## ABSTRACT

The expansion of the Information technology (IT) sector brings various opportunities, emphasizing the crucial necessity for a diverse and skilled workforce to sustain industry growth. It is important to comprehend the distinct influences affecting career decisions and academic pursuits in Computer Science. This study specifically explores individuals’ perceptions, with a focus on women, regarding their choice to pursue academic careers in Computer Science. Additionally, it investigates their views on the gender gap within the IT industry compared to academia. By analyzing these factors within the context of Bosnia and Herzegovina (BiH), the aim is to contribute to the global conversation on gender diversity, career preferences, and the academic progression of the IT sector. The findings provide insights into fostering a more inclusive and equitable computing environment, directly aligning with the principles of responsible computing. By promoting gender diversity in the IT sector, the study contributes to the broader goal of responsible computing, advocating for a computing landscape that values inclusivity and ethics.

## CCS CONCEPTS

- General and reference \(\rightarrow\) Surveys and overviews;
- Social and professional topics \(\rightarrow\) Computing education;
- Social and professional topics \(\rightarrow\) Women

## KEYWORDS

Gender diversity in IT, academic careers, gender gap analysis, inclusive computing environment, BiH

### 1 Introduction

Education is the foundation of any country. It is crucial for the progress and improvement of both individuals and society. The field of Computer Science is a dynamic and rapidly evolving domain that is crucial to the growth and innovation of nations around the world. The academic careers of individuals within this sector not only shape their personal futures but also hold significant implications for developing the IT industry in their respective countries.

Bosnia and Herzegovina (BiH), like many other countries, is witnessing a growing demand for IT professionals [1]. The technology sector’s expansion presents many opportunities, but it also highlights the critical need for a diverse and skilled workforce to drive innovation and sustain the industry's growth. As such, understanding the unique factors that influence career choices and pursuing academic paths in Computer Science is essential for fostering a robust and inclusive IT landscape.

This research focuses on the perception of individuals, especially women, on pursuing academic careers in Computer Science, as well as their perceptions of the gender gap in the IT industry vs academia. By examining these factors in the context of Bosnia and Herzegovina, we seek to contribute to the broader global discourse on gender diversity, career choices, and the academic development of the IT sector.

### 2 Methodology

The primary research method is the administration of a short, structured survey with thirteen questions. Data analysis was conducted to get answers to the research questions using the data obtained from the survey.

The objective of the designed survey is to explore the key factors influencing career choices among bachelor students in Computer Science in Bosnia and Herzegovina, to analyze the motivations and demotivation that students face in considering an academic career, and to investigate the perception of both male and female students on the gender gap/bias in the IT sector and academic world in Bosnia and Herzegovina.

Survey questions collectively provide a comprehensive profile of the respondents, designed to cover three main categories: demographics, academic career perceptions, and gender perceptions. There are four questions under the demographics category, which are to collect general information about the attendee, such as age, gender, nationality, and current academic study year. For the second category, participants were asked about their influences on selecting the IT field, their plans after graduation, and their perceptions about pursuing an academic career. Lastly, in the third category, students were asked about their thoughts on the representation of women in the field, their perceptions and concerns.
about the gender gap, and a comparison of gender inclusivity in the IT industry and academia. This research focuses on bachelor students majoring in IT-related programs in Bosnia and Herzegovina. Therefore, the survey was distributed among the different levels of bachelor IT students in the selected university, the International University of Sarajevo. The survey is still active and accepting the answers. At the time of this study, 110 students participated in the survey, and the following analysis and their results are concluded.

3 Results

The age distribution of the participants in the survey is presented in Figure 1. 43% of the survey participants were female students.

![Figure 1. Age Distribution of the participants](image)

For the second category (academic career perceptions) of the questions, the following observations are made: The predominant reasons cited for selecting their field of study are personal interest and the job prospects within the IT sector. More than 66% of the students are planning to find a job in the industry after their graduation. The second popular answer to this question was to start their own business and continue their graduate studies. The most popular answers to the motivating factors for building a career in academia were interest in research, flexible work environment, and passion for teaching. Interestingly, the most demotivating factor is the “stressful work environment.”

Regarding the gender balance perception questions, the following observations were obtained: Students were asked about their thoughts on the representation of women in their field. The answers were almost equally distributed, as can be seen in Figure 2.

![Figure 2. Women’s representation perception in the IT sector in BiH](image)

Figure 2. Women’s representation perception in the IT sector in BiH

Another question was asking the participants if they were personally concerned about the presence of gender bias in their potential future work environment. This time, almost half of the students answered no, while the remaining participants were equally worried or were not sure about their feelings. For this question, the answers were significantly different, considering the respondent’s gender.

The last question in the survey aims to see the perception of gender inclusivity in academic environments compared to the IT industry. The results are presented in Figure 3.

![Figure 3. Perception of gender inclusivity in academic environments compared to the industry](image)

Figure 3. Perception of gender inclusivity in academic environments compared to the industry

4 Conclusion

The findings of this case study suggest diverse perspectives in the perception of academic careers and gender dynamics within the IT sector among bachelor students in Bosnia and Herzegovina. Further analysis and exploration of these perspectives could contribute to providing a more inclusive and supportive environment for aspiring IT professionals, particularly in the context of academic pursuits. Such efforts are not only crucial for addressing gender disparities but also resonate with the principles of responsible computing. By advocating for a more equitable IT sector, this study underlines the importance of responsible computing in shaping a computing landscape that maintains ethics and inclusivity, thereby advancing a fair and supportive ecosystem for all individuals in the field.

REFERENCES