THE MOST PREFERRED FREE E-MAIL SERVICE USED BY STUDENTS

Nadire Cavus[1]   **Huseyin Bicen[2]**

[1]*Department of Computer Information Systems, [2]Department of Computer and Instructional Technology Education*
Near East University/ Nicosia, North Cyprus
nadirecavus@neu.edu.tr   hbicen@neu.edu.tr

ABSTRACT: The aim of this study is to investigate the most preferred free web based e-mail used by students in the technology departments of the Near East University (Departments CIS, CEIT and COM.ENG), and also to find out which technical characteristics affect the participants when making a decision for the choice of an e-mail service. The volunteer participants in this study consisted of 150 undergraduate students attending the Near East University in Northern Cyprus. A questionnaire was developed by the researchers and also literature survey was used to gather general information about background of the study. Data were collected using questionnaire and Anova, frequency and percentage methods were used during the analysis process. Students' choices were affected by different technical features of e-mail while they were choosing these free e-mail services. Important results that could contribute to the existing literature have been obtained in the study reported in this paper.

Keywords: e-mail, most popular e-mail, free e-mail services, usage of email, electronic mail

1. INTRODUCTION

Electronic mail or e-mail is a tool that is used to communicate between two or more users in a network, whether it be using a local area network (LAN), wide area network (WAN) or the Internet. Electronic mail is asynchronous, the support for one-to-one as well as one-to-many information exchanges. Electronic mail is asynchronous because it can be transferred between two users without any intervention. A user can create and send a message and exit the e-mail program knowing that the system will look after it. More important is that the message can be transmitted to its destination without that user being on-line and deposited in that mailbox. Electronic mail or electronic messaging as it being referred to these days generally consists of two key components: tools to create and display electronic messages in human readable form, and a set of facilities to reliably transport that information between users (Radicat, 1992). The impact of time and geography on e-mail is not a regarded level. The recipient's convenience can be examined almost anywhere and anytime. Consistent communication is provided by the use of e-mail. Furthermore, e-mail still dominates as the most utilized form of electronic communications in the workplace, as it is the most efficient method for transferring documents and reaching people around the globe.

Nowadays, the use of free web based mail is very popular since users can check their mails from anywhere. All that is needed is an internet connection and a web browser. Meanwhile, free Web Mails also provide large capacity mailboxes to meet the need of their users (Chomsiri, 2008). Currently there are no official statistics comparing the user numbers of the different web-based e-mail address providers (Brownlow, 2009). Thus, this study is important as it provides additional knowledge to the existing literature. Companies like Hotmail, Yahoo, and Gmail are portal which provide e-mail accounts free of charge. Apart form being free, this type of mail account has other useful benefits including: a)Using a standard Web browser, e-mail can be collected from any Internet-connected computer anywhere in the world, b)As these e-mail services are independent of any Internet Service Provider (ISP), your e-mail address will remain the same, irrespective of how many times you change providers or move, c)If you have multiple e-mail accounts, you can check all of them through one Web-based e-mail account.

1.1 Related Research

Solomon (2008) stated that majority of students used Yahoo! Mail (36%), followed by Hotmail (21.3%) and then Gmail (14.2%). Only 12.9 % of the students surveyed used university e-mail. In addition researcher's results suggest that Yahoo! Mail is the most popular followed by Hotmail. However, available information corroborates the findings of Brownlow (2009) study, that the leader in Web mail usage is Yahoo! Mail, closely followed by Microsoft's Hotmail (now called Windows Live Hotmail) and then Gmail falls in number three. When students choose a primary email service, Gmail is the clear favorite. 32% of college students use Gmail as their primary email address, 19% yahoo, 18% MSN/Hotmail and only about 17% use their school email address as their primary address (EROI, 2008). Another important study from Gmail 65%, Hotmail 37%, Yahoo 50% (ClearContext, 2006). As it can be seen, not enough scientific studies were carried out by researchers on which services students prefer or which technical characteristics are considered by students in their choices. Scientific studies show that the best web based free e-mail services offering the highest levels of security are the Hotmail, Gmail, and Yahoo. Chomsiri (2008) presents the results of the experimental study about the security level of the three famous mail servers: Hotmail, Gmail, and Yahoo. This is one of the reasons why these three mail services have been chosen in the study.

2. THE AIM OF THE RESEARCH

The aim of this study is to investigate the most preferred free web based e-mail usage of students in the technology departments of the Near East University (Departments CIS, CEIT and COM.ENG), and also to find out which technical characteristics affect the participants when making a decision for the choice of an e-mail service. The study attempts to find answers to the following questions:

1. Are there any differences in free e-mail preferences between different genders?
2. What are the e-mail usage habits of each gender?
3. Are there any differences of e-mail usage between different departments?
4. What are the e-mail usage habits of students in each department?
5. Are there any differences in free e-mail preferences between different nations?
6. What are the e-mail usage habits of different nations?
7. Which technical characteristics were considered when making choice for a free e-mail service?
8. Are there any differences between the departments when making choice based on the technical characteristics for a free e-mail service?

3. METHODS

3.1. Participants

The volunteer participants in this study consisted of 150 undergraduate students attending the Near East University in Northern Cyprus. 50 students from Department of Computer Information Systems (CIS), 50 students from Department of Computer Education and Instructional Technologies (CEIT), and 50 students from Department of Computer Engineering (COM.ENG). Students were selected randomly. The study was conducted during the 2008-2009 Fall term. Joined the study from students of CIS are 44% female, 56% male, students of CEIT are 34% female, 66% male, and students of COM.ENG are 12% female, 88% male. Also, joined the study from students of CIS are 34% TRNC, 44% TR, 22% other nationalities. Students of CEIT are 70% TRNC, 30% TR. Students of COM.ENG are 16% TRNC, 62% TR, 22% other nationalities.

3.2. Instruments

In addition to the information gathered via the questionnaire to find out the opinions of students about the preferred free e-mail services and to find out which technical characteristics affect the participants when making a decision for the choice of an e-mail service. The questionnaire was developed by the researchers. Also literature survey was used to gather general information about

background of the study. These respondents rated each item as "Strongly Agree", "Agree", "Undecided", "Disagree", "Strongly disagree". The validity of the translated questionnaire was established by a review of three experts in educational technology. Selected items were revised based upon their comments and recommendations. The administration of the revised questionnaire to Cronbach's alpha of .90.

3.3. Data Analysis

Data were collected using questionnaire. After that SPSS 16.0 was used to analyzed and interpret the collected data. Anova, frequency and percentage methods were used during the analysis process.

4. RESULTS and DISCUSSION

4.1. Gender

According to the Table 3, concerning the use of free e-mail services Gmail and Hotmail, there are no statistically significant differences between genders in this study (p>.05). But on the other hand, looking at the results of Yahoo users, there is a statistically significant difference between genders in this study (p<.05). The research results show that male and female students use the same technical characteristics when choosing to use the Gmail and Hotmail free e-mail services. But there seems to be significant differences in the choice of technical characteristics between males and females when the Yahoo free e-mail service is selected. According to the results, females seem to take into account more technical points of the Yahoo e-mail service. The male and female students who participated in the study use the Hotmail free e-mail service the most. After the Hotmail, male and female students prefer to use the Gmail free e-mail services. The least used service seems to be the Yahoo free e-mail service.

Table 3: Differences between Genders

	Gender	N	Mean	SD	F	p
Gmail	**Male**	58	47.47	7.49	.137	.712
	Female	19	47.95	7.60		
Hotmail	**Male**	91	41.48	8.26	.012	.913
	Female	41	43.41	8.94		
Yahoo	**Male**	37	51.24	11.66	34.408	.000
	Female	7	52.14	2.48		

4.2. Departments

As indicated in Table 4, in this study there are no statistically significant differences between departments using the Hotmail and Yahoo free web based e-mail services (p>.05). This result suggests that students in CIS, CEIT and COM.ENG departments who use the Hotmail and Yahoo free web based e-mail services consider and use the same technical characteristics of these services. However, there is a statistically significant difference between students in the CIS, CEIT, and COM.ENG departments who use the Gmail free web based e-mail services (p<.05). Looking at the values in the table, it is clear that while students in CEIT and COM.ENG departments virtually consider similar technical characteristics of the Gmail free web based e-mail service, students from the CIS department consider less technical characteristics than those in the CEIT and COM.ENG departments.

Table 4: Differences between Departments

	Department	N	Mean	SD	F	p
Gmail	**CIS**	**21**	**43.05**	**10.71**	**6.047**	**.004**
	CEIT	**20**	**49.10**	**7.42**		
	COM.ENG	**36**	**49.39**	**2.94**		
Hotmail	**CIS**	**46**	**37.00**	**9.79**	**.780**	**.379**
	CEIT	**50**	**42.02**	**5.39**		
	COM.ENG	**36**	**46.13**	**6.74**		
Yahoo	**CIS**	**23**	**58.61**	**7.06**	**.160**	**.692**
	CEIT	**10**	**45.50**	**6.83**		
	COM.ENG	**11**	**41.64**	**9.34**		

4.3. Nationality

According to the Table 5, there are no statistically significant difference between nationality in this study (p>.05). Students from the TRNC prefer the most the Hotmail free e-mail service (61%), and then the Gmail free e-mail service (27%), and their leat preference is the Yahoo free e-mail service (12%). Similarly, students with Turkish Nationality prefer to use the Hotmail free e-mail service (46%) the most, as was the case with the TRNC students. Second preference was the Gmail free e-mail service (36%), and the least preference was the Yahoo free e-mail service (18%). It is interesting to note that students with other nationalities prefer the Hotmail free e-mail service the most (52%), followed by the Yahoo free e-mail service (27%), and the least preferenc ewas for the Gmail free e-mail service (21%).

Table 5: Differences between Nationalities

	Nationality	N	Mean	SD	F	p
Gmail	**TRNC**	**24**	**50.37**	**05.34**	**4.544**	**.014**
	TR	**44**	**47.18**	**05.73**		
	OTHER	**9**	**42.11**	**14.58**		
Hotmail	**TRNC**	**55**	**41.47**	**09.24**	**1.381**	**.255**
	TR	**55**	**41.60**	**08.13**		
	OTHER	**22**	**44.81**	**07.08**		
Yahoo	**TRNC**	**11**	**52.09**	**09.35**	**4.131**	**.023**
	TR	**21**	**47.38**	**11.66**		
	OTHER	**12**	**57.75**	**06.82**		

4.4. Technical Characteristics

4.4.1 GMAIL

According to the Table 6, although students from all three departments preferred the most the Gmail free e-mail service, it is interesting to note that they considered different technical characteristics. Students from the CIS department considered the most the characteristic "*It can filter spam e-mails automatically*" (M=4.19, SD=1.03) and "*You can find your e-mails easily and fast*"

(M=4.19, SD=1.03) "when choosing the Gmail free web based e-mail service. The main reason for the students from the CEIT department for using the Gmail was "*Having consistently growing mail account*" (M=4.17, SD=0.98). On the other hand, the main reason for students in the COM.ENG department for using the Gmail was "*Presenting an online conversation with the person who sends an e-mail to you*" (M=4.38, SD=0.87) and "*It can filter spam e-mails automatically*" (M=4.36, SD=0.86).

In a similar fashion, when choosing the Gmail, there were technical characteristics and differences that students did not consider. The least considered characteristic that students from the CIS department did not consider when choosing Gmail was "*Providing me to create web groups*" (M=3.04, SD=1.77). The least considered characteristic that students from the CEIT department is not consider was "*Presenting the chance of video conference with the help of Google Talk*" (M=3.17, SD=1.69). Finally, students from the COM.ENG department is not consider the characteristic "*Providing me to create web groups*" (M=3.58, SD=0.96) when choosing the Gmail web based free e-mail service.

In addition; if the departments are considered one by one, it can easily be seen that students were affected by different technical features of G-mail while they were choosing it. Author assumes that the reason of this difference is probably because departments have structural differences between themselves even though they are all technology based.

Table 6: Distribution of Students' Gmail

Gmail	CIS		CEIT		COM.ENG	
	Mean	SD	Mean	SD	Mean	SD
1. Having consistently growing mail account.	3.66	1.59	4.17	0.98	3.80	1.03
2. Presenting a higher capacity than the other mail accounts.	3.66	1.59	3.65	1.66	4.25	0.84
3. The most popular one among those in terms of usage.	3.61	1.46	3.26	1.65	4.27	0.77
4. It can filter spam e-mails automatically.	4.19	1.03	3.78	1.56	4.36	0.86
5. You can find your e-mails easily and fast.	4.19	103	3.73	1.65	3.83	0.77
6. Presenting an online conversation with the person who sends an e-mail to you.	3.52	1.20	3.65	1.82	4.38	0.87
7. It can be reached easily with mobile phone.	3.52	1.20	3.65	1.82	4.22	0.83
8. Allowing only useful advertisements.	3.52	1.20	3.34	1.87	4.08	0.93
9.It is faster than the other mail accounts.	3.47	1.83	3.82	1.74	4.22	0.79
10. Presenting the chance of video conference with the help of Google Talk.	3.47	1.56	3.17	1.69	4.22	0.83
11. Eradicating viruses in added files immediately.	3.14	1.59	3.39	1.72	3.58	0.96
12. Providing me to create web groups.	3.04	1.77	3.43	1.80	4.13	0.83

4.4.2 YAHOO

As in the Gmail, students who chose the Yahoo free web based e-mail service preferred to choose different technical properties. According to Table 7, the main technical Yahoo characteristics students in the CIS department chose were "*Providing the chance of video conference with the help of Yahoo Messenger*" (M=4.86, SD=0.34) and "*Providing me to create web space*" (M=4.73, SD=0.44), "*Permitting only useful advertisements*" (M=4.73, SD=0.44). The reasons why students in the CEIT department preferred to use Yahoo were "*Having unlimited mail account*" (M=4.70, SD=0.48), "*You can find your e-mails easily and fast*" (M=4.70, SD=0.48), and "*Providing the chance of video conference with the help of Yahoo Messenger*" (M=4.70, SD=0.48). Similarly, the reasons why

students in the COM.ENG department preferred to use Yahoo were "*It can filter spam e-mails automatically*" (M=3.63, SD=0.67), "*It can send e-mails by SMS as well*" (M=3.54, SD=1.43), and "*Presenting an online conversation with the person who sends an e-mail to you*" (M=3.54, SD=1.21).

Looking at the results, the least preferred reasons while selecting a mail service also show differences. The least considered technical characteristics for students from the CIS department while choosing Yahoo was "*Having unlimited mail account***"** (M=4.13, SD=1.14). Students from the CEIT department considered the least the technical characteristic "*It can filter spam e-mails automatically***"** (M=2.00, SD=0.81), and finally, students from the COM.ENG department considered the least the characteristic "*Providing me to create web space"* (M=2.27, SD=1.34).

It can be seen easily from Table 8 that, students of CIS department behaved consciously while they were choosing Yahoo free e-mail service.

Table 7: Distribution of Students' Yahoo

Yahoo	CIS		CEIT		COM.ENG	
	Mean	SD	Mean	SD	Mean	SD
1.Having unlimited mail account.	4.13	1.14	4.70	0.48	3.36	1.12
2.Presenting a higher capacity than the other mail accounts'.	4.17	0.98	3.70	0.67	3.45	1.29
3.The most popular one among those in terms of usage	4.34	0.71	2.40	0.69	3.09	1.13
4.It can filter spam e-mails automatically.	4.47	0.73	2.00	0.81	3.63	0.67
5.Presenting an online conversation with the person who sends an e-mail to you.	4.60	0.72	3.70	0.82	3.54	1.21
6.It can send e-mails by SMS as well.	4.34	0.71	3.30	1.15	3.54	1.43
7.You can find your e-mails easily and fast.	4.47	1.03	4.70	0.48	3.45	1.43
8.It is faster than the other mail accounts.	4.60	0.49	3.50	1.35	3.36	1.28
9.Providing the chance of video conference with the help of Yahoo Messenger.	4.86	0.34	4.70	0.48	3.27	1.10
10.Eradicating viruses in added files immediately	4.60	0.49	3.50	1.35	2.72	1.79
11.Providing me to create web space.	4.73	0.44	3.30	0.94	2.27	1.34
12.Providing me to create web groups.	4.47	0.51	2.70	0.82	2.81	1.60
13.Premitting only useful advertisements.	4.73	0.44	3.30	1.15	3.09	1.75

4.4.3 HOTMAIL

According to the Table 8, the main technical characteristic considered by students from the CIS department while choosing the Hotmail was ""*Eradicating viruses in added files immediately*" (M=4.47, SD=1.11), and "*Providing me to create web groups*" (M=4.39, SD=0.99). The main reason that students in the CEIT department chose Hotmail was "*The most popular one among those in terms of usage*" (M=4.42, SD=0.92), and "*Providing the chance of video conference with the help of Messenger*" (M=4.18, SD=1.30). Similarly, the main reason that students in the COM.ENG department chose Hotmail was "*The most popular one among those in terms of usage*" (M=3.88, SD=0.91), and "*You can find your e-mails easily and fast*" (M=3.75, SD=0.90).

The least considered technical characteristic by students in the CIS department while choosing the Hotmail was "*Having 5 GB mail space***"** (M=3.84, SD=1.38), and students in the CEIT department considered the least the characteristic "*Allowing only useful advertisements*" (M=3.20, SD=1.21).

Finally, students in the COM.ENG department considered the least the characteristic "*It can filter spam e-mails automatically*" (M=2.41, SD=1.07) while choosing the Hotmail.

It can be revealed that, CIS department students are conscious while choosing Hotmail free e-mail service. The mean value of two Hotmail technical features is below 4, all of them are very close to 4, and the mean values of all the other technical features are above 4.

Table 8: Distribution of Students' Hotmail

Hotmail	CIS		CEIT		COM.ENG	
	Mean	SD	Mean	SD	Mean	SD
1.Having 5 GB mail space.	3.84	1.38	3.94	1.34	3.27	1.40
2.Presenting a higher capacity than the other mail accounts.	4.10	0.76	3.74	1.36	3.19	1.61
3.The most popular one among those in terms of usage.	4.17	0.79	4.42	0.92	3.88	0.91
4.It can filter spam e-mails automatically.	4.36	0.90	3.66	1.43	2.41	1.07
5.You can find your e-mails easily and fast.	4.10	1.01	4.02	1.31	3.75	0.90
6.It is faster than the other mail accounts.	4.10	1.01	3.80	1.29	3.61	1.10
7. Providing the chance of video conference with the help of Messenger	4.30	0.72	4.18	1.30	3.55	1.46
8.Eradicating viruses in added files immediately.	4.47	1.11	3.52	1.19	2.77	1.28
9.Providing me to create my own web space.	4.36	1.30	3.88	1.18	2.72	1.42
10.Providing me to create web groups.	4.39	0.99	3.66	1.22	2.86	1.39
11. Allowing only useful advertisements.	3.86	1.55	3.20	1.21	2.86	1.41

5. CONCLUSION

We are currently in the technology era. People tend to satisfy all their needs naturally using the technology. Therefore e-mail dominates the world as the most utilized form of electronic communication in the workplace, as it is the most efficient method for transferring documents and reaching people around the globe instantly. It is the author's opinion that more literature studies should be carried out and individuals should be educated on a wider use of the e-mail.

Important results that could contribute to the existing literature have been obtained in the study reported in this paper. Although there were no significant differences between different genders for the use of Gmail and Hotmail, significant differences were found for the preference and use of Yahoo. A surprising conclusion was that differences were found between the departments in their choice of the free web based e-mail service. Although there were no significant differences between the Hotmail and Yahoo, significant differences were found in the use of Gmail. Another surprising conclusion was that students' choices were affected by different technical features of G-mail and Yahoo while they were choosing these free e-mail services. Furthermore, CIS department behaved consciously while they choosing Yahoo and Hotmail free e-mail services.

6. SUGGESTIONS

As we are trying to solve our problems as much as possible using the technology, it is naturally expected to use the e-mail services quite often in everyday life activities. It is therefore important that the issues such as security, points to consider during the usage, properties, and similar technical points should all be well known and care should be exercised in their interpretation and usage. It was

deduced during and at the end of this study that the students who participated in the study did not have enough knowledge and also is not seem to care much about the technical issues of the e-mail services. It is suggested by the author that the students should be educated and made more aware of the technical e-mail characteristics. The suggestions are:

- Courses should be offered to students on the types of free web based e-mail services available.
- Detailed Seminars should be organised to teach the technical characteristics of free web based e-mail services to students.
- The fine details of each technical e-mail characteristic should be taught to students with the possible greatest detail.

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