

THE IMPACT OF BASIC COMPUTER SKILLS ON THE EMPLOYABILITY OF SENIORS AGED 55 - 64 YEARS OLD IN ROMANIA

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Abstract

In the context of society's digital transformation, digital skills become a vital resource in all activity domains. The new ITCs have led to the restructuring of industries, which are constantly required to invest in re-technology to have a competitive edge. But the main challenge will be to reform the workforce who is a vital factor of production and must be adapt to new skills. Loss of workplace involves for unemployed either adapting to new job requirements, or implementing their own businesses, but most of them try to re-engage. The aim of this research was to evaluate the association of digital skills with employment among Romanian adults, 55-64 years old. The results show the findings that digital skills isn't a main contributor for the employability of seniors aged 55-64 years old, in 2009-2018 period.

Keywords: ICT, skills, human capital, employment, Romania

Classification JEL: J49, J69, C12

1. INTRODUCTION

Today's world was affected in all aspects by information technology which forced society, as a whole, to move towards a complex digitization process.

Rapid adaptation to the challenges of digital technologies is the digital advantage that maintains competitiveness, and on the other hand this opportunity can be transformed into a micro or macroeconomic growth vector. Digital skills represent the new frontier in productivity and growth enhancement, not the technology (Moustakas, 2018).

Most empirical studies across countries have shown that the ICT sector has brought challenges for economy as evidenced by the notion of the digital divide, but it also brings opportunities for far greater accessibility and innovation. (Kiveu & Ofafa, 2013)

Globally, sustainable digital economy becomes more and more widespread - not only ICT' demand for this type of economy is growing, but also suppliers in the education area keep developing new modern programs and governments increasingly create policies aimed at encouraging harnessing digital technologies for sustainable economy. (Lupton, 2014)

At the base of development of digital economy there are two economic aspects: a) availability of Internet infrastructure (tangible component); b) abilities and habits of society (intangible component).

No one can doubt that information technology is a fundamental and innovative revolution that has touched all aspects of life and society, and especially the young people, who spending more and more time online and use informational and communicational technological tools in their activities.

The digital competence is a complex concept has emerged and develops concurrently with technological evolution and it's hard to define exactly when technology is moving so fast.

Digital transformation is forcing not only companies to change their business models and adapt to the new market reality, but in same time, forces the people, regardless of age, to develop digital skills to ensure their employability.

In this context, lack of digital skills presents higher risk of unemployment and social exclusion. The European Commission, in order to counteract these effects, through Upskilling

Pathways initiative, sets out the framework to help development of digital skills and give adults a second chance to obtain qualifications.

The significance for people aged over 55 years to gain digital skills is evident, because their benefits which include: employability, learning new skills and technologies, utilising social networks to combat loneliness and isolation, being ‘empowered’ consumers, and having greater civic participation. (Minocha & al., 2015)

The peculiarity of this paper is the choice of a senior aged population (55-64 years old), this category being considered more vulnerable to changes in the Romanian labour market. On the other hand, the tendency of an aging Romania’s population is visible. For example, the number of people of aged 60 – 64 years and over increased in period 2009-2018 (Figure no.1) and is projected to increase.

Proportion of population aged 60-64 years

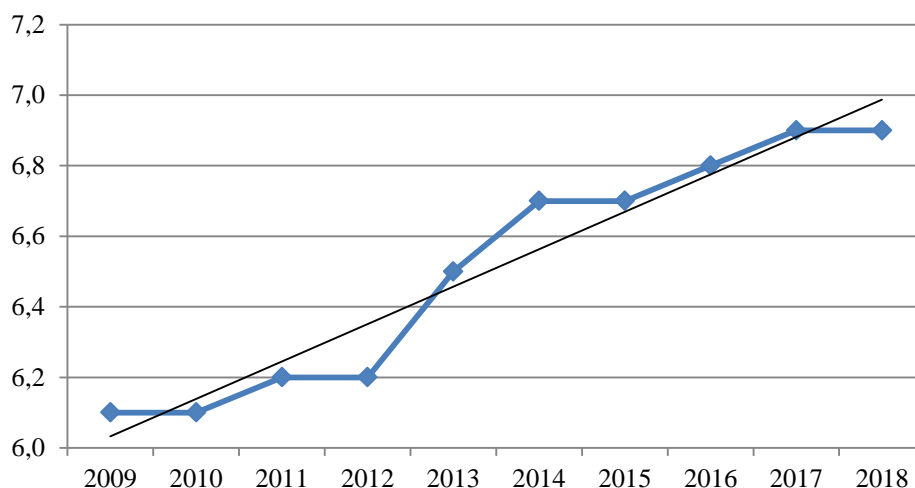


Figure no.1

Loss of workplace involves either adapting to new job requirements, or implementing their own businesses if they have capital or entrepreneurial spirit, but most of them try to re-engage. Thus, the main research question is: “What are the predictors of employability for the adults aged 55-64 years old?” To find out the effects of digital skills on the employment, the second research question is as follows: “To what extent do digital skills impact the employment among the adults aged 55-64 years old?”

The paper was structured into four sections, as follows: The first section provides an overview of the new skills requirements in the labour market as a result of digitization; Section 2 highlights the research methodology used; Section 3 presents the results of the empirical analysis, and the last section highlights the conclusions.

2. RESEARCH METHODOLOGY

In accordance with the aim of the paper, the research methodology used the multiple regression analysis.

The econometric multiple regression model is a generalization of simple regression, in which the independent variables occur successively. It is defined by the next relation:

$$y = f(x_j) + \varepsilon, \quad (1)$$

y – endogenous, dependent or explicit variable

x_j – exogenous, independent or explanatory variables,

$$j = \overline{1, k}, \quad k - \text{number of exogenous variables}$$
 ε – residual, random or error variable

 $f(x_j)$ – the regression function by which the values of the variable y will be estimated

In this study, the variables used are:

- dependent variable is the number of employed people from 55 to 64 years old over the active labour force in the same age class;
- independent variables are classified into following three categories of development indicators: skill development indicators, economic development indicators and social development indicators:

Category of indicator	Variable	Description
Skills	Basic ITC skills (X1)	in the sense that a higher level of ICT skills will determine encourage employability;
Economic	Annual minimum wage (X2)	in the sense that a higher wage will determine encourage employability;
Social	Average age of retirement (X3)	in the sense that an advanced age of retirement will determine will discourage employment;
	Duration of working life (X4)	in the sense that a long duration of working life will discourage employment.

The empirical research is based on data collected from secondary sources (Eurostat and National Institute of Statistics of Romania). The analysis will be made by using data related to 2009-2018 period. Unfortunately, it has to be emphasized that data for ICT skills variable is composed of two indicators: for the period 2009-2014 - Individuals who have used copy or cut and paste tools to duplicate or move information on screen and for the period 2015-2017 -Individuals who have basic overall digital skills. For processing data were used Excel and SPSS.

In the regression model, it was used to describe the influence of independent variables previously described on dependent variable, through a multiple linear regression equation:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon, \quad (2)$$

3. RESULTS AND DISCUSSIONS

The descriptive statistics are illustrated in the table no.1 and provide for the dependent variable, as well as for all independent variables values for minimum, maximum, mean, standard deviation, and coefficient of variation.

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
Y	10	96,20	97,40	96,6600	,36914	,136
X1	10	8,00	11,00	9,5000	1,17851	1,389
X2	10	600,00	1950,00	9,8820E2	441,13510	1,946E5
X3	10	60,50	62,50	61,7000	,78881	,622
X4	10	29,50	32,50	31,3000	1,22927	1,511
Valid N (listwise)	10					

In order to verify the existence and nature of the relationship between the resultant variable Y (the share of employed people aged 55-64 years old of the active labour force in the same age class) and each of the factorial variables, (Basic ICT skills - X1, Monthly minimum wages - X2, Average age of retirement - X3, Duration of working life - X4) the corresponding correlogram was constructed in figure no.2.

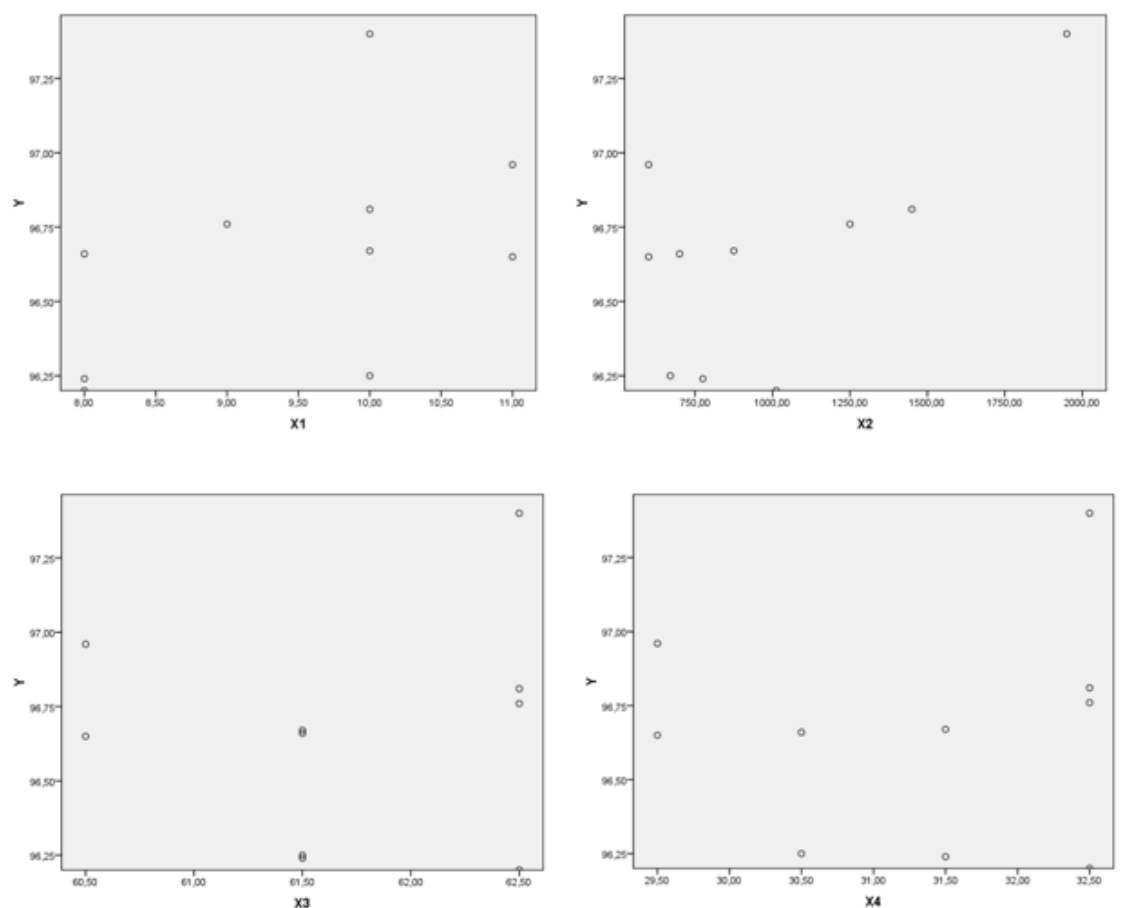


Figure no. 2 - Output SPSS – Correlograms

In case of the relationship between the share of employed people aged 55-64 years old of the active labour force in the same age class and Basic ICT skills (X1) for period 2009- 2018, there is a direct linear relationship.

The intensity of the relationship between the variables is calculated using Pearson coefficient. (Table no.2)

The Pearson coefficient indicates a direct but weak relationship between the dependent variable and the independent variables, with the exception of the variable X2 (minimum wage), which presents a moderate intensity (0,616).

The advanced hypothesis, namely that digital skills could have an impact on the employability of people in the 55-64 age group, is rejected because of a significance threshold higher than 0.05.

Table no. 2 Correlations

		Y	X1	X2	X3	X4
Pearson Correlation	Y	1,000	,498	,616	,092	,088
	X1	,498	1,000	-,018	-,478	-,460

	X2	,616	-,018	1,000	,794	,793
	X3	,092	-,478	,794	1,000	,963
	X4	,088	-,460	,793	,963	1,000
Sig. (1-tailed)	Y	.	,071	,029	,401	,404
	X1	,071	.	,481	,081	,090
	X2	,029	,481	.	,003	,003
	X3	,401	,081	,003	.	,000
	X4	,404	,090	,003	,000	.

For the construction of the regression model, it was chosen for a linear multifactor model using the SPSS Enter procedure which involves the inclusion of independent variables in the model step by step starting with the variable having the correlation coefficient with the highest dependent variable.

Model entry of a new variable is based on a sequential F test such that the new variable included making a maximum contribution. The process stops when the model can no longer be extended, the usual criterion being to set an entry threshold. Both the basic computer skills variable and the other factorial variables (minimum wages, average age of retirement, duration of working life) have not proved sufficiently significant to form generalizable regression models.

4. CONCLUSIONS

As a result of the study, it was found that, although in a labour market in the process of digital transformation, the link between employability and digital skills should have been a strong correlation, the fact that Romania is on the last place in the EU in terms of digital competences, the weak relationship identified is somewhat understandable.

In the context of the implementation and development of the Digital Single Market, digital skills are a key factor for the socio-economic development of the European Union. The digital transformation of society as a whole requires more digital skills than basic ones to allow participation in a sustainable digital economy. Lack of digital competencies leads to a decline in competitiveness, and large gaps between EU member states can cause dysfunctions in the Single Digital Market.

The development of the digital economy lead to the complexity of economical relationships, multiplying interactions and indirect effects.

In this context, decision factors should aim to build greater coherence between labour force and investment of human capital and creation and implementation of coherent policy frameworks that ensure better outcomes from education.

Digitization leads to structural changes in the labour market and this fact cause the emergence of new jobs which requiring digital skills that need to be monitored continuously due to the ITC dynamics.

The study can be further explored by introducing other important indicators in the analysis of employability for seniors aged 55 to 64 years old.

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