

# THE IMPACT OF GENDER ON DIGITAL ETHICS AND TECHNOLOGY USE AMONG ACADEMIC STAFF AT THE UNIVERSITY OF TIRANA: AN ANALYSIS BY FACULTIES

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## **ABSTRACT**

*This study aims to examine the impact of gender on digital ethics and the use of technology by academic staff at the University of Tirana (UT), with a focus on differences across faculties. With a sample of 315 lecturers from six faculties of UT, this research uses the questionnaire method to collect data regarding the academic staff's knowledge of digital ethics, use of technology, trust in digital standards and perception of the impact of digital ethics on institutional culture. Data analysis, descriptive statistics and regression analysis were used to test the hypotheses raised. Data processing was carried out using R software. The results of this study will provide valuable insight into identifying factors that may help or hinder digital transformation and the use of digital ethics in the academic environment. The analysis reveals that gender is a factor that influences both the use of technology and the aspects of digital ethics that arise as a result of the use of technology. The study can also contribute to the development of strategies to improve awareness and implementation of digital ethics within universities.*

## **KEYWORDS**

*Digital ethics, gender, Higher education; academic staff.*

## **1. INTRODUCTION**

The University of Tirana is the first university institution of higher education and scientific research in Albania, which has a history of 66 years and offers a full range of bachelor's, master's and doctoral degree programs. The University contributes to the development of society through the three pillars of the mission of public higher education<sup>1</sup>: scientific research, education, and service to the public, which constantly enrich and inform each other [1].

UT consists of 6 Faculties and one Institute: Faculty of Economics, Faculty of Foreign Languages, Faculty of History and Philology, Faculty of Natural Sciences, Faculty of Social Sciences, Faculty of Law and Institute of European Studies [2].

In the era of rapid technological developments, the impact of technology in the field of education has been undeniable, bringing major transformations in the way of learning and teaching [3]. The University of Tirana, as the largest higher education institution in Albania, has faced the

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<sup>1</sup><https://unitir.edu.al/eng/vizioni-dhe-misioni/>

challenges of this transformation, especially after the COVID-19 pandemic, when the transition to digital environments and the use of technology for the development of teaching and communication with students became necessary [4]. In this context, digital ethics has taken on increased importance, as the use of technology in education requires the maintenance of ethical standards and values that are essential for ensuring a fair and trustworthy environment for all individuals [5]. A key aspect of this transformation is the impact of gender, which can manifest itself in different ways in the use of technology and in knowledge of digital ethics [6]. Despite technological advances, many questions remain about how other factors, such as gender, influence the way academic staff at the University of Tirana accept and implement digital ethics in their academic activities. This paper seeks to investigate this influence, helping to better understand how gender affects technology use, knowledge of digital ethics and trust in digital standards, as well as the perception of the impact of digital ethics on the institutional culture of the university.

This study aims to examine these connections and provide recommendations for improving awareness and practices related to digital ethics, based on the results that will be derived from the analysis of data collected from academic staff at the University of Tirana. In this way, the work will contribute to the improvement of digital culture and responsible education in academic environments, ensuring a sustainable and ethical development of technology use at the university.

## **2. LITERATURE REVIEW**

The use of technology has enabled more flexible and innovative methods of teaching and assessment, making education more accessible and personalized [7]. In addition to the advantages that technology offers, it also brings the need for strong digital ethics, which is essential to ensure its fair and responsible use [8]. Digital ethics in higher education focuses on respecting privacy, data security, and avoiding abuse, as well as helping to maintain high standards of academic integrity and credibility [9]. This is an area that has received particular attention in recent years, as academic environments are becoming increasingly dependent on technology and require clear ethical guidelines and practices. The impact of gender on the use of technology has been a widely discussed topic in academic literature [10]. Studies have shown that while there has been significant progress in narrowing the gender gap in technology use, there are still differences between men and women in some areas of technology and digital education [11]. Women often face cultural and social barriers that can affect the use and adoption of new technologies [12]. According to some research, women are more sensitive to ethical issues and digital responsibility, while men may be more inclined to use technology for practical and professional purposes [13]. Another important aspect related to the use of technology is the trust in digital standards and the impact they have on institutional culture. Research has shown that trust in technology is closely linked to the ability of institutions to create a safe and reliable environment for its use [14]. When universities create clear policies and standards for the use of technology and digital ethics, they help develop a responsible and trustworthy culture that can improve the experience of academic staff and students [15].

The perception of the impact of digital ethics on institutional culture is an important issue that has also been studied. According to some authors, other factors such as gender, education and professional experience can influence the way individuals perceive and implement digital ethics [16]. Gender, as highlighted in many studies, has a potential impact on the perception of responsibility and norms related to the use of technology in academic environments [17].

Various studies suggest that the use of technology and digital ethics in higher education is a complex area of many factors, including gender and other social factors. The impact of these factors is a key element in improving institutional culture and integrating digital ethics into the

daily practices of academic staff. This study aims to delve into these aspects and provide a detailed analysis of the impact of gender on digital ethics and technology use at the University of Tirana.

### 3. EMPIRICAL ANALYSIS

This paper aims to reveal the impact that gender has on digital ethics issues for academic staff at the University of Tirana, by faculties. For the paper, the following research questions are raised:

*RQ1. Does gender affect the use of technology by faculties?*

*RQ2: Does gender affect the perception of the impact of digital ethics on institutional culture by faculties?*

*RQ 3. Does gender affect the credibility of digital standards at UT by faculties?*

#### Methodology of the Paper:

A two-phase approach was followed to carry out this paper. In the first phase, descriptive statistics, mainly percentages, were used to describe the main characteristics of the data and to analyze the distribution of different variables. This step helped to create a general overview of the situation and to better understand the trends and structures of the data.

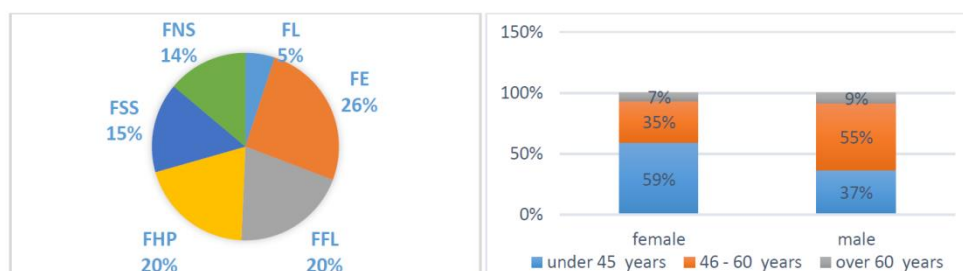
In the second phase, simple linear regression was used to test the hypotheses and to discover the influence of gender on certain factors. This model aims to analyze how gender change can affect different variables, enabling the assessment of relationships between variables and the clarification of possible effects of gender on the relevant factors.

This combined methodology has enabled an in-depth and structured analysis, providing insights into the influence of different factors and their connections with the gender variable.

The population in this study belongs to the full-time teaching staff in 6 (six) faculties of the University of Tirana (UT): Faculty of Economics (FE), Faculty of Foreign Languages (FFL), Faculty of History and Philology (FHP), Faculty of Natural Sciences (FNS), Faculty of Social Sciences (FSS) and Faculty of Law (FL). Relying on the calculation of the sample through the formula suggested by [18], for 746 individuals, with a reliability coefficient of 95%, dheishte a stratified sampling me qëllimpërfshirjen e gjithëgrup-moshavenëstudim[19], the determined sample is 315 lecturers[2].

#### Descriptive statistics

The distribution of academic staff regarding faculties and age groups is displayed in the graph below.



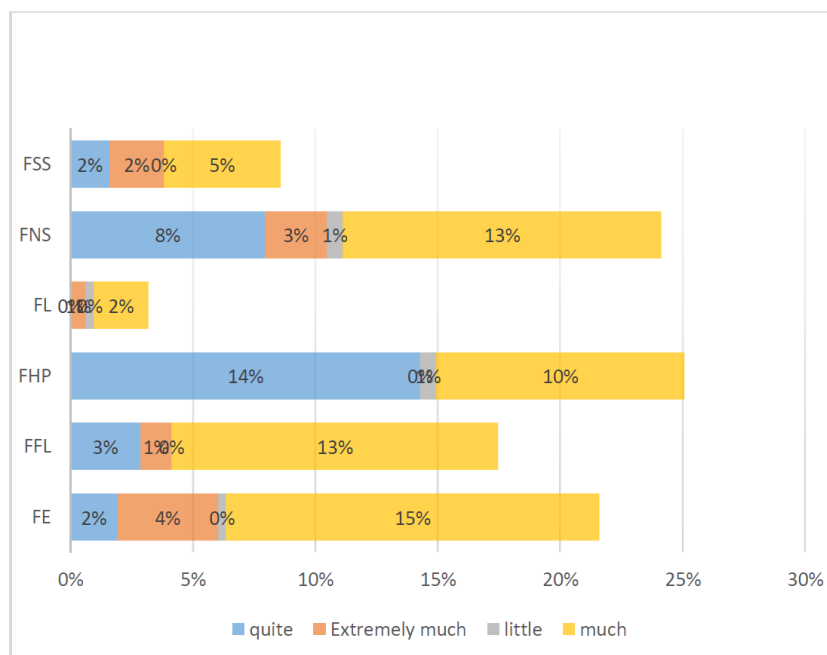
Source: Author's calculations, Figure 1 Distribution of staff

Regarding the academic staff in completing the questionnaire within the faculties, women dominate, and this dominance is emphasized in the FSS, where only 4% of the interviewed are men.

At UT, most male academic staff are over 45 years old, while for women there is no significant difference.

### Analysis of technology use

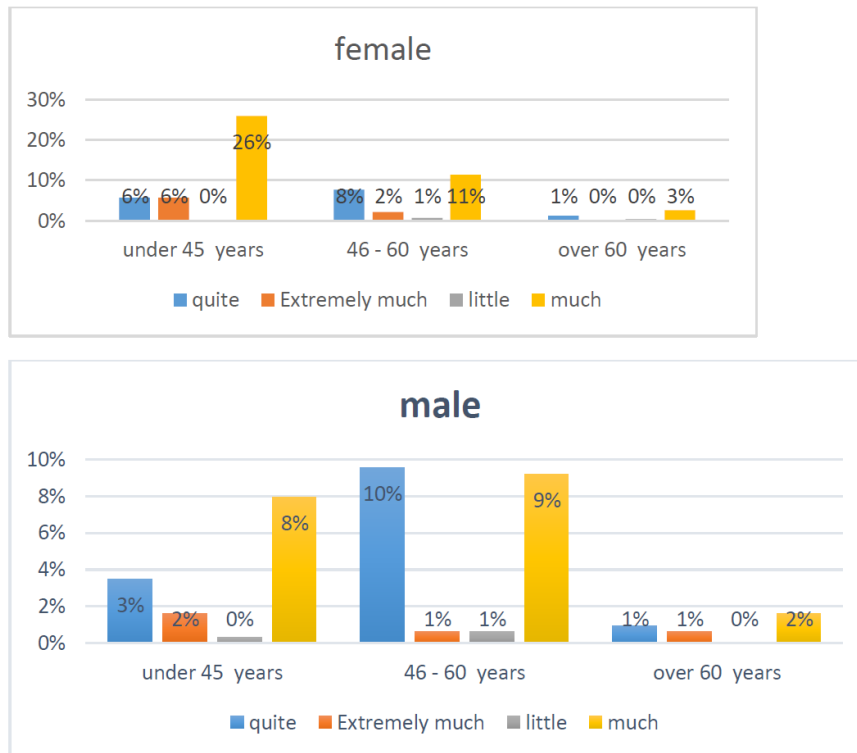
The integration of digital technologies and their acceptance according to [20, 21] depends on many factors such as: eagerness for change, perception of lecturers, teaching style and attitudes towards technology. At UT, technology due to the university's internationalization initiatives and participation in international projects with an ICT focus has been embraced at very satisfactory levels. The graph below shows the distribution of technology use by faculties.



Source: Author's calculations

Figure 2 Distribution of use technology by faculty

At UT we have a high level of technology use by academic staff, but there is a difference between faculties. FHP has the highest level of “little” use while FE has the highest level of use at 19% followed by FNS with 17%. Both FNS and FE offer computer science or similar study programs, and this may be one of the reasons why these two faculties have the highest level of technology use. These branches require updating not only of the curricula but updating may require installing new software, hardware, and solving complex problems related to technology [22].



Source: Author's calculations

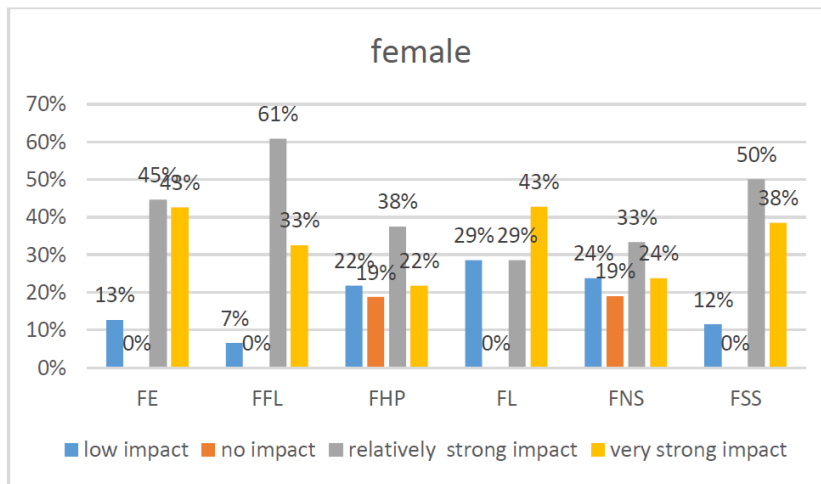
Figure 3 Distribution of technology use separated by gender

Men and women over 60 have the same approach when it comes to using technology. Women in the 45-60 age group tend to use technology more than men in this group, and the same applies to staff under 45. On the other hand, there are about 11% of men and 10% of women who use “little or no” technology in the 45-60 age group. This raises the task for the relevant institutions to improve this situation with a wider involvement of staff in activities or projects that focus on technology. Furthermore, the staff involved should also spread new knowledge to other colleagues. The difference between staff knowledge on digital ethics is a problem that must be treated carefully, and it is important to address this knowledge in the 21st century, the ethical component should be applied to the TPACK (Technological Pedagogical Content Knowledge) model [23]. The HEI should consider that the attitude of teaching staff towards ICT is related to their age [24].

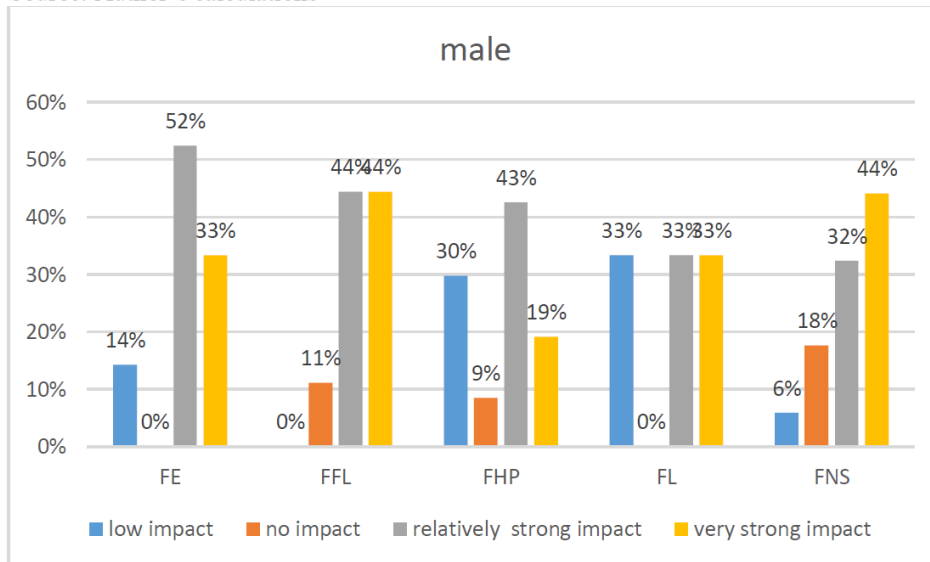
The results show that age is not a factor in the teaching use of TIC, although some age-related differences appear in teachers' personal uses of TIC[25]

### Analysis of the impact of digital ethics on institutional culture

A set of questions were asked to gain a sense of how much impact digital ethics has on various issues related to the impact on the culture and transparency of the institution and the quality of knowledge according to [1]. These variables were grouped as a single factor by staff, and we identify this set of questions with their attitude towards the impact that ethics has on the culture of the institution. The questions were on a 4 Likert scale: no impact, low impact, relatively strong impact, very strong impact.



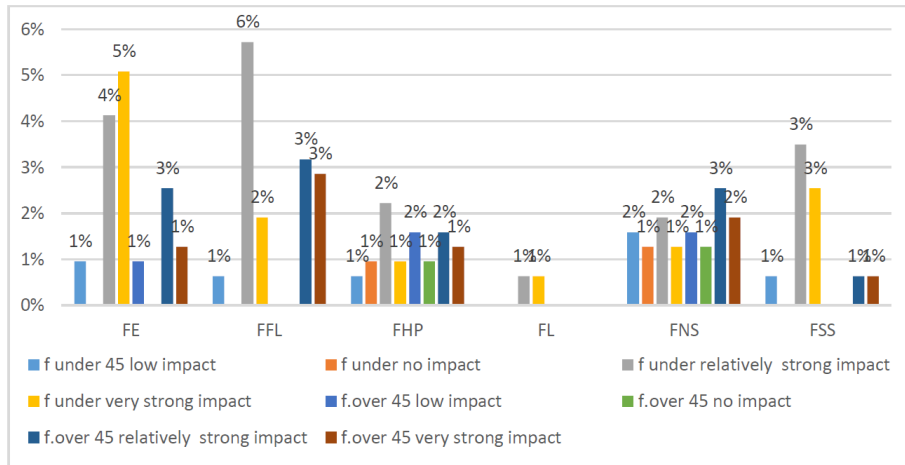
Source: Author's calculations



Source: Author's calculations

Figure 4 Distribution of the impact of digital ethics on institutional culture according to faculties by gender

45.7% of academic staff think that it has a “very strong impact”, of which 21.6% are over 45 years old, while 36.5% think that it has a “relatively strong impact”, of which the majority 17.4% are over 45 years old.21% of women think that it has a very strong impact, of which 6% belong to the Faculty of Economics (FE).11% of men think that it has a very strong impact, of which 5% belong to the Faculty of Natural Sciences (FNS).10% of women think that the impact is low, with an almost equal distribution between the different faculties.6% of men think that the impact is low, of which 4% belong to the Faculty of History and Philology (FHP).

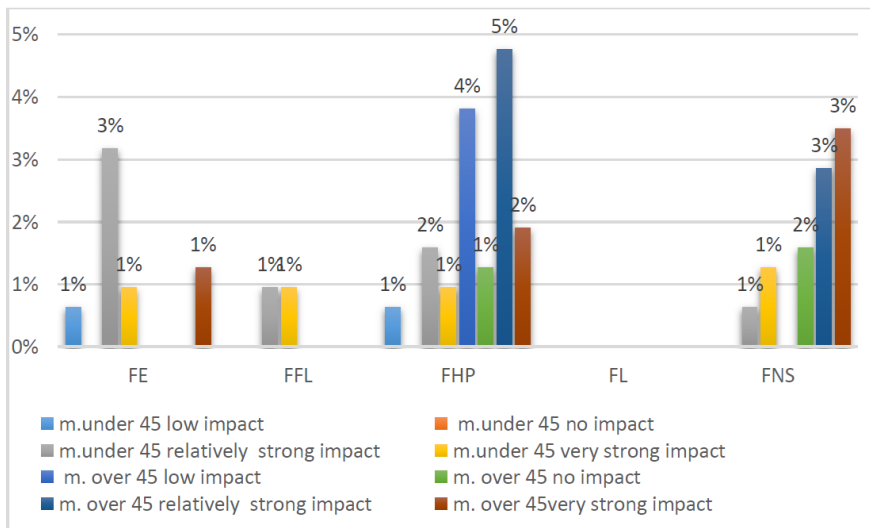


Source: Author’s calculations

Figure 5 Distribution of the impact of digital ethics on institutional culture according to faculties separate by age (female)

18% of women under 45 think it has a relatively strong impact, of which 6% belong to the Faculty of Foreign Languages (FFL). The largest number of women under 45 who say that it has a very strong impact belong to the Faculty of Economics (FE) and the Faculty of Social Sciences (FSS) with 5% and 3% respectively.

10% of women over 45 think it has a relatively strong impact, of which 3% belong to the Faculty of Philology (FHP), the Faculty of Economics (FE) and the Faculty of Natural Sciences (FNS). Women, regardless of whether they are under or over 45, think the same about low impact, with a percentage of 4%.



Source: Author’s calculations

Figure 6 Distribution of the impact of digital ethics on institutional culture according to faculties separate by age (male)

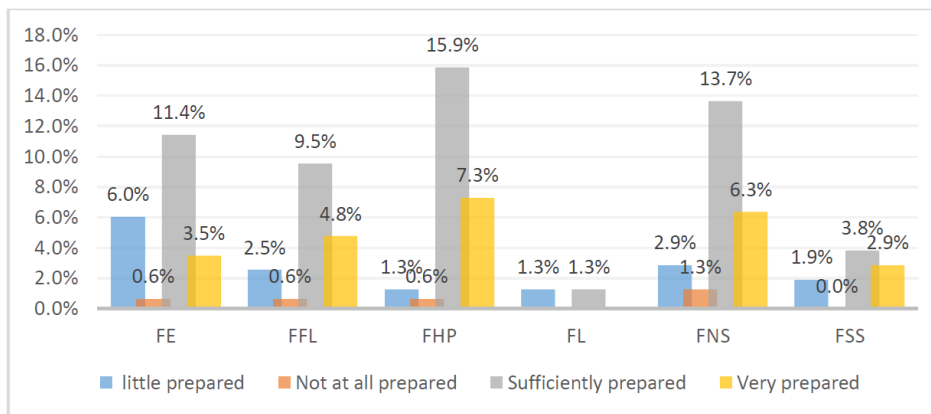
7% of men under 45 think it has a relatively strong influence, of which 3% belong to the Faculty of Economics (FE).

8% of men over 45 think it has a relatively strong influence, of which 5% belong to the Faculty of History and Philology (FHP).

2% of men under 45 and 4% of men over 45 think the influence is low.

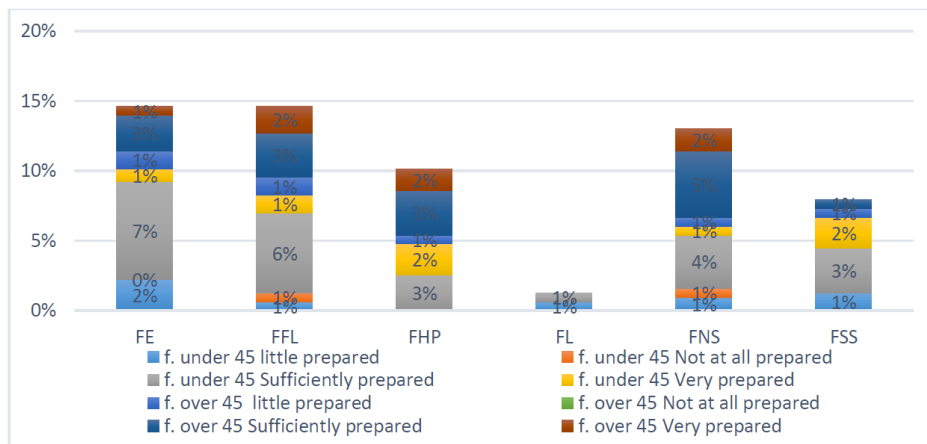
**Analysis of trust in digital standards by UT**

A set of questions was directed to obtain the staff's perception regarding sensitive issues of storing personal data of students and staff generated immediately with the use of platforms at least in teaching over the last few years. For this set of questions, which was grouped as a single factor, the staff share the same attitudes and we identify this set of questions with their attitude towards: storage, protection and security of the employees and student data by giving ratings on a 4 Likert scale, that they have: a lot, enough, a little trust or and do not trust at all.



Source: Author's calculations  
Figure 7 Distribution of reliability according to faculties

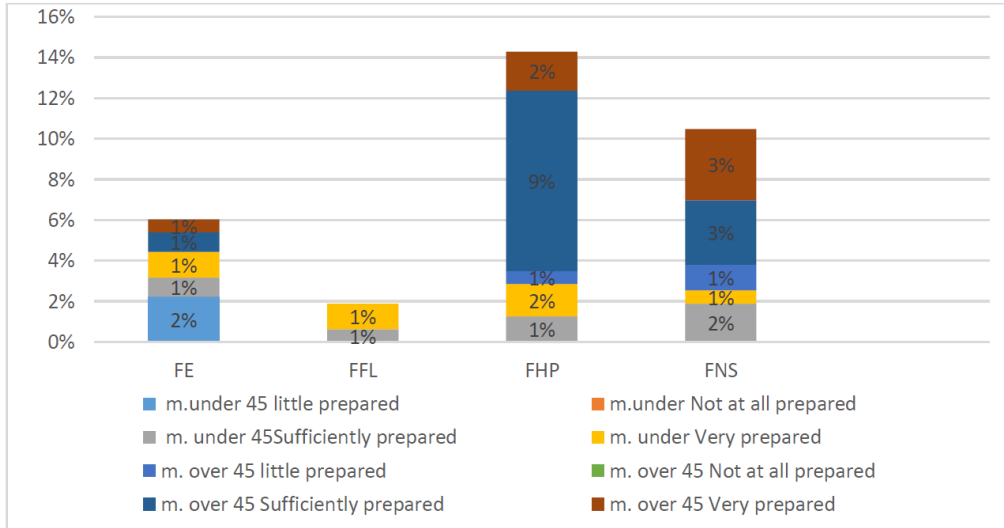
The academic staff at UT, all faculties have a lot of faith in UT regarding the handling of problems at UT.55.6% think that he is sufficiently prepared and 3.6% think that it is not prepared at all, 1.3% of them belong to the FNS.



Source: Author's calculations  
Figure 8 Distribution of reliability according to faculties by age (female)



23% of women younger than 45 years think that UT is sufficiently prepared, among which 7% and 6% belong to FE and FFL.15% of women older than 45 think that UT is sufficiently prepared, of which 5% belong to FNS, while FE, FFL and FHP with 3%. 1% of women younger than 45 and older than 45 think that UT not at all prepared.



Source: Author’s calculations

Figure 9 Distribution of reliability according to faculties by age (male)

13% of men older than 45 think that UT is sufficiently prepared, among which 7% belong to FHP.2% of men younger than 45 and older than 45 think that UT not at all prepared.

**Analysis of research questions.**

To test the research hypotheses, simple regression models will be evaluated, where the dependent variable is a factor influenced by the gender of academic staff such as: use of technology (ICT), institutional culture (IC), digital standards (SD), while the independent variable is gender, which takes the value 1 if we have female academic staff and takes the value zero if the academic staff is male. Ordinary least square (OLS) will be used to evaluate the models, and all processing was carried out using the R Studio program. The general form of the evaluated models is:

$$Y_i = \beta_0 + \beta_1 Gender_i + u_i, \quad i = 1,2, \dots, 315$$

- Where  $\beta_0$  is the intercept
- $\beta_1$  coefficient of the model
- $Y_i$  the dependent variable
- $u_i$  residuals

The summarized estimated models are depicted in the table below:

Table 1 The estimate model

		Dependent variable:				
		ICT	SD IC	(1)	(2)	(3)
Gender	(0.083)	(0.159)	(0.150)	0.233***	0.280*	0.357**
Constant	(0.066)	(0.127)	(0.120)	3.617***	3.470***	2.983***
Observations				315	315	315
R2				0.625	0.510	0.618
Adjusted R2				0.621	0.507	0.615
Residual Std. Error (df = 313)				0.707	1.359	1.285
F Statistic (df = 1; 313)				7.893***	3.109*	6.648**

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Source: Author's calculations

To evaluate the statistical significance of the model (coefficients) and test hypotheses, we will use the p-value. The p-value measures the probability that the regression coefficients are equal to zero (null hypothesis). If the p-value is less than a certain level of significance (usually 0.05), then the coefficient is considered statistically significant, suggesting that it has a significant effect on the dependent variable. If the p-value is less than 0.05, then the coefficient is statistically significant, and the null hypothesis can be rejected. If the p-value is at least 0.05, then the coefficient is not statistically significant, and the null hypothesis cannot be rejected[26].

For all three estimated models, the p-value of the Fisher statistic is smaller, and the significance level is 5%, therefore these models are statistically significant and the explainability of the models is above 50%.

All models show that the coefficient for the variable "Gender" is significant and has a positive sign, which suggests that women have higher ratings than men, both in the use of technology and in the perception of the impact of digital ethics on culture and institutions, as well as in the trust in the digital standards used by their institution. The significance of the coefficients in the regression models confirms that all three research questions have received positive answers. Gender is a factor that affects both the use of technology and the aspects of digital ethics that arise as a result of the use of technology.

#### 4. CONCLUSIONS

At the University of Tirana, the use of technology by academic staff is widespread, but there are significant variations between faculties. The Faculty of Humanities (FHP) has the lowest level of technology use, while the Faculty of Economics (FE) and the Faculty of Natural Sciences (FSHN) show higher levels, which may be since these faculties offer study programs that include technology and informatics, requiring continuous updating of curricula and the possibility of installing new software and hardware.

The results of this study show that women under 45 years of age assess the relatively strong impact of technology to a higher percentage (18%), while women over 45 years of age perceive the impact as relatively strong to a lower percentage (10%). The differences in this perception are

related to the respective faculties, with the Faculty of Philology having the highest percentage of women who perceive the impact as strong.

Gender has a significant impact on technology use and digital ethics. Women not only have higher ratings for technology use, but they also have a stronger perception of the impact that digital ethics has on culture and institutions, as well as a greater trust in the digital standards used by institutions. Gender turns out to be a key factor influencing not only technology use, but also aspects of digital ethics that arise from technology use. This indicates that individuals' perceptions and practices regarding digital ethics may be influenced by gender factors, providing opportunities for further research on the impact of gender on how technologies and related ethics are used and interpreted.

## **5. RECOMMENDATIONS**

From the analysis of the opinions of the academic staff at the University of Tirana, several very important tasks emerge regarding the inclusion of digital ethics at all possible levels of the institution. These tasks are presented below, emphasizing the need for further integration of digital ethics in academic and administrative processes.

Inclusion of digital ethics standards in documents such as the statute, regulations and code of ethics:

It is recommended that digital ethics standards be included in the fundamental documents of the institution to provide a clear and detailed framework for the rights and responsibilities of individuals and institutions in the use of technology. This inclusion should aim to raise awareness and educate users of digital systems to prevent misuse and protect personal data.

Inclusion of digital ethics in academic curricula: Creation of modules dedicated to digital ethics in the curricula of higher education. This step would contribute to the training of students who are able to face the ethical challenges of modern technology, as well as understand the consequences of inappropriate use of information and data.

Incorporating digital ethics into scientific research through strategic documents or objectives and tools used for scientific research:

To ensure that scientific research is conducted in accordance with ethical standards, it is necessary to incorporate digital ethics as part of research strategies and planning.

This integration can be achieved through the creation of a digital ethics framework in funded projects, as well as by reviewing the practices of using digital tools in data collection and processing.

Incorporating digital ethics standards into various administrative processes:

It is imperative that digital ethics be part of administrative policies and information systems management in academic institutions. This may include the development of clear guidelines for the management of student and staff data, as well as training for administration to implement sustainable and ethical practices in the use of technology.

Digital Literature should be conceived as a continuous education for academic and administrative staff in universities: To ensure that academic and administrative staff are up to date with the best practices of digital ethics, it is recommended to create continuous training programs. This may

include courses and seminars on digital ethics and changes in technology, as well as training to manage digital technologies and tools in accordance with ethical standards.

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