are more likely to be employed in jobs where remote work is difficult. They examine the data to see whether there are any links between worker attributes and the ability to work from home. They observed that workers with greater incomes are more likely to be able to work from home on average. This suggests that social distancing is regressive, as poorer people are more likely to work in positions that are difficult to perform remotely. Moreover, Dingel and Neiman (2020) anticipate that 37 percent of companies in the United States can be done at home. Working from home provides a number of obvious advantages, including eliminating the need to commute, making it simpler to handle domestic chores and family needs, as well as improved control over time management and fewer distractions. Although setting up a home office comes with physical and infrastructural difficulties, personal comfort is frequently mentioned as a benefit of the home workplace. People who work from home routinely report higher job motivation and satisfaction, which is likely owing to more work-life flexibility and control. Homeworking is positively connected to free time satisfaction, according to a continuous nationally representative sample of 30,000 families in the United Kingdom, implying that those who work from home may spend more time to leisure activities (Korbel & Stegle, 2020). Remote working capacity varies greatly among sectors and

activities, and because each location specializes in distinct economic activities, these capacities will vary as well. For example, managers and professionals are willing to work remotely in 70% of cases, whereas experienced agricultural, forestry, and fisheries employees, as well as craft and allied tradespeople, are only willing in 10% of cases. Workers with greater incomes and education levels are more likely to be employed in jobs that allow for remote work (OECD, 2021).

As Wheatley (2017) pointed out, science nowadays is increasingly globalized and collaborative. With a variety of video conferencing systems, teleconferencing platforms, and collaboration software like Slack, working from home on a computer while engaging with coworkers locally and globally is conceivable. Virtual journal clubs, virtual scientific conferences, and training activities on mutually beneficial topics are just a few of the new collaborations and online activities sparked by the fact that almost all communication these days is electronic (Maltseva et al., 2019). Rural areas have had slower increase in living standards, as well as higher population decrease and ageing, increasing urban-rural divisions in recent decades. Remote working opens up new possibilities for regions outside of major cities to mitigate or reverse these structural trends by attracting new residents with more affordable housing, lower living costs, and improved environmental amenities, thereby boosting economic activity and revitalizing communities. (Vasarainen et al., 2021). Similarly, companies may be compelled to alter their real estate plans by downscaling or relocating part or all of their headquarters. However, due to disparities in digital infrastructure and digital abilities among areas, employees, and businesses, not everyone has been able to profit from virtual forms of engagement. Because a hybrid kind of remote working is likely to be one of the pandemic's lasting legacies, and because technology development and investments may expedite this shift, governments must promote and enable it.

Remote employees have limited opportunities for informal contact and social connection with their coworkers. Unplanned workplace social contacts aid in the development of common cognitions about work issues and shared understandings of coworkers. It's likely that online group interactions will be structured and formal (Blanchard, 2021). Internal organizational social media such as Slack or Microsoft Teams allow for quick, informal text-message exchanges between team members, but they are no substitute for organically occurring break room chats. The difficulty of forming intragroup relationships is exacerbated by a lack of informal contact, especially among new employees. Task-related discussions among all members of a group, as well as between individual group members, can be supported by video meetings. Large events can be made more entertaining by providing breakout spaces where smaller groups can engage.

In many industrialized and developing nations, there is a "digital divide" in internet accessibility and use between urban and rural areas. According to a 2016 analysis on the digital divide in the United States, 39 percent of the rural population lacked high-speed broadband connection, compared to only 4% of the urban population. According to a 2015 survey of the situation in Europe, only 25% of the rural population have access to high-speed internet. Although internet connectivity in the UK was believed to be greater than the European average, around 20% of the rural population did not have access to the internet at all. "The more rural and poorly populated an area is, the more likely it is to suffer slow or no broadband connectivity," according to a study of internet connectivity in the UK. With mobile broadband prevalence already reaching 95% in OECD countries, a greater understanding of the technology's spatial distribution and consequences for access to high-speed internet in rural regions is needed (OECD, 2021).

The following statistics were used to assess the percentage of virtual employees in the last five years across 32 European nations.

2. Formulas and equations

The research used the TOPSIS technique created by Hwang and Yoon (1981) as well as the applicable formulations. In the TOPSIS approach, we assume that the ratings of alternatives and weights are numerical data, and that the problem is solved by a single decision maker. In this method, the positive-ideal solution has all possible best values for criterion, whereas the negative-ideal solution contains all possible worst values for criteria.

Decision Making is the most effective method for selecting a superior option from a wide range of options. Because decision-making over broad alternatives is prevalent, almost all other concerns have many criteria. Such requirements usually contradict one another, thus there may be no way to meet all of them at the same time. Decision makers want to address the MCDM (Multiple Criteria Decision Making) problem to deal with such issues. MCDM challenges can be solved in a variety of ways. Brans et al. (1986) developed the PROMETHEE, a multi-criteria decision-making system. It compares each pair of possibilities for each criterion and assigns a score between 0 and 1 to each. In this case, a compromise solution is a viable alternative that comes closest to the ideal solution, while a compromise is defined as an agreement reached through mutual concessions.

The TOPSIS method's large range of real-world applications imposed a strong motive for categorizing applications across several industries and sub-areas (Behzadian et al., 2012). Case studies, demonstrative examples, and/or practical experiences are all types of application research studies. The main areas are listed on below: Supply Chain Management and Logistics, Design Engineering and Manufacturing Systems, Business and Marketing Management Health, Safety and Environmental Management, Energy Management, Chemical Engineering, Water Resources Management and other topics. Chen and Lee (2010) developed a fuzzy systematic strategy for extending TOPSIS to handle the supplier selection problem based on characteristics such as supplier profitability, relationship closeness, technological capacity, compliance quality, and dispute resolution. By simultaneously computing the distances to the fuzzy positive ideal and fuzzy negative-ideal solutions, a proximity coefficient was created to determine the ranking order of all providers using this expanded approach. Krohling and Pacheco (2015) proposed a fuzzy group decision-making methodology based on TOPSIS to address outsourced decision-making issues. The fuzzy TOPSIS approach was utilized in this study to specify the ranking of alternatives based on individual decision matrices and weight vectors and an aggregated decision matrix and weight vector. For estimation were used the TOPSIS method guidelines, which are as follows (Dzemydienė et al., 2022):

Step 1. Construct the decision matrix and determine the weight of criteria (The sum of all the weights should be equal to 1).

Normalize score or data as follows:

$$r_{ij} = x_{ij} / (\Sigma x^2_{ij})^{½} \text{ for } i = 1, \ldots, m; j = 1, \ldots, n. \quad (1)$$

Step 2. Calculate the weighted normalized decision matrix.

Suppose we have a set of weights for each criterion W_j for $j = 1,\ldots n$.

An element of the new matrix is:

$$V_{ij} = w_j \times r_{ij}, \quad (2)$$

Step 3. Determine the negative ideal solutions and positive ideal solution.

Ideal solution.

$$A^* = \{v_1^*,\ldots, v_n^*\}, \quad (3)$$

where $V_j^* = \{\max (V_{ij}) \text{ if } j \in J; \min (V_{ij}) \text{ if } j \in J'\}$.

Negative ideal solution.

$$A' = \{v_1', \ldots, v_n'\}, \quad (4)$$

where $V_j^* = \{\min (V_{ij}) \text{ if } j \in J; \max (V_{ij}) \text{ if } j \in J'\}$, where I represents the benefit criteria and J represents the cost criteria, and $I = 1, ..., m; j = 1, ..., n$.

Step 4. Calculate the separation measures between the positive ideal and negative ideal solutions.

The difference between the positive ideal alternative and the negative ideal alternative is:

$$S_i^* = [\Sigma_j (V_j - V_{ij})^2]^{½} \quad i = 1, ..., m \quad (5)$$

likewise, the separation from the negative ideal alternative is:

$$S_i^* = [\Sigma_j (V_j - V_{ij})^2]^{½} \quad i = 1, ..., m. \quad (6)$$

Step 5. Determine the degree of similarity to the positive ideal result.

$$C_i = S_i^*/(S_i^* + S_i') \quad 0 < C_i^* < 1. \quad (7)$$

Step 6. Rank the preference order.

3. Calculation

The following figures were used to determine the best country with the highest number of remote employees during the previous five years, based on a study of 32 European nations. The criteria's weights are also equal. The specified alternatives and criteria, are displayed in the Table 1 for better visibility.

Data presented in Table 1 collected from 32 European countries with their percentage of remote workers.

Step 1: Make a decision matrix that is normalized.

$$r_{ij} = x_{ij} / (\Sigma x^2_{ij})^{½} \text{ for } i = 1, \ldots, m; j = 1, \ldots, n. \quad (8)$$

Table 1. European countries from 2016 to 2020 (Eurostat, 2021)

GEO/TIME	2016	2017	2018	2019	2020
Belgium	7.2	6.9	6.6	6.9	17.2
Bulgaria	0.2	0.3	0.3	0.5	1.2
Czechia	3.8	3.9	4.0	4.6	7.2
Denmark	8.4	8.8	7.8	7.8	17.0
Germany	3.2	4.8	5.0	5.2	13.4
Estonia	6.0	5.9	7.6	6.8	12.6
Ireland	3.3	5.0	6.5	7.0	21.5
Greece	2.6	2.3	2.0	1.9	7.0
Spain	3.5	4.3	4.3	4.8	10.9
France	6.9	6.7	6.6	7.0	15.7
Croatia	1.4	1.4	1.4	1.9	3.1
Italy	3.3	3.5	3.6	3.6	12.2
Cyprus	1.6	1.2	1.2	1.3	4.5
Latvia	2.6	2.1	2.9	3.0	4.5
Lithuania	2.7	2.6	2.5	2.4	5.4
Luxembourg	12.0	12.7	11.0	11.6	23.1
Hungary	3.0	2.5	2.3	1.2	3.6
Malta	3.6	4.4	5.8	6.1	14.8
Netherlands	13.4	13.7	14.0	14.1	17.8
Austria	9.9	9.5	10.0	9.9	18.1
Poland	5.3	4.5	4.6	4.6	8.9
Portugal	6.3	5.9	6.1	6.5	13.9
Romania	0.5	0.4	0.4	0.8	2.5
Slovenia	7.5	7.2	6.9	6.8	7.4
Slovakia	3.2	3.5	3.6	3.7	5.7
Finland	11.9	12.3	13.3	14.1	25.1
Sweden	5.1	5.0	5.3	5.9	–
Iceland	7.6	7.2	6.5	5.7	8.7
Norway	4.9	5.1	5.5	5.0	4.7
Switzerland	4.3	4.0	4.1	3.9	4.9
United Kingdom	4.1	4.0	4.4	4.7	–
Montenegro	7.4	8.1	6.4	5.8	7.5

Table 2. Normalized decision matrix (designed by author)

Weight	0.2	0.2	0.2	0.2	0.2
GEO/TIME	2016	2017	2018	2019	2020
Belgium	0.21	0.19	0.19	0.18	0.10
Bulgaria	0.01	0.01	0.01	0.01	0.02
Czechia	0.11	0.11	0.11	0.13	0.11
Denmark	0.24	0.25	0.22	0.22	0.26
Germany	0.09	0.14	0.14	0.14	0.20
Estonia	0.17	0.17	0.21	0.19	0.19
Ireland	0.09	0.14	0.18	0.19	0.32
Greece	0.07	0.06	0.06	0.05	0.11
Spain	0.10	0.12	0.12	0.13	0.16
France	0.20	0.19	0.19	0.19	0.24

End of Table 2

Weight	0.2	0.2	0.2	0.2	0.2
GEO/TIME	2016	2017	2018	2019	2020
Croatia	0.04	0.04	0.04	0.05	0.05
Italy	0.09	0.10	0.10	0.10	0.18
Cyprus	0.05	0.03	0.03	0.04	0.07
Latvia	0.07	0.06	0.08	0.08	0.07
Lithuania	0.08	0.07	0.07	0.07	0.08
Luxembourg	0.35	0.36	0.31	0.32	0.35
Hungary	0.09	0.07	0.06	0.03	0.05
Malta	0.10	0.12	0.16	0.17	0.22
Netherlands	0.39	0.39	0.39	0.39	0.27
Austria	0.28	0.27	0.28	0.27	0.27
Poland	0.15	0.13	0.13	0.13	0.13
Portugal	0.18	0.17	0.17	0.18	0.21
Romania	0.01	0.01	0.01	0.02	0.04
Slovenia	0.22	0.20	0.19	0.19	0.11
Slovakia	0.09	0.10	0.10	0.10	0.09
Finland	0.34	0.35	0.38	0.39	0.38
Sweden	0.15	0.14	0.15	0.16	0.00
Iceland	0.22	0.20	0.18	0.16	0.13
Norway	0.14	0.14	0.16	0.14	0.07
Switzerland	0.12	0.11	0.12	0.11	0.07
United Kingdom	0.12	0.11	0.12	0.13	0.00
Montenegro	0.21	0.23	0.18	0.16	0.11

In Table 2, each country was given an identical weighting so the overall weight should be 1. As a result, each country has a weight of 0.02.

Step 2: Create the normalized weighted decision matrix

Results presented in Table 3.

$$V_{ij} = w_j \times r_{ij}.$$

Table 3. Weighted normalized decision matrix (designed by author)

GEO/TIME	2016	2017	2018	2019	2020
Belgium	0.04	0.04	0.04	0.04	0.02
Bulgaria	0.00	0.00	0.00	0.00	0.00
Czechia	0.02	0.02	0.02	0.03	0.02
Denmark	0.05	0.05	0.04	0.04	0.05
Germany	0.02	0.03	0.03	0.03	0.04
Estonia	0.03	0.03	0.04	0.04	0.04
Ireland	0.02	0.03	0.04	0.04	0.06
Greece	0.01	0.01	0.01	0.01	0.02
Spain	0.02	0.02	0.02	0.03	0.03
France	0.04	0.04	0.04	0.04	0.05
Croatia	0.01	0.01	0.01	0.01	0.01
Italy	0.02	0.02	0.02	0.02	0.04
Cyprus	0.01	0.01	0.01	0.01	0.01
Latvia	0.01	0.01	0.02	0.02	0.01
Lithuania	0.02	0.01	0.01	0.01	0.02

End of Table 3

GEO/TIME	2016	2017	2018	2019	2020
Luxembourg	0.07	0.07	0.06	0.06	0.07
Hungary	0.02	0.01	0.01	0.01	0.01
Malta	0.02	0.02	0.03	0.03	0.04
Netherlands	0.08	0.08	0.08	0.08	0.05
Austria	0.06	0.05	0.06	0.05	0.05
Poland	0.03	0.03	0.03	0.03	0.03
Portugal	0.04	0.03	0.03	0.04	0.04
Romania	0.00	0.00	0.00	0.00	0.01
Slovenia	0.04	0.04	0.04	0.04	0.02
Slovakia	0.02	0.02	0.02	0.02	0.02
Finland	0.07	0.07	0.08	0.08	0.08
Sweden	0.03	0.03	0.03	0.03	0.00
Iceland	0.04	0.04	0.04	0.03	0.03
Norway	0.03	0.03	0.03	0.03	0.01
Switzerland	0.02	0.02	0.02	0.02	0.01
United Kingdom	0.02	0.02	0.02	0.03	0.00
Montenegro	0.04	0.05	0.04	0.03	0.02

The results of the weighted normalized decision matrix computation are shown in Table 3. Multiply the entropy approach's relevant weights by the columns of the normalized decision matrix.

Step 3: The results of calculating the positive ideal and negative ideal solutions are shown in Table 4.

Table 4. After completing step 4 of the TOPSIS approach, the following results were obtained (designed by author)

GEO/TIME	2016	2017	2018	2019	2020
V^*	0.077	0.077	0.079	0.078	0.076
V^-	0.001	0.002	0.002	0.003	0.000

After analyzing the data from all countries, positive and negative ideal solutions are shown in Table 4.

Step 4: Calculate the separation measures between the positive ideal and negative ideal solutions.

The difference between the positive ideal alternative and the negative ideal alternative is:

$$S_i^* = [\Sigma_j (V_j - V_{ij})^2]^{½}.$$

likewise, the separation from the negative ideal alternative is: $S_i^- = [\Sigma_j (V_j - V_{ij})^2]^{½}$.

Table 5. The results of using the TOPSIS method's, fourth step (designed by author)

GEO/TIME	S^*	S^-
Belgium	0.097	0.076
Bulgaria	0.168	0.004
Czechia	0.122	0.048
Denmark	0.068	0.103
Germany	0.111	0.063
Estonia	0.090	0.080
Ireland	0.096	0.088
Greece	0.142	0.030
Spain	0.116	0.055
France	0.084	0.087
Croatia	0.154	0.017

End of Table 5

GEO/TIME	S^*	S^-
Italy	0.123	0.051
Cyprus	0.154	0.018
Latvia	0.140	0.030
Lithuania	0.140	0.030
Luxembourg	0.025	0.148
Hungary	0.146	0.026
Malta	0.105	0.070
Netherlands	0.022	0.161
Austria	0.050	0.120
Poland	0.113	0.057
Portugal	0.092	0.079
Romania	0.165	0.008
Slovenia	0.093	0.080
Slovakia	0.130	0.040
Finland	0.012	0.161
Sweden	0.122	0.057
Iceland	0.094	0.078
Norway	0.116	0.056
Switzerland	0.126	0.045
United Kingdom	0.131	0.045
Montenegro	0.095	0.079

Separation measures from positive ideal solutions and negative ideal solutions were determined in Table 5.

Step 5. Determine the degree of similarity to the positive ideal result.

Table 6. Results after applying the fifth step to find C (designed by author)

GEO	C
Belgium	0.441273
Bulgaria	0.021007
Czechia	0.280006
Denmark	0.601782
Germany	0.362495
Estonia	0.471727
Ireland	0.477628
Greece	0.175673
Spain	0.320928
France	0.50911
Croatia	0.096959
Italy	0.2951
Cyprus	0.10407
Latvia	0.174843
Lithuania	0.176658
Luxembourg	0.856488
Hungary	0.151155
Malta	0.398469
Netherlands	0.880132
Austria	0.708071
Poland	0.334632

End of Table 6

GEO	C
Portugal	0.459729
Romania	0.045998
Slovenia	0.463128
Slovakia	0.233968
Finland	0.928713
Sweden	0.316558
Iceland	0.452929
Norway	0.326773
Switzerland	0.263916
United Kingdom	0.255002
Montenegro	0.454446

Table 6 shows the relative proximity to the positive ideal answer after computations.

Step 6: Ranking. Table 7 shows the rankings of each country based on information from 2016 to 2020.

Table 7. Ranking countries (designed by author)

GEO	C	RANKING
Finland	0.928713	1
Netherlands	0.880132	2
Luxembourg	0.856488	3
Austria	0.708071	4
Denmark	0.601782	5
France	0.50911	6
Ireland	0.477628	7
Estonia	0.471727	8
Slovenia	0.463128	9
Portugal	0.459729	10
Montenegro	0.454446	11
Iceland	0.452929	12
Belgium	0.441273	13
Malta	0.398469	14
Germany	0.362495	15
Poland	0.334632	16
Norway	0.326773	17
Spain	0.320928	18
Sweden	0.316558	19
Italy	0.2951	20
Czechia	0.280006	21
Switzerland	0.263916	22
United Kingdom	0.255002	23
Slovakia	0.233968	24
Lithuania	0.176658	25
Greece	0.175673	26
Latvia	0.174843	27
Hungary	0.151155	28
Cyprus	0.10407	29
Croatia	0.096959	30
Romania	0.045998	31
Bulgaria	0.021007	32

In this study, TOPSIS method help us to find out that the Finland stands first, the Netherlands stands second and Luxemburg stands third.

Conclusions

As the world gets more technologically advanced. The importance of virtual working and the percentage of tasks done remotely has increased in European countries during the last decade. The percentage of employed persons, aged 15 to 64 years in the EU who usually work from home has continuously increased over time, the Netherlands (13.4%) leading the way in 2016, followed by Luxembourg (12%) and Finland (11.9%). Remote work is a new feasible solution for businesses who want their employees to work from distance. According to this article, the number of employed people in Europe who can work from home increased considerably in 2020, By having the highest remote working staff Finland became first country with (25.1%), followed by Luxemburg (23.1%) and the Netherlands (17.8%).

The limited access to statistics and an exact number of persons working remotely in all European countries are the study shortcomings. This research might allow us to better understand which EU countries are best for remote working. TOPSIS method was used in this study to determine, which countries have the highest percentage of distance employed and the results show that Finland is first, Netherlands is second, and Luxembourg is third. Bulgaria and Romania could also make it easier for their citizens to work from home by establishing more standards (ranked 32 and 33 out of 33 EU countries). Definitely working with a country with a higher number of virtual employees opens a variety of choices for the firms. Quality telecommunications infrastructure, which is often poorer in non-metropolitan locations in terms of coverage and speed, is a major support for remote working. In rural areas, where proxies for internet quality consistently trail behind non-metropolitan regions, a lack of reliable broadband is likely to hinder remote employment options.

Despite the obvious advantages of remote working, governments, businesses, and employees will need to manage the change carefully. Governments at all levels, national and subnational, should promote the necessary circumstances for employees and businesses who want to use hybrid remote work, here are the main two points that governments should follow in order provide the best virtual work opportunity for the companies:

1) Reduce digital divides and make remote working more accessible by making high-quality communication services available and cheap in all locations and investing in employees' digital skills and enterprises' ICT capability.
2) Increase the appeal and accessibility of excellent services, particularly in non-metropolitan areas, by promoting a wider use of digitalization to deliver services in all regions, such as online education and health, and adapting support services to improve remote working circumstances.

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ŠALIŲ VERTINIMAS VIRTUALIOJO DARBO FORMOS TAIKYMO POŽIŪRIU

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Santrauka. Per pastarąjį dešimtmetį Europos šalyse pradėjo sparčiai plisti virtualusis darbas, tuo pačiu išaugo nuotoliniu būdu atliekamų darbų dalis. Šiuolaikiniame versle nuotolinis darbas tampa patraukiu didelėms ir mažoms įmonėms, nes leidžia pritraukti personalą iš skirtingų nuo įmonės būstinės nutolusių vietovių. Statistiniai duomenys rodo, kad nuotolinis darbas atskirose šalyse tampa paplitusia darbo forma, tačiau dalis Europos šalių vis dar nėra pasiruošusios tokiems darbo santykių pokyčiams. Straipsnyje atlikta skirtingų Europos šalių lyginamoji analizė nuotolinio darbo taikymo požiūriu. Atliekant analizę taikytas TOPSIS metodas. Straipsnio pabaigoje pateikiamos išvados dėl virtualiojo darbo perspektyvų Europoje.

Reikšminiai žodžiai: virtualusis darbas, TOPSIS metodas, darbo rinkos, nuotolinis darbas.