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PRELIMINARY REPORT

The Importance of Information and Communication Technologies in the Development of Women Entrepreneurship



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ABSTRACT

Global trends in the labor market have led to an increase in women's participation in entrepreneurship so that women entrepreneurship is increasingly expanding. As information and communication technologies in recent years experienced a big rise, they spread opportunities to access markets in large numbers and thus reduce barriers to access to information and the costs of the classical business. The rapid spread of information and communication technology offers tremendous opportunities and poses a special challenge for the empowerment of women because women are the ones who have time constraints and reduced mobility. The aim of this study is to investigate the importance of information and communication technologies in the development of women entrepreneurship and to point out the opportunities for its development of their application. This study concluded that the use of computers by women and men have only confirmed the need to constantly point to the benefits of using information and communication technologies in the acquisition of new knowledge and the development of female entrepreneurship.

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KEY WORDS: *information and communication technology, women entrepreneurs, Internet*

Introduction

In recent years, women's entrepreneurship is attracting increasing attention and has become an important factor of economic development of countries. Women entrepreneurs not only contribute to economic growth and development but also help create new jobs, so that is the legitimate aspirations of women to have equal access to all available resources. The contribution of female entrepreneurship as a social and economic phenomenon in Serbia is undeniable but we should seek ways to develop it because, in Serbia, there are only 26% of companies owned by women and they are mostly owned by smaller companies, which shows that the economic potential of women is rarely used, ie only one in four women is the owner of a small business. Information and communication technologies (ICT), which is usually related to communications systems, applications and devices such as computers, mobile telephones and the Internet, have a great capacity to stimulate new economic opportunities for women. For most organizations, the use of these technologies not only led to better and faster business but also to improving competitiveness.

Review of the Literature

Today entrepreneurship is considered one of the most important factors that can contribute to initiating sustainable economic development. At the beginning of the seventies in the OECD countries there has been a massive entry of women in the business world that quickly spread to the whole world. Since the 1990s, female entrepreneurship has been one of the most important and increasing sources of economic development, contributing significantly to wealth creation in all economies (Brush et al., 2006; Langowitz, Minniti, 2007). Many authors have in their papers pointed to the importance of female entrepreneurship. Although men and women have demonstrated similar entrepreneurial motivations, women are characterized as being more motivated by non-economic goals than men (Orhan, Scott, 2001). And Ufuk, Ozgen (2001) suggests that women choose self-employment primarily because of the flexibility which allows them to balance family and work. Allen et al. (2007) finds that female

entrepreneurship is making a significant contribution to the world economy, especially in low- and middle-income countries. Female entrepreneurship has been considered as a fundamental driver for creating, running and growing businesses, and consequently for economic growth (Acs et al., 2011). Women entrepreneurs in small and medium enterprises have become the driving force in promoting and strengthening the role of women (Panda, 2011). Starting and maintaining their own business is one of the strategies for economic development of women-oriented entrepreneurship (Nziku, 2012, p.73).

Some of the widely used ICT tools that have proved to promote entrepreneurial activities which include: Mobile phones, the Internet, Personal Computer (PC), radio broadcasting, television broadcasting and cloud services (Ahmad, Xavier, Perumel, Nor and Mohan, 2011). Through both traditional and new ICTs, female entrepreneurs are now offered new opportunities to comparatively start and grow enterprises easily despite society-centered cultural, financial and educational constraints (UNCTAD, 2014). According to the latest trend of ICT, women, includes women entrepreneurs face many barriers preventing them from taking full advantage of emerging economic opportunities, increasing productivity in their enterprises and accessing more productive and higher value added jobs and higher income generating employment opportunities (International Labour Office, Bureau for Gender Equality, 2010).

According to the material, and previous research, it is the application of information technology in organizations, in four broad places. The dimensions are given in Table 1, and as researchers (ShaemiBarzaki et al., 2014)

Table 1: Assess the use of IT in organizations

Names of Researcher's	The factors studied	Dimensions of IT
Omar & Lascu, 1993; Paul & Kotha, 1998; Premkumar & Roberts, 1999; Rashid & Qirim, 2001; Frank et al, 2003; Martinez-Lorente et al, 2003; Kramati, 2007	Stock control systems, Billing system, Payroll systems, Databases, cost accounting systems.	IT Administration and pecuniary affairs
Omar & Lascu, 1993; Paul & Kotha, 1998; Frank et al, 2003; Martinez-Lorente et al, 2003; Kramati, 2007	Email, fax, telephone, Internet access, internal network within an organization internet web sites for advertising agencies, intranet, electronic data interchange with suppliers and buyers (EDI), teamwork and temporary working groups through data exchange.	Information Technology in Communication
Omar & Lascu, 1993; Paul & Kotha, 1998; Frank et al, 2003; Martinez-Lorente et al, 2003	support systems of Decision, techniques for data analysis and predictive software	IT support to this dimension
Omar & Lascu, 1993; Paul & Kotha, 1998; Thong, 1999; Rashid & Qirim, 2001; Frank et al, 2003; Martinez-Lorente et al, 2003; Salmeron and Bueno, 2006; Shin, 2006; Alam and Noor, 2009	Computer-aided production planning (CAPP), manufacturing equipment planning (MEP), human resource planning (HRP), computer aided design (CAD), computer aided manufacture (CAM), computer aided engineering (CAE), numerically controlled machines, ligaments, electronic product identification systems, electronic systems, quality control, flexible manufacturing systems (FMS). Your storage system work.	Information Technology in Production and Operations

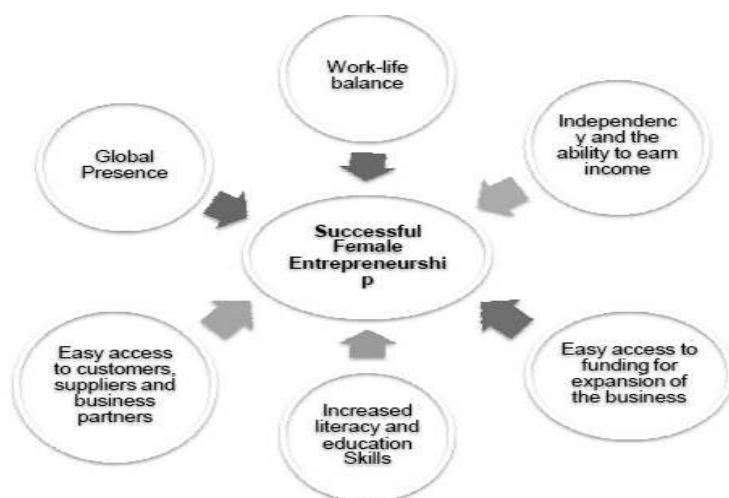
Source: ShaemiBarzaki et al., (2014)

Indicators of Women's Entrepreneurship in Serbia

The development of women's entrepreneurship is trend of the XXI century stands after the fact that the world's growing number of companies is headed by women (Vujicic et al, 2012). Based on the interviews and analysis from UNCTAD (2014), six indicators were noted as measurement of successful female entrepreneurship. These indicators are:

1. Work-life balance: The ability of a female entrepreneur time to overcome poverty.
2. Independency and the ability to earn income: The ability of a female entrepreneur to earn income independent of help from family.
3. Easy access to funding for expansion of their businesses: The ability of a female entrepreneur to easily access capital for the expansion of her business.
4. Increased literacy and education skills: Characterized by improved access to business education, as a result of networking.
5. Easy access to customers, suppliers and business partners.
6. Global Presence (International recognition of the business).

Figure 1: Indicators of Successful Female Entrepreneurship



Suorce: Motilewa et al.,(2015)

Women's entrepreneurship in Serbia in the last decade marked a significant shift. The impact of women in entrepreneurship in Serbia can be

evaluated on the basis of their share among business owners, top executives among companies and among entrepreneurs.

Table 2 shows the percentage of active enterprises run by women and men as well as the percentage of companies in which they perform this role together. If we compare data on the number of active enterprises run by men with a number of enterprises run by women leads to the conclusion of a significantly higher participation of men in corporate governance.

Table 2: Active enterprises by gender Entrepreneurs

	The number of active enterprises	Participation in the total number of active enterprises
Businesses that are owned and managed by men	205.202	63.4
Businesses that are owned and managed by women	83.490	25.8
Companies in which entrepreneurial roles are performed by men and women	8.570	2.6
Companies with unknown gender of the person who performs entrepreneurial role	26.294	8.1
Total	323.556	100

Source: RSO, 2011

The study "The situation, needs and problems of small and medium enterprises and entrepreneurs" which is carried out every year showed that in 2011 in managerial positions and the role of the owners and founders of businesses were usually men (67%). In 2012 indicated the study found that in management positions in the role of owner and founder of the company is still usually men (Table 3).

Table 3: Gender owners / founders and entrepreneurs to form a business entity

	Micro	Small	Medium	Entrepreneur	Total
Men	71.2%	71.9%	63.3%	61.5%	67.2%
Women	28.8%	28.1%	36.7%	38.5%	32.8%
Total	100%	100%	100%	100%	100%

Source: Report on Small and Medium Enterprises and Entrepreneurship for 2012

In August 2014, according to data from the Business Registers Agency, a total of 168,158 business entities had been registered, of which 113,765 are active which had 217,290 equity stakes. Only 26.8% stake was owned by women while 73.2% were owned by men.

Looking at the GEDI index for Serbia (Acs et al., 2014), which amounts to 33.9 and ranked 68, with the exception of Bosnia and Herzegovina, Serbia is the lowest positioned country in the region.

Figure 2: GEDI index

	Serbia		BiH		Macedonia		Croatia		Romania		Hungary	
	B	P	B	P	B	P	B	P	B	P	B	P
GEDI	33.9	68	27.7	91	36.1	62	40.9	49	44.6	40	44.5	42
A: Entrepreneurial attitude	40.6	50	26.9	93	31.6	79	32.9	72	37.3	60	40.5	52
1. Consideration of opportunity	0.38		0.15		0.23		0.18		0.39		0.17	
2. Beginners skills	0.76		0.39		0.45		0.54		0.51		0.52	
3. Without fear of failure	0.19		0.06		0.13		0.22		0.23		0.58	
4. Networking	0.62		0.50		0.51		0.49		0.38		0.48	
5. Cultural support	0.34		0.45		0.40		0.33		0.43		0.49	
B: Activities of entrepreneurs	28.1	97	28.1	95	35.3	68	38.8	52	42.6	40	44.1	37
6. Opportunities for starting a business	0.24		0.11		0.28		0.31		0.4		0.48	
7. Women's entrepreneurship	0.38		0.41		0.41		0.35		0.44		0.4	
8. Technology sector	0.27		0.46		0.40		0.62		0.46		0.7	
9. Quality of workforce	0.23		0.24		0.38		0.32		0.44		0.42	
10. Competition	0.31		0.38		0.45		0.49		0.50		0.45	
C: Entrepreneurial intentions	33.2	62	28.2	75	41.6	50	51	38	53.9	36	48.9	41
11. New products	0.23		0.18		0.32		0.3		0.42		0.44	
12. New technologies	0.64		0.08		0.36		0.54		0.46		0.49	
13. High growth	0.36		0.45		0.47		0.65		0.88		0.72	
14. Internationalization	0.23		0.47		0.72		0.86		0.84		0.84	
15. Venture capital	0.31		0.45		0.55		0.64		0.50		0.35	

Source: Global Entrepreneurship and Development Index 2014

One of the weaknesses of Serbia has been related to an inappropriate part of female entrepreneurship within the framework of the activities of entrepreneurs.

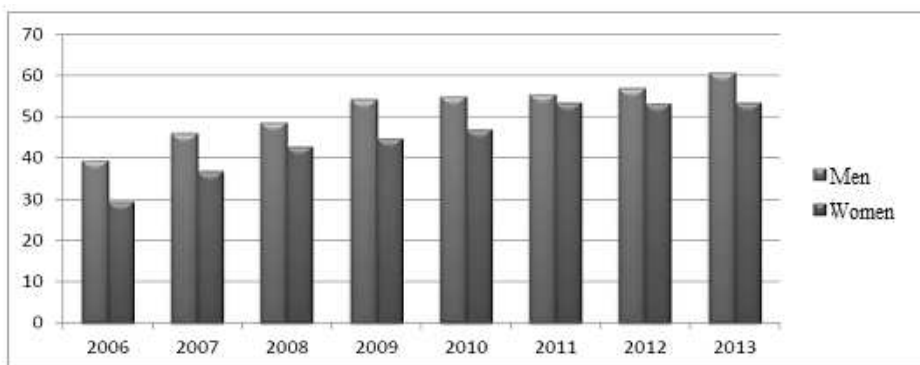
The Use of Information and Communication Technologies in the Development of Women Entrepreneurship

Information and communication technologies have been present in all spheres of human life for a long time and have a very large impact on communication and relationships between people. These technologies especially mobile phones, computers and the Internet are critical for business development and improving competitiveness. The role of ICT in entrepreneurship is manifold, ranging from facilitated communication between the two sides to online sales. IT systems affects the firm` with products and services, markets, product cost, and product differentiation. Thus, the success of innovative firms critically depends on the implementation and creative use of IT (Deans, Kane, 1992). Today's progress of technology and technology is making the global market closer to each individual and therefore increased volume and an online store. However, this way of doing business is still under-utilized, because of resentment of people towards art, because of lack of awareness of what opportunities are available to them. The use of information technology in the company is possible for increasing productivity, faster to share information between people and to have better communication between employees within the company. The high level of mobile phones usage in developing countries and increased availability of internet services have enabled many companies to expand their operations. Research conducted in Serbia by telephone in 2014 on the use of information and communication technologies on a sample of 1,200 companies showed that 100% of companies use computers in their business operations and 100% of companies had Internet access, which is 0.4% more compared to 2013 and 2.3% more than in the year 2012 while samo74% of companies have a website (National Bureau of Statistics, 2014).

Year after year the use of computers in Serbia is growing. The study "Research on the role of knowledge in the field of ICT and the position of women in the labor market" was carried out in 2014 as a project of the Ministry of Labour and Social Policy in the implementation of activities of the National Action Plan (NAP) for the implementation of the National Strategy for the Advancement of Women and Promoting Gender equality supported by the Kingdom of Sweden, through the International Development Cooperation agency (IDCA) has shown that women can be classified as a vulnerable group when it comes to the use of ICT which are not related to access to these technologies, but their low level of computer

literacy. In Figure 1 we can see the use of computers by men and women in the period from 2006 to 2013. It is noticeable that the growth of home computers and the Internet in Serbia and that the difference in numbers between men and women decreases with time.

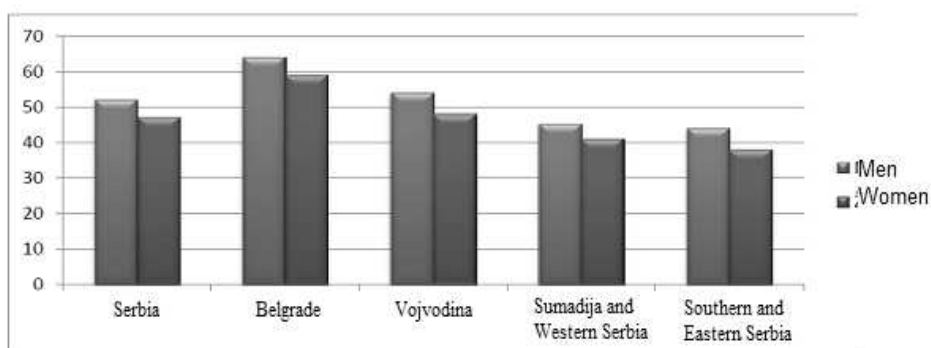
Figure 1: Use of computers by age and gender



Source: SBS, (2006-2013)

But when it comes to the level of computer literacy, men have higher computer literacy than women (Figure2).

Figure 2: Computer literacy by gender and region



Source: //popis2011.stat.rs

The same study indicates that the Internet in Serbia is used in information and communication purposes, while e-mail and online

platforms for social networking sites are the most frequently used communication tools but also Internet users in Serbia are not too inclined to use the Internet, which means finding work or training, education, shopping, and payment for goods and services, administrative affairs, and the like.

All this leaves the possibilities for development of women entrepreneurship by massive use of the Internet to improve business functions and increase market share. The Internet allows that the door is open 24h companies to consumers around the world as well as the existence of services according to customer measures. This contributes to the creation of the creation of new entrepreneurial opportunities especially for companies headed by women.

Conclusion

In Serbia, only 25% of companies are owned by women, and they are mostly owners of smaller companies, which show that the economic potential of women is rarely used. However, the fact is that the development of women entrepreneurship creates the conditions for job creation, which also allows economic development and the development of society as a whole. How the progress of information and communication technologies has enabled the convergence of world markets to every individual a chance for the development of entrepreneurship should be sought in ever greater use of these technologies. Studies that are listed in the work on the use of computers by women and men have only confirmed the need to constantly point to the benefits of using information and communication technologies in the acquisition of new knowledge and the development of female entrepreneurship.

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Značaj informaciono-komunikacionih tehnologija u razvoju ženskog preduzetništva

APSTRAKT

Globalni trendovi na tržištu rada doveli su porasta učešća žena u preduzetništvu tako da je žensko preduzetništvo u sve većoj ekspanziji. Kako su informacione-komunikacione tehnologije poslednjih godina doživele veliki uspon proširile su se i mogućnosti da se pristupi tržištima u velikom broju i na taj način smanje barijere u pristupu informacijama kao i troškovi klasičnog poslovanja. Brzo širenje informaciono-komunikacionih tehnologija nudi ogromne mogućnosti i predstavlja poseban izazov za osnaživanje žena jer su žene te koje imaju ograničenost vremena i smanjenu mobilnost. Cilj ovog rada je da istraži značaj informaciono-komunikacionih tehnologija u razvoju ženskog preduzetništva i da se ukaže na mogućnosti za njegov razvoj njihovom primenom.

KLJUČNE REČI: *informacione-komunikacione tehnologije, žensko preduzetništvo, Internet*

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