

Organizational Communication

Women from IT Domain in Romania

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Abstract. The purpose of this work is to reflect the situation of romanian women in the IT field through statistics and the experience of women in the field. The method used for this study was case study. In the first part of our work is presented a short story about how many factors like gender perceptions, cultural beliefs, people around women can influence their career choice. Then, the introduction is followed by a research on how women in Romania have come to work in the technological field and how the number of women working in IT field evolved from 2008 to 2018.

Keywords: IT labor market; Women career; Technical career; Inovative; Creative

1. Introduction

The career choice process occurs throughout the life cycle as individuals make a series of decisions that have occupational consequences. Sociologists who examine the processes by which individuals choose careers have focused primarily on later stages when individuals choose careers have focused primarily on later stages when individuals actually choose to enter jobs rather than on the decisions to move into activities at earlier stages on the paths leading to specific careers. Gender differences in the selection of activities that constrain occupational choices often occur earlier in the life cycle. This is especially evident in the case of professions like engineering, where a college degree in the field is necessary to pursue a career (Marvin, 2001).

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ARIES¹ Transilvania, a large and influential organization created for the IT&C industry in Romania, conducted a National Study for IT Market for a period of 6 years (2011-2016) about the companies in different cities in Romania (Cluj-Napoca, Iasi, Timisoara, Bucharest, Brasov and other cities). According to this study, the number of IT companies grew from 9,823 to 14,339 in 2011 to 2016 and it is said that in 2017 the number of companies will reach 17,000. Over the past six years, there were about 50% more companies with a computer profile, and the cumulative turnover of IT companies has doubled over the last 6 years, with the IT sector having a growing share in the national economy.

The understanding of women's career requires the acknowledgement that women have fundamentally different experiences and we find ourselves in different situations when developing our career compared with men. Women have had traditionally less orderly careers because we have tended to follow husbands' career paths, we have had family and domestic responsibilities (Marshall, 1984).

For the woman in the IT environment, managing the complexity of the roles that she has (e.g. professional in her field, teammate, mother, daughter etc.) represents a challenge. Considering the fact that technology is advancing fast, this could be a way for women and girls to gain access to new opportunities. Digital sector offers skilled and well-paid jobs and could help eliminate the gap between men and women. According to statistics, Information and Communication Technology (ICT) is a growing field, which creates 120,000 new jobs every year, representing 4.2% of the EU's gross domestic product. Women are still underrepresented in this sector. In 2015, girls from European Union who chose to study Information and Communication Technology represented 17.2% out of 1.4 millions of people. In 2016, 8.2 million of people were working in IT field and women represented only 16.7%.

2. Related Work

2.2. Eurostat Research

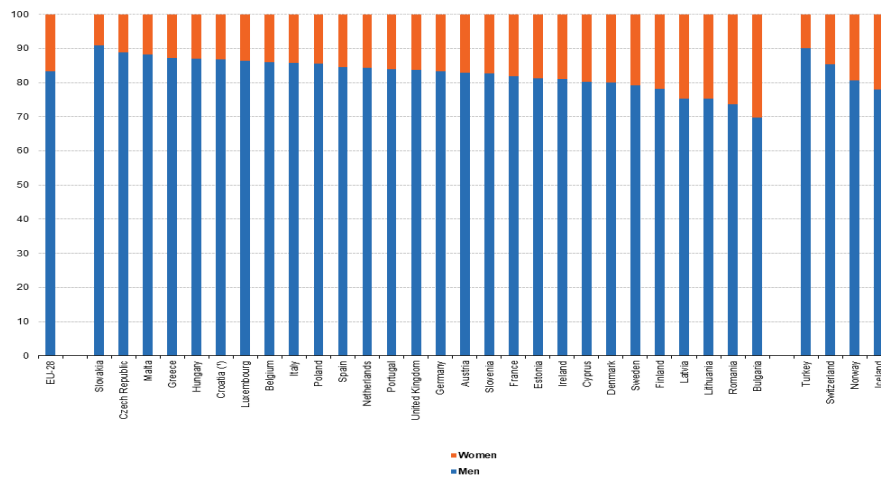
In Europe, jobs from IT domain are mostly owned by men. According to some statistics made by Eurostat in 2016, 83.3% was the percentage of men in the IT field.

¹ Romanian Association for Electronics and Software Industry.

In the case of Slovakia, 9 out of 10 specialists from IT were men with a percentage of 90,8%. In Bulgaria, women represented 30.2% of specialists in IT domain, being the highest rate among Member States, followed by Romania, Latvia and Lithuania. Significant levels of employment among women were in United Kingdom (261,000 people), Germania (256,000 people) and France (182,000 people).

2.3. Intel Research

In an attempt to find out what young people think of the IT field, Intel conducted a study from March 7-11, 2015 on a sample of 381 female respondents - between the



ages of 18 and 23 in the urban area- from the iVox.com platform. It has been found that three-quarters of women in Romania are interested in an IT career. 74.3% of respondents said they would want a career in research and development. From their point of view, the IT & C industry is the area with the highest degree of innovation and fast growth rate in Romania and worldwide.

3. Problem Statement

3.1. Why Romanian Women Excel in IT Domain?

Between the 1950s and 1980s, Romania went through an accelerated process of industrialization, and the lack of labor forced the Communist regime to invest even more in the emancipation of women. The Communism favored education in the exact sciences, especially in computer science. The universities were centered on the

development of material and technical forms of education to encourage economic growth. Therefore, the number of places for disciplines such as medicine, economics and pedagogy was limited and by 1980, more than 70% student chose to study engineering and agricultural disciplines. Technological faculties were in great demand during communism, because at the distribution of jobs after they graduated, there were more chances for students to work in large industrial centers or even in the capital rather than to reach an isolated village.

Prior to 1989, there was no clear difference in the workplace between men and women, article 21 of the 1948 Constitution – in equal work the woman has the right to be paid equal as man–contributing to this. Thus, there was a tendency for women to concentrate to professions in the field of accurate science. Typically, the countries where there were no differences in how women and men are treated, women tend to do better in areas seen as masculine. After 1989, the Romanian sales market was freer. Many IT companies such as Oracle, HP, IBM, Microsoft have entered the Romanian market.

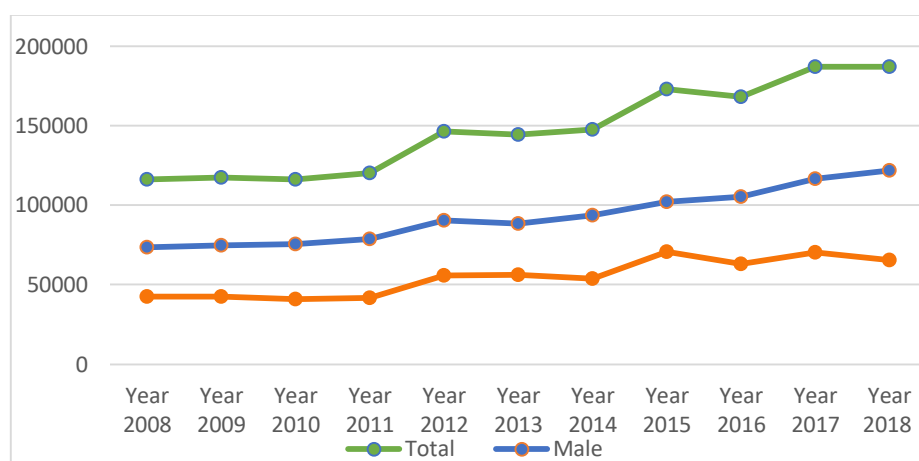
3.2. IT is a Men's Domain?

From the 1990s, full-time employment for both women and men continued to grow steadily and the gap between men and women's employment is narrowing. Many ladies from this domain believe that IT is no longer considered a "field of men" in our country. Diana Apetroaie, HR Admin and Recruiter at AROBS Transilvania Software thinks that "we have passed the time when such preconceived ideas still existed. Perhaps IT will for a while remain a men's world, but as well, women are starting to move to this field and choose a technical career to develop with just as much success.' And as an interesting fact, the first programmer in the world is considered to be a woman - Ada Lovelace, who in the middle of the XIX century contributed to the first algorithm to be processed by a computing machine. Also, Dorina Nicoleta Tobă, a Business Analyst at Metro System told us that it was a time when women's share of IT was not so great, but today is certainly no problem because it is a very attractive field, 'so it is natural for women to want to work and explore the universe'.

INS statistics show that the number of women has increased over the years. Compared to 2008 when the number of these was only 42.414, in the first semester of 2018 the number was 65.278, Romania becoming the first country in European Union with the most women in the IT field.

Table 1. Evolution of the number of IT specialists

	Year 2008	Year 2009	Year 2010	Year 2011	Year 2012	Year 2013	Year 2014	Year 2015	Year 2016	Year 2017	Year 2018 ¹
Total	116039	117282	116325	120377	146540	144561	147596	172840	168349	186962	187064
Male	73625	74901	75561	78771	90630	88564	93663	102239	105254	116602	121786
Female	42414	42380	40763	41606	55910	55997	53934	70601	63094	70360	65278

**Figure 2. Evolution of the number of IT specialists**

3.3. Reasons why Women Choose IT Domain

Misconceptions and stereotypes are some of the factors that make women less well-represented in this sector. Researchers at the University of Pittsburgh conducted a survey among 1,500 women who compared their response from 1992 to 2007, when they entered the labour market. This research revealed that although most women had achieved good results in math test, for example, only one-third chose a career in medicine, science or technology. Those who did well in other areas, chose the simplest option, cultural stereotypes contributing to these choices. But the number of women continues to grow year after year despite the existence of these stereotypes.

Women who are working in this area believe that the myth that a woman is not meant to have a career in an exact field is a thing of the past. From their point of view, women need is great in this area because IT domain is characterized mostly by creativity and women *‘developed creative side, are more attentive to detail, the ability to find solutions’*. Dorina Nicoleta Tobă, who is a Bussines Analyst at

¹ In 2018, the numbers are calculated for the first trimester.

MetroSystem told us that *‘some time ago, women in IT domain were often perceived as not having an active social life, which means no affinity to fashion trends and tendencies, very little beyond the code line and complex programs. Not true, because IT is so challenging and ubiquitous that connects you quickly with everything new and urges you to have hobbies and activities that are more or less interesting’*. According to SCD¹ Engineer Elena Crenguța, an explanation why women fail to have a career in the IT sector is given in terms of educational model, namely that since early age girls are considered ‘princesses’, while boys are offered games such as LEGO that helps them develop small future skills relevant to their career as engineers.

Most of the women have confessed that the passion for this has begun since childhood. Some of them had family-related influences, such as parents working in science domain or parents and teachers who guided them to study this kind of specialization, others chose the IT field because they had the passions for the exact disciplines in the school. Alexandra Pohrib is a Senior Developer at Ubisoft and she told us that she was lucky to have a family of technical people. *‘My dad was an engineer, my mom was a technician and my brother is very passionate about the hardware part. Also, during school I participated in many computer contests and events, learning as much as possible from my teachers and mentors. It was also natural to choose a computer science faculty, where I was lucky to meet people that are very passionate people about technology and coding’*.

For Cătălina Galiș, the passion for IT began in the first year of college when she came into contact with web development, which attracted her. She believes that in IT *‘you never get bored, solve real problems, help real people, you can even change the world’*. When she was asked how she came to practice in this field, she told us that she always liked math and that she liked to fix things around the house in a very innovative / original way most of the times. *‘I was accepted to the faculty of mathematics and computers. I admit that my family convinced me to choose computers, although my dream was to be a math teacher inspired by my school teachers’*.

Also, many women choose the IT field because, first of all, this sector is one of the well-paid in our country. Secondly, they confess that it is innovative, creative, dynamic, a field in which you *‘never get bored’*. The flexible program is another reason why the IT sector is chosen by women, especially because they want more

¹ Senior Cloud Development.

time to spend with their family or more time for their hobbies. Dorina Nicoleta Tobă said that for her “*IT is a domain of details and connections in which I fully discover. It gives me the opportunity to analyze, to seek solutions, to adapt and to provoke me to exceed my everyday limits. On the other hand, the salary level is an important factor if I have to choose from several field of activity*”.

The desire to work in this area is amplified by the satisfaction you experience when you can see at the end of the day that the product you are working on, solves a problem and is helpful to someone. For Crenguța Elena, the feeling is unique when it comes to the product you make and it is ‘*fascinating that you can create everything by just putting some words next to each other, programming being the closest to magic*’.

3.4. Programs Designed to Attract Young People into the IT Field

The European Union and many companies and personalities from IT sector are trying to attract as many women as possible in this field. The initiatives to promote and encourage young women in IT careers from the EU are *EU Code Week, The Digital Skills and Jobs Coalition, Women Web Entrepreneurs, Start-up Europe, EU Prize for Women Innovators*.

Companies like Intel organize the “Women with Vision” campaign each year, celebrating their employees. Also, Lidia Cremene, a professional coach, organizes “Coaching for Women in IT”, a personal development approach specifically addressed to female engineers, IT developers/specialists.

4. Conclusions

In terms of women in the IT field, Romania is the number one in Europe in 2018 as shown in the statistics. Although, due to some culture beliefs from the past that have delayed the entry into the labour market of women, the actions made the communist period was a stimulus for the emancipation in our country. Now, many Romanian women want to pursue an IT career, despite the difficulties and prejudices that will come during their career. Those that are already in this area think that IT field it is an interesting, innovative, dynamic and flexible sector because they can have time for their family and their hobbies and also, they are very well-paid. Many of them confessed to us that if they had the opportunity to reprofile, they will not do that. It is also praiseworthy that there are many initiatives coming from the European Union,

companies and personalities that encourage people of all ages to discover the fun part of IT.

The “women in IT field” it is an interesting subject to be observed and unfortunately, until present there are not many studies about this.

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