

# UTILIZATION OF INFORMATION AND COMMUNICATION TECHNOLOGIES BY ALBANIAN YOUTH

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## ABSTRACT

In the last year the use of information technology and communication (ITC) has significantly increased in all aspects of people's daily lives all over the world. These technologies make possible a higher enrollment in services offered to consumers and also in the execution of these services. In this study we will present the results on a survey conducted on the first year students of the Faculty of Natural Sciences at the University of Tirana. The survey is constructed on questions in regards to the opportunities and comfort that the use of internet and cell phone has given to the students. In addition there are questions that deal with the activity of these young individuals with the social media on their smart phones. Many statistical tests are performed to derive information and results about this subject. These results can be used by the government agencies in charge of the development of Information and Communication Technology in Albania, nevertheless these data can also be used by telephone and communication companies that operate in Albania.

**Keywords:** *ITC, Social Media, Statistics, Telephone, Internet*

## 1. INTRODUCTION

Young people today live in a world characterized by different cultures, economic, social and educational differences; individual circumstances depend largely on where a person was born and raised. More than 800 million adults (two-thirds of them women) suffer from illiteracy, but on the other hand the use of information and communication technology by them is at high levels. This complex cultural situation in which young people are struggling to find a direction in their lives, to survive or improve their living conditions, leaves them no choice but to use different identities. Some call it information or information era, while others prefer the term Techno-culture, global media culture or simply globalization. Throughout the globe, information technology is playing an important role in today's youth and in society as a whole.

Two main hypotheses on the role of information technology are:

1. The spread of these technologies is causing rapid transformations in all areas of life.
2. Information technology enables unification and standardization of culture.

The earlier years of the new millennium show a significant rise in the use of internet, cellphone and computers in developing countries. Between 2000 and 2003, more than a fourth of internet users and nearly a half-billion cell phone users were from the developing world. These new technology developments are growing much faster than the old information technologies such as radio, television, and newspapers. Mobile phones have spread throughout the world and there are more internet users than newspapers being sold for each region. Even though the use of internet has increased throughout the world, in poor developing countries internet usage remains low.

**Table 1** Internet usage in Albania

Year	Users	Population	% Pop.	Source
2000	2,5	3,083,300	0.1	<u>ITU</u>
2002	30	3,084,586	1.0	<u>ITU</u>
2006	75	3,087,159	2.4	<u>ITU</u>
2007	471,2	3,087,159	15.3	<u>ITU</u>
2008	580	3,619,778	16.0	<u>GfK</u>

<b>2009</b>	750	3,639,453	20.6	<u>ITU</u>
<b>2010</b>	1,300,000	2,986,952	43.5	<u>ITU</u>

From the latest of the AKEP statistics, during the first half of 2012 the number of internet users in Albania increased by 185,000 subscribers.

The aim of our study is to observe how the internet is used and what it is used for by the first year students of the Faculty of Natural Sciences.

## **2. METHODS AND RESULTS**

During the course of the study 1077 first year students of the Faculty of Natural Sciences in Tirana were surveyed. The survey is comprised of 38 questions, of which two are open-ended questions and 36 multiple choice questions. Among the 38 questions we have chosen to present the results of the ones that relate directly to the use of ICT by the students surveyed. Statistical methods of processing are: contingency tables, statistical tests of dependence between variables, general statistics, regression, etc.

### **2.1 Is there a relationship between gender and frequency of internet use?**

The data was analyzed using SPSS software and the results pertaining to the relationship between gender and frequency of internet use, for the 1077 students surveyed, are illustrated in Table 2.

**Table 2** Chi-square test for gender and frequency of internet use

**Gender Vs. Frequency of Internet Use Crosstabulation**

		Frequency of Internet Use			Total
			Daily	Rarely	
Gender	Count	493	0	0	493
	Std. Residual	27.2	-14.6	-11.2	
?	Count	0	16	8	24
	Std. Residual	-2.7	1.7	.8	
f	Count	0	312	206	518
	Std. Residual	-12.8	5.9	6.6	
m	Count	0	352	183	535
	Std. Residual	-13.0	7.9	4.1	
Total	Count	493	680	397	1570

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.575E3 <sup>a</sup>	6	.000
Likelihood Ratio	1.958E3	6	.000
N of Valid Cases	1570		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.07.

From Table 2 it is observed that a high percentage of women and men use the internet every day for various purposes. Chi-square test for the detection of dependency between variables indicates that no significant relationship exists between gender and frequency of internet use; and an equal number of both male and female students utilize the internet on a daily basis.

## 2.2 Does frequency of internet use depend on the social network site being used?

Many of us are already familiar with many of the social networks preferred now not only by young adults but also by people of older ages. What we want to understand in this second test is: Is there a significant dependency between frequency of internet use and the social network being used for communication and obtaining information? Is one social network more favored than the other?

**Table 3** Illustrates the results of the statistical test with the above mentioned variables.

**Most Commonly used Social Networks Vs. Frequency of Internet Use Crosstabulation**

		Frequency of Internet Use			Total
			Daily	Rarely	
Most Commonly used Social Network	Count	493	0	0	493
	Std. Residual	27.2	-14.6	-11.2	
facebook	Count	0	545	309	854
	Std. Residual	-16.4	9.1	6.3	
twitter	Count	0	135	88	223
	Std. Residual	-8.4	3.9	4.2	
Total	Count	493	680	397	1570

### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	0.571E3 <sup>a</sup>	4	.000
Likelihood Ratio	1.955E3	4	.000
N of Valid Cases	1570		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 56.39.

Results indicate the majority of the students taking part on the survey use Facebook as a social networking site, and a smaller number of the students use Twitter. The results also show that frequency of internet use is independent to the social network being used. Among the students using Facebook 64% of them use the social network site daily, and among the ones using Twitter

60% of them use the site daily. Results indicate that the frequency of internet use is the same for students that use Facebook and those that use Twitter.

### 2.3 Does the type of cellphone affect the reasons for its use?

This question is whether the mobile device being used is a Smartphone or not, and what is the device used more often for.

Respondents were classified into Smartphone owners and regular cell phone owners. The possible reasons for using their mobile device are listed below:

*0-Browsing the internet*

*1-Send/Receive Email*

*2-Watching Video clips*

*3-Downloading games, photos, music*

*4-Send/Receive Text Messaging.*

**Table 4** Results obtained through analysis using SPSS software

Count		Reason of Use					Total
		0	1	2	3	4	
		smartphone 0	117	108	52	42	
1	153	168	89	61	164	635	
Total		270	276	141	103	287	1077

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.406 <sup>a</sup>	4	.662
Likelihood Ratio	2.415	4	.660
Linear-by-Linear Association	.015	1	.903

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.406 <sup>a</sup>	4	.662
Likelihood Ratio	2.415	4	.660
Linear-by-Linear Association	.015	1	.903
N of Valid Cases	1077		

The results obtained indicate a connection between the type of mobile device used and the reasons for its use. This connection may be due to the opportunities that are created by the technological innovations of the smart phone by making it comparable to a personal computer.

### **2.4 Frequency of internet use with relation to the reasons of it being used and the social network**

Following the results obtained, the relationship between the frequency of internet use, reasons for use, and social network used was analyzed. It has been observed that the reason young people use the internet comes mostly as a result of the opportunities provided by the social networks for communication and information. The relationship between these variables is examined through statistical package R and the results obtained are shown below.

Coefficients:

	Estimate	Std. Error	z value	Pr(> z )
(Intercept)	-0.03811	0.05775	-0.660	0.509
Reasons for Internet Use	0.619	0.01729	0.936	0.349
Most often used Social Netowrk	0.87913	0.02481	7.219	5.22e-13 ***

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Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
 (Dispersion parameter for poisson family taken to be 1)  
 Null deviance: 1174.9 on 1076 degrees of freedom  
 Residual deviance: 1122.9 on 1074 degrees of freedom  
 (493 observations deleted due to missingness)

AIC: 3014.8

Number of Fisher Scoring iterations: 5

The resulting Model is:

*Frequency of Internet use = -0.0381 + 0.619 \* Reasons for internet use + 0.87193 \* Most commonly use Social Network*

The p-value for the two independent variables is greater than 0.05 which shows the strong link that exists between them.

### **Interpretation:**

The sum of  $\beta_1 + \beta_2 = 0.619 + 0.87193 = 1.49093$ , which is bigger than 1, indicating that the internet is used quite often by young adults in Albania. This comes as a result of almost the whole country having internet coverage and the desire that young people have to browse the internet.

Testing of the two multiple regression parameters to understand the importance of the model:

- *Testing of Parameter  $\beta_1$*

$H_0: \beta_1 = 0$  trivial model

$H_a: \beta_1 \neq 0$  important model

Value of T-observed is 0.619 and that of *p-critical* is 0.509. Since  $H_0$  is lower therefore the model is important.

- *Testing of Parameter  $\beta_2$*

$H_0: \beta_2 = 0$  trivial model

$H_a: \beta_2 \neq 0$  important model

Value of t-value is 0.87193 and value of t-critical value is 0.349, since  $t\text{-value} > t\text{-critical value}$  and  $H_0$  is lower therefore the model is important.

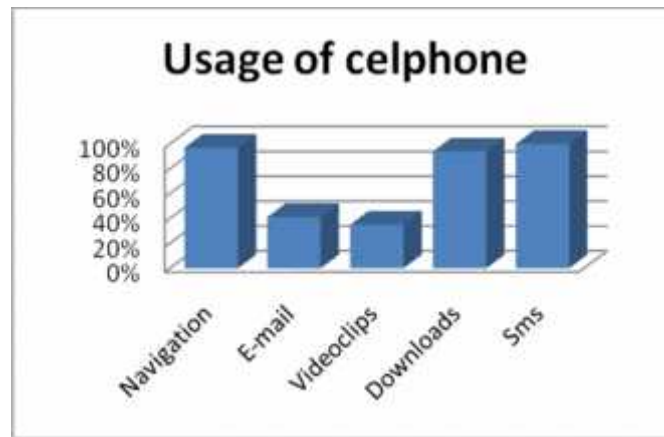
Thus, the model indicating the dependency between frequency of internet use by young people and the two other variables is important.



## 2.5 Some general results on the questionnaire

The following results on several questions are presented in graphical form. It should be taken into consideration the fact that a small percentage of the respondents did not answer all the questions in the questionnaire.

When asked about the reasons for their phone usage, students were offered the opportunity to choose from several options. Of the 1000 individuals surveyed, 88% use their mobile phone for browsing the internet, 62% for reading Emails, 70% for watching video clips, 84% for downloading games, music, etc., and all individuals asked use their mobile phone for sending text messages.



**Figure 1** Reasons for using a cellular phone

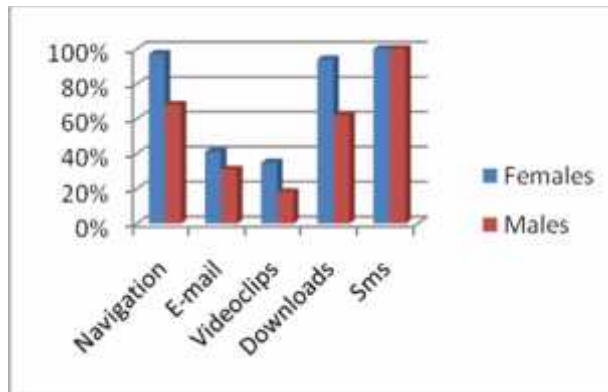
Table 5 shows the results for reasons on using a cellular phone based on the gender of the people

interviewed. (The percentage is calculated on the total of females and males respectively and not on the total individuals interviewed)

**Table 5** Gender and reasons for using the cellular phone

	Females	Percentage	Males	Percentage
Navigation	33	97,06%	11	68,75%
E-mail	14	41,18%	5	31,25%
Videoclips	12	35,29%	3	18,75%
Downloads	32	94,12%	10	62,50%

Sms	34	100%	16	100%
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**Figure 2** Gender and reasons for using the cellular phone

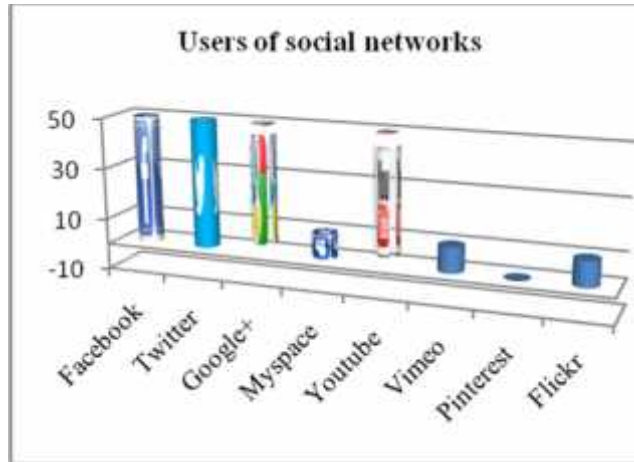
Which of the social networks listed is used more often by the first year students of the Faculty of Natural Sciences at the University of Tirana?

In this question the students are offered the opportunity to choose from more than one option. From the 1000 individuals surveyed, 47% are users of the social network Facebook, 8% use Twitter, 32% use Google+, 4% use Myspace, 34% use Youtube, 1% use Vimeo, 2% use Flickr

The social networks preferred by students are: Facebook, Twitter, Myspace, etc. The students surveyed chose the following social networks as their favorites:

**Table 5 and figure 3** Social Networks most preferred by students

Rrjeti social	Perdorues %
Facebook	47
Twitter	47
Google+	32
Myspace	4
Youtube	34
Vimeo	1
Pinterest	-
Flickr	2



It is observed that: among the individual surveyed only 2% of them are not part of a social network, 98% partake in a social network. The majority, nearly 95% of individuals collectively, use Facebook, Twitter, Youtube, and Google+. The social networks that are used the least, (3% collectively), are Myspace, Vimeo, and Flickr.

### 3. CONCLUSIONS

The use of information and communication technologies by the Albanian youth is one of the most discussed themes by the written and televised media. The ever increasing interest by the telecommunication companies and traders of the latest and most advanced technologies, has led to a significant demand for surveying of the younger generation, without excluding the older generation, in order to determine their position in the market. The increasing interest of the younger Albanian generation to be part of the digital world drives them to purchase ever more technologically advanced products such as cellular phones and smartphones.

During this study it was observed that 41% of the young adults use smartphones as opposed to the other 59% that use simpler cellular phones. This is indicative of the increasing interest in the latest technologies and the opportunities it represents.

Based on the statistical data mentioned above, 100% of the individual's surveyed use their personal cellphones to send and receive text messages. Of all the individuals interviewed 88% of use their phones to browse the internet and 62% use it to send and receive e-mails.

It is observed that there are more males using the internet than females, but as shown by Chi-square test the frequency between the two genders was not significantly different. Both female and male individuals use the internet on daily basis.

Results show that the majority of the individuals interviewed use Facebook as their preferred social network, and a smaller percentage of them use Twitter. Even though there is a significant difference in the people that use Facebook as opposed to people that use Twitter, the frequency of internet use is the same. Nearly 64% of the individuals that use Facebook as their preferred social network use the internet on a daily basis, and nearly 60% of the individuals that use Twitter as their preferred social network use the internet on a daily basis.

An interesting results is the relationship that exists between the variables of how often internet is used with the reasons internet is used and the most frequently used social network where the dependent variable is explained 89% by the two independent variables. Also P-value for the two independent variables is greater than 0.05 indicating a significant relationship between them.

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