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**TELEWORK ORGANIZATION MODEL AS  
METHOD OF DEVELOPMENT OF DISABLED  
PERSONS' EMPLOYMENT QUALITY**

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**JEL Classifications:** J24, J81, J83

**Key words:** Disabled persons, telework, quality of employment, information technologies.

**Abstract:** Problem of employment for disabled persons is partly connected with permanent changes and technical achievements in labour market. Telework in particular circumstances creates for disabled persons positive opportunity of choice. Accomplished research of authors analyzes the employment quality factors and proves that implementation of telework model for disabled persons could improve quality of employment of such persons in comparison with recent system of profession rehabilitation and disabled persons employment.

ISSN: 1804-0527 (online) 1804-0519 (print)

PP. 71-74

### Introduction

More than 50 million disabled people live nowadays in the European Union; it is 15% of all residents. Disabled persons as other members of society have demand to be engaged in significant work, useful for society and for them. Problem of employment for disabled persons partly is connected with permanent improvements and technical achievements in labour market. Now European Union is implementing strategy for creation more flexibility in labour market, to modernize organisation of work and working intercourse, both, such factors as the safety and social protection of employees, balance between work and life, lifelong learning, cannot be forgotten. Renewal of skills and help for vulnerable and social disadvantaged groups - being on labour market or having problems to be involved in it, should be forecasted. Conditions of information society enable employee not to be attached to working place and time. A person could change full-employment work to part-time employment, work in an office - to work at home. Telework with particular factors increase the opportunity of disabled persons' employment. Opportunity of telework is expanding rate of potential and available work.

Evaluating only quantitative characteristics of employment and joblessness, often un-qualitative work isn't noticed - employment in unskilled, less-paid work. Economic and social policy displays throughout quality of employment, it is wider indicator of economy as such standard characteristic as level of joblessness. Roulstone et al. (2003) see a priority rehearsed strategies used in employment and sustenance at work of disabled persons: application of new technologies; information management; support of others disabled; application of flexible work. Telework could improve quality of disabled persons' employment, it supplies opportunity for employees be unattached to working accommodations, flexibly to organize their working time.

### Models of employment quality

Sehnbruch (2004) points, that evaluating social factors, for example, quality of employment, quantitative indicators often

aren't suitable, qualitative indicators are needed. In any way, quality of employments has the same importance as quantity of employment. Quality of employment is multifactor function. Mostly it depends on personal demands and circumstances of employee. We should apply criteria that are absolutely subjective. It includes satisfaction of work, career, stability of work, level of responsibility, interest of work.

European description of employment quality predicts ten groups of indicators: work quality; skills, lifelong learning and development of career; sexual equality; health and safety at work; flexibility and security; approach to labour market; organization of work and balance of working life; social dialogue and participation of employee; variety and indiscrimination; economical activity and productiveness. Indicators of first two groups describe exactly characteristics of work, meanwhile the measurements of other eight groups describe wider context of labour market (Davoine, 2006).

Richard Layard (2005) alleges that empirical and theoretical methods determine necessity to involve in evaluation of employment's quality, not only salary, but conditions, time at work, complements evaluation of employment's quality by definition of work satisfaction. Davoine (2006) accomplished empirical analysis of employment's quality in Europe, applying Esping-Andersen and O'Reilly works. Davoine (2006) examination confirmed the connection of employment's quality and social model of state. It proves necessity of employment's quality improvement seeking to develop social model of state and supplement of social guarantees.

Abstention in labour market because of illness and disability and establishment of connection between telework at home and model of employment's quality

Today often it is easier to move work to employee than the opposite. Also, properly organised, flexible, mobile and independent of place work could essentially reduce costs, increase effectiveness, it is useful for employers, customers and employees. Telework lets effectively regulate balance of work and time-off, stimulates developments of better skills in communication, because ensures employee's opportunity virtually communicate with colleagues; disabled person

shouldn't travel at his (her) work place, it is very important for disabled persons who have problems of movements or for visually handicapped persons (Gajendran and Harrison, 2007). Telework in particular circumstances composes positive opportunity of choice for disabled persons. Employers often compose plans of telework for disabled persons as cheap alternative of work places adaptation (Huws, 2000).

Work from home for most of teleworkers is very convenient. It is guarantee of independence for disabled persons. It is way to autonomy, membership of society and dignity. Telework expands opportunities of work for employees who have permanent or temporary disability, who is recovering from illnesses or injuries, but could accomplish work at home.

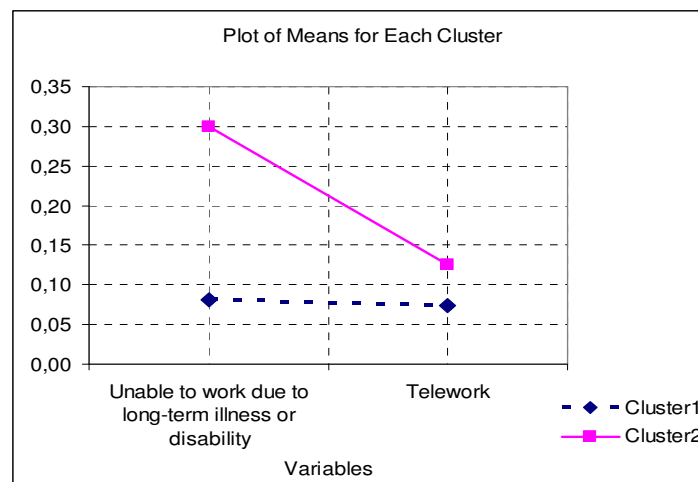
Source of abstention in labour market because of illness and disability according EU states information is report of European Centre (European Centre for Social Welfare Policy and Research) (Study..., 2007). Source of consumption of telework and computers at home is European research of work conditions (Fourth..., 2005).

Hierarchical cluster analysis of analysed states by Lucie Davoine selects two clusters. Southern European model states (Greece, Spain, Italy, and Portugal) and Central European states (Austria and Germany) belong to first cluster, social democratic model states (Sweden, Denmark and Finland) and liberal model states (Great Britain and Netherlands) belong to second cluster. Such distribution is similar to selection of models of employment's quality by L. Davoine (2006).

Every type of cluster and its most important features we can establish after examination of averages of variables, received by implementation of K-Means Cluster algorithm (Figure 1). Comparing averages of first and second clusters we see, that states compose first cluster are states, where level of telework at home is lower, but level of abstention in labour market because of illness and disability is lower too.

States that compose the second cluster are states where level of abstention in labour market because of illness and disability is higher in some times, but level of telework at home is slightly higher.

FIGURE 1. DIAGRAM OF AVERAGES OF CLUSTERS' DATA OF UNABLE TO WORK DUE TO LONG-TERM ILLNESS OR DISABILITY AND TELEWORK AT HOME



### Examination of characters of disabled persons' employment quality

Mykolas Romeris University researcher Tatjana Bileviciene accomplished examination of disabled respondents' attitude at opportunities of telework. Analysis of disabled persons' questionnaire indicated that the most of respondents have conditions to be involved in telework and such work is acceptable for them. Acceptance of telework does not depend on level of computer skills, but depends on gender, level of ability, age.

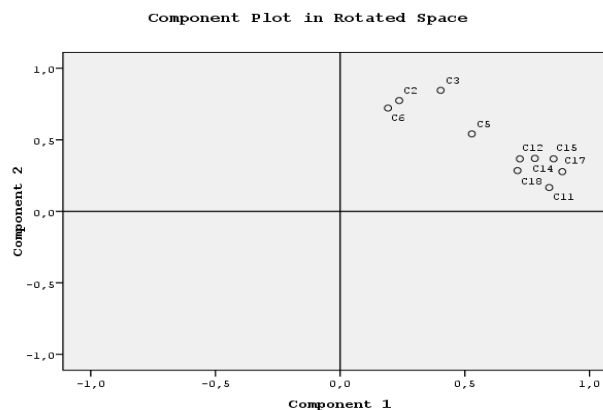
Analysis of reasons that limit disabled persons to employ and work was used for establishment of the main characters of disabled persons' working quality and its importance. The main appropriate variables of the analysis see in Table 1.

Factorial analysis showed that disturbing reasons of employment for disabled persons depend on two factors. The first factor is disabled persons' professional qualification and work opportunities (C11, C12, C14, C15, C17, C18), the second -application of work place (environment) for disabled (C2, C3, C6). Separately we can distinguish the factor: transport services to reach work and come back are not supplied (C5), which equally depends on both factors. Rotated map of factors (see Figure 2) shows interconnection of these factors. Results of this analysis supplied opportunity to establish the evaluation of meanings of factors and were used for creation of evaluation methodology of disabled persons' employment quality for different models of disabled persons' professional rehabilitation and employment.

TABLE 1. INDICATORS OF DISABLED PERSONS' EMPLOYMENT QUALITY

	Problem of disabled persons' employment and work	Indicator of employment quality
C2	Unsuited surroundings for disabled persons' work	Adaptation of working place (surroundings) for disabled persons
C3	Insufficient provision of qualitative compensatory technique	Level of application of supporting technologies
C5	Transport services to reach work and come back aren't supplied	Opportunity to arrive at work
C6	Non-flexible schedule of work	Flexibility of work schedule
C11	Low qualification	In-service training
C12	Near living place there are no free work vacancies	Acceptance of work vacancies
C14	Don't know what job would like to work	Work assortment
C15	There is no job for particular profession	Changing of qualification
C17	Don't have profession and opportunity to qualify it	Acquisition of qualification
C18	Don't have opportunity to retrain	Changing of qualification

FIGURE 2. MAP OF REASONS THAT LIMIT FOR DISABLED PERSONS TO EMPLOY AND WORK



### Expert evaluation indicators of disabled persons' employment quality

We can evaluate the opportunities of problems' solution of disabled persons' working quality by method of experts' evaluation. Experts were selected using non-expectation methodology, evaluating their professional competence and positions. According to the opinion of experts, indicators of disabled persons work quality are connected with problems of disabled persons employment and work (Table 1).

Organisational model of disabled persons' telework not only supplies the new opportunities for disabled persons' professional rehabilitation and employment, but both improve quality of disabled persons employment. Authors offer methodology to prove this proposition enabling us to evaluate quality of disabled persons employment. Quality of employment is function of many factors. Multiple function meaning of disabled persons employment quality concerning chosen model of employment we could calculate indicators of disabled persons employment quality. Factorial analysis of disturbing causes of disabled persons employment and work let us establish two main factors that influence problems of disabled persons' employment and work: the first factor is disabled persons' professional qualification and work opportunities, the second - application of work place

(environment) for disabled. Function of quality of disabled persons' employment for chosen model of employment could be described as:

$$E_m = F_{1m} + F_{2m}, \quad (1)$$

where  $m$  - chosen model,  $F_{1m}$  and  $F_{2m}$  - meanings of factors of chosen model. Meanings of factors could be calculated as:

$$F_{1m} = \sum_{i=1}^{10} p_{i1} r_{im} z_i, \quad F_{2m} = \sum_{i=1}^{10} p_{i2} r_{im} z_i \quad (2),$$

where  $z_i$  -  $i$ -th variable's standardised meaning,  $p_{i1}$ ,  $p_{i2}$  -  $i$ -th variable's (problems of disabled persons' employment) meaning because of first (1) and second (2) factor,  $r_{im}$  -  $i$ -th variable's indicator's weight for  $m$  model.

There were evaluations of variables (indicators of disabled persons employment problems) calculated by factorial analysis. Weight of indicators for every discussed model of disabled persons' employment quality could be established by method of experts' evaluation. Experts noticed what part in such model depends to every indicator of employment's quality.

Evaluating new management models we could apply alternative selection method. Seeking the most appropriate qualitative alternatives Churchman/Ackoff Procedure is practicing. Applying aforementioned methodises of

calculation of function of quality of employment and alternative selection method, we could evaluate quality of disabled persons' employment for Lithuanian model of disabled persons' professional rehabilitation and employment and for proposing organisational model of disabled persons' telework.

Meanings of alternative calculations in this part of work  $f(a_1) = E_{present}$  (function of quality of employment of present system of disabled persons' rehabilitation and employment) and  $f(a_2) = E_{telework}$  (function of quality of employment of organisational model of disabled persons' telework):

$$f(a_1) = E_{present} = F_{1present} + F_{2present} = 0.173 + 0.073 = 0.245 \quad (3)$$

$$f(a_2) = E_{telework} = F_{1telework} + F_{2telework} = 0.174 + 0.200 = 0.374 \quad (4)$$

By 3 and 4 results comparison, we could predict, that meaning of alternative  $f(a_2)$  is bigger,  $f(a_2) > f(a_1)$  - suggested organisational model of disabled persons' telework improves quality of disabled persons' work.

Suggesting method enables to evaluate quality of disabled persons' employment applying different employment's models.

### Conclusion

1. Accomplished analysis of disabled persons' interrogation demonstrated that acceptability of telework doesn't depend on level of computer skills, but depends on level of efficiency and nature of disability.
2. Factorial analysis of reasons that limit disabled persons from employment and work enable us to select two factors on which quality of disabled persons' work depends: first factor is factor of adaptation at working place (environment) for disabled persons; second factor is factor of profession qualification and opportunities of work for disabled persons.
3. Methods of experts' evaluation and selection of alternatives demonstrated that model of disabled persons' telework improves quality of disabled persons' work.

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