

TURKISH INTERNET USER'S DEMOGRAPHICS AND INTERNET USAGE

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Özet

İnternet tüm zamanların en hızlı büyüyen medyasıdır. Bu araştırmada, Türk İnternet kullanıcılarının demografik özellikleri ve bu özelliklerin İnternet kullanımıyla olan bağlantıları incelenmiştir. Veri, İnternet kullanıcılarına ulaşım amacıyla, 15-22 Ocak 2007 tarihleri arasında İnternet üzerinde, bu ve benzeri araştırmalar için hazırlanmış olan yeni bir site içerisine yerleştirilen bir anket aracılığıyla toplanmıştır.

Sonuçlar, cinsiyet, yaş ve haftalık çalışma saatinin İnternet kullanımının önemli faktörleri olduğunu ortaya koymaktadır. Ayrıca, e-posta ve diğer kullanımlar arasında beklenenden daha az farklılıklar olduğu görülmektedir. Bu sonuçlar, İnternet ortamında demografik faktörlerin etkilerinin daha iyi anlaşılması ile araştırmacılara, pratisyenlere ve yöneticilere web tabanlı projelerine uygun stratejiler tasarlamalarında yardımcı olacaktır.

Gelecek araştırmalarda, diğer ülkelerde uygulama yapılarak ülke ve kültürler arası karşılaştırmalar yapılabilir.

Anahtar Kelimeler: İnternet kullanımı, Demografik özellikler, Web kullanıcıları

Abstract

The İnternet is the fastest growing medium of all time. In this study, we investigated the Turkish İnternet users' demographics and direct associations of demographic variables with usage activities. The data is collected by an online survey in order to reach the İnternet users, the survey, placed on a new website designed for this study and other web based researches, was online from 15 to 22 January 2007.

Results suggest that gender, age and work hours appear to be the major factors of İnternet usage, and there are fewer differences in e-mail and other web usage than might have been expected. These results will facilitate further understanding of demographic

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factors associated with Internet usage, thereby enabling researchers, practitioners and policy makers to better design appropriate strategies to promote their Web based projects.

Future research can survey respondents from different countries and carry out cross-cultural comparisons.

Key Words: *Internet usage, Demographics, Web users*

1. Introduction

The Internet is becoming an increasingly vital tool in our information society. The Internet, especially the World Wide Web, has become a new consumer medium; the sixth media. The rapid development of Internet and its applications has led to many new services blurring boundaries.

Fortunately, low cost appliances are bringing the Internet to every home; community centers, libraries, and internet coffee houses who offer low cost access to all. A high level of technical skill is no longer required to use it effectively. Accordingly, more and more people are going online to conduct such day-to-day activities as education, business transactions, personal correspondence, research and information gathering, and job searches.

Each year, being digitally connected becomes ever more critical to economic and educational advancement and community participation. Now that a large number of people regularly use the Internet to conduct daily activities, people who lack access to these tools or people who do not adopt themselves to these technologies are at a growing disadvantage.

2. The study

In this study, we will investigate the direct associations of demographic variables with usage activities. The results will facilitate further understanding of demographic factors associated with Internet usage, thereby enabling researchers, practitioners and policy makers to better design appropriate strategies to promote their Internet projects. Furthermore, the demographic and economic profile of Internet users determines the market place for ecommerce applications. Hence, Internet demographics must be considered as part the market research for any web designer. Moreover previous results on factors associated with computer adoption and usage can be examined in the context of the Internet.

The research in the context of factors influencing Internet usage is relatively limited. So, in order to determine these factors, we started by working on computer usage and realized that past research has investigated a wide variety of factors influencing computer adoption² and usage such as demographic characteristics³. Consequently, the adoption and usage of a new media depends on many factors such as demographics, usage motivations and usage behavior.

² J.C. Brancheau, J.C. Wetherbe, "The adoption of spreadsheet software: testing innovation diffusion theory in the context of end-user computing", **Information Systems Research**, 1990, Vol. 1 No. 2, pp. 115-43.

³ J.Y.L. Thong, "An integrated model of information systems adoption in small businesses", **Journal of Management Information Systems**, 1999, Vol. 14 No. 4, pp. 187-214.

Earlier studies on uses and gratifications provided a framework to study motivations relative to the use of the Internet. Joines, Scherer and Scheufele⁴ explored motivations for consumer Web use and identified two types of Web uses. Stafford, Stafford, M.R. and Schkade⁵ also factor analyzed Internet users' gratifications and extracted three factors motivating Internet use behavior: process, content, and social gratifications. Nevertheless, Stafford, Stafford, M.R. and Schkade⁶ criticized that present uses and gratifications have failed to develop new Internet-specific gratifications.

The majority of uses and gratifications research has focused on the effects of consumer motivational factors on media use pattern and behavior, media effects, and technology choice and adoption. Digressing from traditional uses and gratifications research, Stafford, Stafford, M.R. and Schkade⁷ integrated consumer media use with their adoption of technology by combining uses and gratification with diffusion theory. Therefore, these are all well-researched factors

Concerning the usage behavior Rogers⁸ suggested that the adoption of one new idea may trigger the adoption of several others perceived as being interrelated. Accordingly, Leung and Wei⁹ proposed that adoption of new technologies can be best explained by consumer past adoption of similar technologies. The concept has been called technology cluster, which was used to study consumer adoption of new technologies such as ICQ,¹⁰ interactive television¹¹ and electronic commerce activities¹².

According to many general social surveys and studies demographic variables have always been found to be the affecting the adoption of a new technology¹³ and Internet¹⁴, but unfortunately the studies provided us inconsistent results about demographic variables in

⁴ J.L. Joines, C.W. Scherer, D.A. Scheufele, "Exploring motivations for consumer Web use and their implications for e-commerce," **Journal of Consumer Marketing**, 2003, volume 20, number 2, pp. 90-108.

⁵ T.F. Stafford, M.R. Stafford, L.L. Schkade, "Determining uses and gratifications for the Internet," **Decision Sciences**, 2004, volume 35, number 2, pp. 259-288.

⁶ T.F. Stafford, M.R. Stafford, L.L. Schkade, pp. 259-288.

⁷ T.F. Stafford, M.R. Stafford, L.L. Schkade, pp. 259-288.

⁸ E. M. Rogers, **Diffusion of Innovations**, Fourth edition. Free Press, New York, NY, 1995.

⁹ L. Leung, R. Wei, "Factors influencing the adoption of interactive TV in Hong Kong: Implications for advertising," **Asian Journal of Communication**, 1998, volume 8, number 2, pp. 124-147.

¹⁰ L. Leung, "College student motives for chatting on ICQ," **New Media & Society**, 2001, volume 3, number 4, pp. 483-500.

¹¹ L. Leung, R. Wei, pp. 124-147.

¹² M.S. Eastin, "Diffusion of e-commerce: An analysis of the adoption of four e-commerce activities," **Telematics and Informatics**, 2002, volume 19, pp. 251-267.

¹³ D.L. Hoffman, W.D. Kalsbeek, T.P. Novak, "Internet and Web use in the US", **Communications of the ACM**, 1996, Vol. 39 No. 12, pp. 36-46.

¹⁴ J.E. Pitkow, C.M. Kehoe, "Emerging trends in the WWW user population", **Communications of the ACM**, 1996, Vol. 39 No. 6, pp. 106-08.

influencing consumers' adoption behavior¹⁵ so we will focus on these demographic variables in order to see if there are related Internet usage differences.

3. Methodology

In order to reach the Internet users, we decided to use an on line survey placed on a new website (www.arastir-ma.com) designed for this study and other web based researches. The survey was online from 15 to 22 January 2007. Thus, our sample recruitment method can be considered as a convenience sampling method, from Turkish Internet users. Turkey is one of the most wired nations in the region, with its Internet user's reaching 16 million as of 2007 placing Turkey in 16th place in Internet usage statistics worldwide¹⁶. The Internet usage rate is not as high as developed countries but the numbers show that with 21% usage rate and 16 million users Turkish Internet is growing fast, supporting the cultural and economic change¹⁷.

Basic differences in Internet usage by demographic factors are divided in four categories. Robinson and Godbey¹⁸ have classified these factors as follows:

- Birth factors
- Status factors
- Role factors
- Location factors

According to Turkish population characteristics, we decided to investigate the effects of gender and age as birth factor, education and income level as status factor, marital status and work hours as role factors and home ownership as location factor.

In our online survey, respondents entered their education level (elementary school, high school and university and + graduates), income level (low, med, high) and work hours per week (0-20, 20-40 and 40+) according to three levels. All other questions were open-ended.

Harrison and Rainer,¹⁹ found some relationship between gender and level of computer skills, with males more likely to have better computer skills, while others²⁰ found no gender differences²¹.

¹⁵ C.A. Lin, "Assessing audience viewing interest in webcasting," In: P.S.N. Lee, L. Leung, and C.Y.K. So (editors). **Impact and issues in new media: Toward Intelligent Societies**, Cresskill, N.J.: Hampton Press, 2004, pp. 131-148.

¹⁶ <http://www.internetworldstats.com/europa2.htm> 10/01/2007 at 06.50 pm

¹⁷ <http://www.dugumkume.org/turkiye-16-milyon-internet-kullanici-ile-dunyada-onaltinci-sirada> 23/3/2007 at 9:49 pm

¹⁸ John P. Robinson, Geoffrey Godbey, **Time for Life**, State College, Pennsylvania State University Press, 1999.

¹⁹ A.W. Harrison, R.K. Rainer, "The influence of individual differences on skill in end-user computing", **Journal of Management Information Systems**, 1992, Vol. 9 No. 1, pp. 93-111.

²⁰ S. Parasuraman, M. Igarria, "An examination of gender differences in the determinants of computer anxiety and attitudes towards microcomputers among managers", **International Journal of Man-Machine Studies**, 1990, Vol. 32, pp. 327-40.

In the context of the Internet, studies have generally shown that users are predominantly males and that men took to the Internet faster than women.

In general, Internet use tends to decline with age, Elder, Gardner and Ruth²² found that older workers are more likely to experience difficulties compared to younger workers. Similarly, Harrison and Rainer²³ and Zeffane and Cheek²⁴ examined individual differences on skill in end-user computing and found that age is negatively correlated with skill level. In the context of the Internet, studies have shown that users tend to be young adults.

There is a limited amount of research that examines the relationship between educational level and computer usage. Igbaria²⁵ found that educational level has a significant negative effect on computer anxiety and a significant positive effect on perceived usefulness. This result implies that higher educational level is likely to have a positive relationship with computer usage, facilitating Internet usage.

Family income remains an indicator of whether a person uses a computer or the Internet. Individuals who live in high-income households are more likely to be computer and Internet users than those who live in low-income households. This relationship has held true in each successive survey of computer and Internet use.

Marital status, work hours and home ownership are affecting the Internet usage; the possible differences according to these variables are also examined.

4. Results

Total valid respondents for the study were 988. Over 70 percent (n=700) of our sample were male, while 29,15 percent (n=288) were female. Those whose ages were between 15 and 29 years old account for 80 percent (n=790), while those who fall between 30 and 45 years old account for 12 percent (n=118) and older than 45 years old accounted for the 8 percent (n=78) of the total sample. This young demographic composition fits the young Turkish population.

The demographic characteristics were measured in terms of gender, age, educational level, income level, marital status, number of work hours per week and home ownership. Internet usage was measured in terms total usage time per week and the usage activity was asked to respondents. Most of the respondents have cited their activities as e-mailing and chat, browsing and downloading. Of the 988 responses, 70,85 percent were males. Hence, as expected, there appear to be a dominance of male Internet users in Turkey.

²¹ G.S. Howard, R. Smith, "Computer anxiety in management: myth or reality?", **Communications of the ACM**, 1986, Vol. 29 No. 7, pp. 611-5.

²² V.B. Elder, E.P. Gardner, S.R. Ruth, "Gender and age in technostress: effects on white-collar productivity", **Government Finance Review**, 1987, Vol. 3 No. 6, pp. 17-21.

²³ A.W. Harrison, R.K. Rainer, "The influence of individual differences on skill in end-user computing", **Journal of Management Information Systems**, 1992, Vol. 9 No. 1, pp. 93-111.

²⁴ R. Zeffane, B. Cheek, "Profiles and correlates of computer usage: a study of the Australian telecommunications industry", **Computers in Industry**, 1993, Vol. 22, pp. 53-69.

²⁵ M. Igbaria, "User acceptance of microcomputer technology: an empirical test", **OMEGA International Journal of Management Science**, 1993, Vol. 21 No. 1, pp. 73-90.

Moreover, previous researches²⁶ generally explain that males are more likely to be interested in learning about computers than females²⁷.

Additionally, males report heavier web usage (9,8 hours/week vs. 6.6 hours for women), Concerning the usage, women use email more than men (88% and 82%) but men use Internet much more for browsing (76% men and 45% women) and downloading (68% men and 38% women) than women. Women use the Internet for messaging activities to a significantly greater extent than men. This is consistent with previous research²⁸ which found that women tend to view computer-mediated communication more favorably than men²⁹.

The majority of respondents fall in the 16-30 years old age group, thereby implying that most Internet users are young adults. Internet use tends to decline with age; respondents older than 45 years old report using Internet only 1,6 hours per week but respondents aged between 30 and 45 use it 4,8 hours per week and the youngest group 14,6 hours per week. According to age, we notice that the oldest group of users use Internet for e-mail (91%) but the younger groups use for all activities.

More than 78 percent of respondents have at least a high school degree. Usage time is highest with the respondents having high school degree (9,7 hours), the university graduates also report using the Internet more than 9 hours per week but the group with the least education reports only 2 hours of Internet use per week. The university graduate report using Internet mostly for browsing (79%) and e-mail (72%) and the high school graduate for e-mail (70%) and download (75%) so we see that heavy Internet users are generally young and educated people.

We also noticed that Internet usage time and purpose isn't changing according to income level, home ownership and marital status. However, Internet usage increases with number of hours worked, with those reporting 40 or more hours of work reporting 9.6 hours of usage and only 2.2 hours usage of those reporting less working hours. Again, e-mail and browsing tend to hold across all work hour categories. We can argue that longer hours at work afford more opportunity to use the Internet.

5. Limitations

Several limitations of this study should be taken into consideration. First, the sample should be considered. Although the sample in this study has been comparable to the characteristics of Internet users as presented in other national surveys, a convenience sample of Internet users definitely limits the generalization of these findings.

Second, the usage measures are self-reported since objective use logs were not practical as users may use the Internet anytime, anywhere, using different computers and

²⁶ S. Qureshi,, C. Hoppel, "Profiling computer predispositions", **Journal of Professional Services Marketing**, 1995, Vol. 12 No. 1, pp. 73-83.

²⁷ G. Wilder, D. Mackie, J. Cooper, "Gender and computers: two surveys of computer-related attitudes", **Sex Roles**, 1985, Vol. 13 Nos 3-4, pp. 215-29.

²⁸ S. R. Hiltz, K. Johnson, "User satisfaction with computer-mediated communication systems", **Management Science**, 1990, Vol. 36, pp. 739-51.

²⁹ B.J. Allen, "Gender and computer-mediated communication", **Sex Roles**, 1995, Vol. 32 No: 7-8, pp. 557-63.

browsers for different tasks. Although self-reported measures may not be precise, previous research suggests that they are appropriate as relative measures³⁰. Hence, this limitation is not serious.

Third, the use of an online survey may result in sample bias since people with certain characteristics may be more likely to respond to online surveys. This limits the generalization of the results as the set of users who respond may not be a representative sample of the population of Internet users. This is a common limitation of all online surveys.

In spite of these above limitations, this research has contributed to our understanding of Internet usage and demographics.

6. Conclusions

Results of this study suggest that men are more likely to engage in downloading and browsing activities compared to women. In addition, younger users tend to engage in browsing and downloading activities to a greater extent than older users. Educational level above elementary school seems to have little effect on messaging, downloading and browsing activities probably because the Internet has diffused widely to various sectors of the population. This shows that some education level is needed to use the Internet but above high school level the education does little effect on usage time and activities.

Surprisingly, income level, home ownership and marital status have no effect on usage time and activities. Overall, the results contribute to existing literature by highlighting that different demographic variables may influence the Internet usage. Gender, age and work hours appear to be the major factors of Internet usage, and there are fewer differences in email and other web usage than might have been expected

Future research can survey respondents from different countries and carry out cross-cultural comparisons.

³⁰ E. Blair, S.S. Burton, S.S., "Cognitive process used by survey respondents to answer to behavioral frequency questions", *Journal of Consumer Research*, 1987, Vol. 14, pp. 280-8.

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