A STUDY ON FACTORS AFFECTING DIGITAL CITIZENSHIP AMONG COLLEGE FACULTIES IN INDIA

Syed Sadullah Hussainy
Lecturer, Arab Open University, Muscat, Oman
syed@aou.edu.om

Syed Jamalullah R
Research Scholar, Sathyabama Institute of Science and Technology, Chennai, India
syedjamalullahr@gmail.com

Abstract

Digital citizenship is described as the conscientious use of technology by some who interacts with society at various levels such as social, financial, political, and governmental etc., by using computers, internet, and the digital devices. The Digital citizens practice the safe, respectful, and lawful use of technology by understanding the rights and responsibilities when he/she is online. This research helps the faculties to understand what they should be aware of while using digital technologies. This paper is mainly addressing three important factors that affect digital citizenship among colleges and universities faculties, i.e., 1. Internet knowledge, 2 Attitudes towards internet and 3. Computer self-efficacy. The qualitative research approach was adopted, where the objects are one hundred and fifteen universities and colleges professors from the south Indian region. The result of this research reveals that faculties' digital citizenship is roughly at a good level. Apart from this, computer literacy and computer experience may not be affecting the digital citizenship among universities and college faculties. Faculties who have studied and

got training in computer-related courses and having valid credential like and prefer to engage in self-education and online events. The Internet attitude and self-efficacy of computers have driven a higher degree of global citizenship. Finally, for the faculty of universities/colleges, different suggestions were made to develop digital citizenship.

Keywords

Digital Citizenship, Digital Citizens, Internet Attitude, Computer Self-efficacy, Faculties

---

1. Introduction

This study focuses mainly on identifying the role of ''Digital Citizenship'' and the factors affecting ''Digital Citizenship'' among universities/ colleges' faculties (teachers, lecturers/professors) in the south Indian region. A. Isman and Gungoren. O.C (2014), stated that the Digital Citizenship is described as effective use of technologies to interact in society at any level by one who uses digital devices, computers, and internet. The topic of Digital Citizenship is important for everyone and especially for the faculties of higher educational institutions. Presently, universities and colleges are becoming more dependent on the technologies such as internet and computers for their day-to-day operations and, faculties use the Internet, computers and other technologies and technological devices daily in all their lectures and other job-related activities (J.Q. Zou & F. Yu. 2017). The Economic Times, a daily newspaper in India, reported that India reaches 706 million internet users in the year 2019 and the internet penetration rate is 51.71%. Internet indeed has positive and negative consequences for the faculties of the higher educational institutions (Y. Wang. 2016). Analysis of factors affecting digital citizenship will help the enhancement of the emotional health of college faculties, and therefore will strengthen the peace and prosperity of the digital realm. Even though more research was focused on digital citizenship in recent times, and overseas work on digital citizenship is larger than internal work. They emphasized on the significance and propagation of digital citizenship, however, and very few analyses worked on the faculties of college and the factors influencing digital citizenship (S. Wangpipatwong, W. Chutimaskul, & B. Papasratorn (2008). Therefore, this article primarily focuses on the shaping factors of the digital citizenship of college faculties in the South Indian region. In Al-Zahrani's view, Internet Knowledge, attitudes of faculties towards internet and computer self-efficacy determine the digital citizenship of faculties significantly. The subsequent observations were suggested for undertaking observational research: (H1) Internet knowledge

has a major impact on the digital citizenship of college faculties. (H2) The attitudes of faculties towards the internet have a huge impact on the digital citizenship of college faculties. (H3) Computer self-efficacy has a massive effect on the digital citizenship of college faculties.

2. Literature Review

Review of related literature is an important step in undertaking research. Here, an endeavour has been made to provide an overview of various aspects of this study through the review of existing literature. The sources referred include various journals, working papers, reports, internet sites etc.

2.1 Digital Citizenship & Digital Citizen

The concept of citizenship can apply to all those people who are the citizens of the country/ countries and have their nationality. M. Ribble (2008), mentioned in his research that, the concept of Digital citizenship derives from the technological environment and its advancement and development which is happening with rapid speed in the last two decades. Each of us plays the role of a digital citizen, because of the rapid growth of emerging technologies (H. Yang, J. Xu, and X.D. Zheng, 2016). A strong assumption has not yet been developed regarding the value of digital citizen at home and abroad, many of the influential interpretations that professional scholars have taken forth. For reference, Ribble (2010) recommended that digital people should have certain qualities such as knowing individual, economic, and social concerns related to technology. Besides that, practicing lawful and responsible activity, promoting, and practicing the healthy, reasonable, and conscientious use of knowledge and technology.

Isman. A & Gungoren O.C (2014), in their research article, stated that the use of technology to promote collaboration, research and development has a positive perspective, reflecting individual responsibility for productive learning. M. Searson, M. Hancock, N. Soheil, and G. Shepherd (2015); R. Hollandsworth, L. Dowdy, and J. Donovan, (2011); M.S. Ribble, G.D. Bailey, and T.W. Ross, (2004) the basic logic group explained that digital citizenship offers the opportunity to make appropriate use of technology to access and appreciate digital information and to determine its credibility to create, research and engage with related content to make safe, reasonable decision-making decisions online. S.L. Qian and Y.Q. Dong (2015); D.G. Li (2012); A. Aviram and Y. Eshet-Alkalai (2006) agreed that the new internet technologies

(such as tablets, notebooks, PCs, smartphones, and other tools) can be used by digital individuals to engage in social interactions easily, peacefully, and securely.

2.2 Digital Citizenship and Literacy

The definition related to digital literacy and citizenship proposed by the scholar (Mark Ribble) is shown below in three parts:

1. Self- Regard & Respect for other	
Digital Etiquette	Electronics behaviour code standard
Digital Accessibility	Participating in social activities electronically
Digital Norms	Accountability of electronic actions

2. Enlighten yourself/ unite yourself with others	
Digital Communication	Sharing information online
Digital Literacy	Knowing how to use technology effectively
Digital Commerce	Trading electronically

3. Guard yourself and others	
Digital Rights & Responsibilities	Freedom and requirements of digital technologies
Digital Security	Electronic protection and security
Digital Health & Wellness	The well-being of people in the digital world

H.D. Hu, (2012); M. Ribble, (2010); M. Ribble (2011) mentioned that in the age of digitalization, survival has become difficult and doubtful. Apart from the computer literacy, the internet literacy and knowledge literary, the digital literacy is another modern achievement. The rise of global people in the global culture of the 21st century, digital citizenship is emerging as a very important and essential phenomenon. While there is a distinct sense of digital knowledge and digital citizenship. Many researchers and scholar have studied the concept of digital literacy. The definitions of Israel's concept of digital literacy by Yoram Eshet-Alkalai are the most known. To describe digital citizenship, Ribble has divided digital citizenship into three areas: Respect,

Educate and Defend (REPs) A. Al-Zahrani, 2015; H.K. Sam, A.E.A. Othman, and Z.S. Nordin, (2005). Each concept has three foundational aspects that describe suitable action in a digital environment.

The definition indicates that there will be variation and inequalities between digital knowledge and digital citizenship. Commonalities include the usage of information technology in the emerging environment. The use of technology by developing communities depends on digital literacy, Digital management for public activities and the application of digital technologies. K.D. Zhong and Y.H. Liu (2007) stated that digital citizenship is more citizen-based, and these moral values and ethics must be met by so-called members of society. More exposure to the related liberties and responsibilities of people in a democratic society is paid to digital citizenship. C.C. Tsai, S.S. Lin, and M.J. Tsai (2001). Focusing on the above-mentioned meaning and connection, the author argues that digital citizenship in the moral standard and guideline for people to participate in leisure activities in the digital world (involving contact, shopping and working etc.) through the use of digital technologies (M.S. Ribble and G.D. Bailey, 2004).

3. Objective

The Objectives refer to the questions to be answered through the research. They indicate what the researcher trying to get from the research. The broad objective of this study is as follows:

- To explore and assess how factors such as internet knowledge, internet attitudes, self-efficacy of computers, etc., influence the university and college faculties' digital citizenship in the South Indian region.

4. Methodology

The research methodology is a systematic way of solving a problem. It comprises the procedures followed by researchers to define the study and interpretation of a phenomenon.

4.1 Sampling

Researchers have participated in the higher education conference to gather data from respondents (faculties) from universities and colleges of the South Indian region for this study. A structured questionnaire was distributed among 150 faculties who have gathered in an

academic conference. The whole of 95.8 % (n=120) obtained full answers, and all unfinished questionnaires were retrieved by the data review. The questionnaire survey also established the attitude of the university faculties towards the internet, computer self-efficacy and digital citizenship, for the faculties' private information interpretation and internet knowledge awareness. To prevent the over-focus of chosen samples affecting the study outcome, random sampling was performed.

4.2 Questionnaire Design

The methodology of this research is based on the qualitative approach of previous studies. Such as Ribble, Bailey & Ross, 2004; Ribble & Baily, 2004a; Ribble & Bailey, 2004b; Ribble &Bailey, 2004c; Ribble & Bailey, 2005; Ribble & Bailey, 2007.

This study covers three parts:

- Individual's Personal Data
- Computer experience, the internet attitude, and the self-efficacy of computers.
- Digital citizenship.

A Likert scale of five points (from strongly agree to strongly disagree) has been applied to describe the results of the faculties apart from the first part. The first part was aimed at collecting respondents' data. The second segment is used to gather the impression of the participants regarding potential causes that may influence the digital citizenship of the faculties. It obtained statistics on the computer experience of faculties, the average daily use of computers and computer qualifications (computing knowledge and experience). These also explored two attitudes linked to technology, the attitude of the faculties towards internet and computer self-efficacy.

The method applied for internet attitudes is an improved form of Sam et al., which initially introduced the computer attitude scale and was tested by Nickell and Pinto (R. Martin, 1991; M. Shelley, L. Thrane, S. Shulman, E. Lang, S. Beisser, T. Larson, and J. Mutiti, 2004). Abdulrahman Al-Zahrani's created the computer self-efficacy scale, which comprises of 18 objects. In the third part, the Digital Citizenship Scale (DCS) was explicitly developed by Al-Zahrani's focusing on Ribble's assumptions. (G.S. Nickell and J.N. Pinto, 1986; K. Facer, R. Sutherland, R. Furlong, and J. Furlong, 2001).

4.3 Data Collection & Analysis

Academics and higher education conferences are gatherings in which academician, researcher, faculties from higher educational institutions often gather to meet to discuss developments and changes relevant to their subjects and the area of specialization. Researchers have received authorization and approval from the organizers of the conference to gather data and organizers are supported to receive consent for the data collection from the faculties. Responses were obtained during a break time via paper-format questionnaire. Responses for the data collection were first put into SPSS. Variance analysis (ANOVA) experiments were conducted to determine if the three conclusions were fair.

5 Result and Discussions

Data analysis is of the process of research that brings order, a structure and meaning to the data gathered by using primary data instrument - questionnaire. The data analysis is carried out to get usable and useful information through the analysis of data by using various descriptive and inferential statistical tools like Mean analysis and ANOVA etc.

5.1 Faculties Response

As illustrated in table 1. It can be found that the faculties rated the minimum on all the SR / TO scales. In terms of participation in the digital world, the faculties showed more adequate digital citizenship attitudes, and the average mean for faculty digital citizenship is 4.18, which indicates high rates.

Table 1: *Summary of Faculties Response*

Type/ Category	Mean	SD
Self Retard & Tribute to Other: SR/TO	4.01	1.61
Enright yourself and Unit with other EY/UO	4.29	1.62
Guard yourself & Guard other GY/GO	4.24	1.61
Digital Citizenship Scale: DCS	4.18	1.53

5.2 Computer Experience on Faculties' Digital Citizenship

As table 2 data indicates, computer experience seems to have no massive effect on the digital citizenship of faculties, so it indicates that H1 is not correct. Moreover, the digital citizenship of professor on the EY/ UO level is correlated with the computer qualifications,

faculties suggesting that computer qualifications, professors are more likely to learn themselves and cooperate with others. While those taking computer, courses have been identified as having a more favourable and less extreme reaction to computer M.J. Tsai (1999), it has little impact on the digital citizenship of faculties.

Table 2: *Faculties Response to Computer Experience*

Category	Years of Using Computers	Daily Average Computer Use	Computer Qualification
SR/TO	0.938	1.334	1.266
EY/UO	0.727	1.004	0.095*
GY/GO	0.435	0.987	1.483

5.3 Internet Attitude and Its Influence on Faculties' Digital Citizenship

To study the impact of the internet attitude on the digital citizenship of the professors, the ANOVA method was applied. Table 3 shows that the professors' internet attitude has a major effect on the faculty's digital citizenship, so it indicates that H2 (The attitudes of faculties towards internet have a huge impact on the digital citizenship of college faculties) is correct. Nevertheless, the internet mindset has no impact on the GY/GO measures of the professors' digital citizenship.

Table 3: *Faculties Response to Internet Attitude*

Category	F	P
SR/TO	7.904	0.034**
EY/UO	7.932	0.056**
GY/GO	3.520	1.084
DCS	7.405	0.067**

The results have shown that mindsets toward technology have a direct influence on digital citizenship. The findings can be clarified in the mailbox that the faculty's attitudes towards the internet can influence their enthusiasm and interest in understanding to use the internet. Moreover, earlier fiction suggested that computer faculty attitudes interact through their presentation through the use and practice of computers and the use of internet technology.

5.4 Computer Self-efficacy & Its Influence on Professors

It is concluded that faculties with greater computer self-efficacy have a higher degree of digital citizenship, as the date in table four indicate, that computer self-efficacy has a substantial effect on the digital citizenship of faculties (H3 is correct).

Table 4: *Faculties Response on Self-Efficacy*

Category	F	P
SR/TO	8.904	0.011**
EY/UO	8.932	0.034**
GY/GO	3.520	0.101**
DCS	8.405	0.056**

The outcome is consistent with Professor Al-Zahrani 's argument that digital citizenship is exponentially linked to computer self-efficacy among the faculty. He concluded in his review of Zhong Keding that there was a considerable effect on the computer application of the faculty, whether it was senior or basic computer self-efficacy. Also, Chutimaskul may affirm that citizens' machine self-efficacy has enriched citizens' continued intent for using e-Government websites. It also found that faculties with sufficient self-efficacy of the Internet are far more likely to see the Internet as a functional technology tool.

6. Suggestions & Conclusion

The study findings give many solid insights into a proposal for the development of faculties digital citizenship. From the findings, it has been observed that the faculties were found to have approximately higher levels of digital citizenship and assumed internet attitude, but their computer self-efficacy is at a moderation level. Furthermore, computer experience does not affect the degree of faculty digital citizenship, but internet attitudes and computer self-efficacy have a significant impact on faculties digital citizenship. Also, higher levels of self-efficacy on computers are associated with higher rates of digital citizenship. Authors have proposed the following suggestion to promote the digital citizenship of faculty based on the findings of the study.

- Irresponsible and harmful use of the internet is increasing fast, so the faculties need to make good use of IT to equip themselves with skills and understanding to use new technologies to perform their task and achieving tasks responsibly.
- Universities and colleges can also actively encourage the notion of digital citizenship among students and faculties regularly. Regular promotion and awareness to become a digital citizen are important for those faculties and student with a lower attitude towards digital citizenship. While it will take a long time, it will also be helpful for faculties and

students to build knowledge that will help them learn how to handle the growing technical environment. Being a digital citizen supports faculties to understand technologies critically and developing a positive attitude towards it. (P.A. Houle,1996).

- This research aimed to identify how much the factors such as computer experience, internet attitude and self-efficacy of computers etc., affecting digital citizenship among faculties. It is because digital citizenship is one of the ways of benefiting with technological progress in all aspect of life.

- Faculties should understand that for becoming a successful citizen of digital society it is essential to develop the understanding of new technologies and its skills to use them responsibly.

- Technologies tend to break the norms and rules which may fetch unpredictable outcome for both faculties and student community. For example, this has become very common especially because of the covid-19 pandemic situation for the faculties to have online communication with their students. This may sometime result in where some parties (either faculties or students) forget the principle or neglect the rules and norms of digital society. So it is essential on the part of faculties, that they should play a role of digital citizen and should be a role model for his student community because it is important to show responsible behaviour in the digital world.

It is impossible to envision a life without technology today, faculties need to show technologically responsible conduct, but they should advise their students that technology should be used and handled carefully. The analysis of collected data helped the researchers to realize that the faculties of South Indian colleges and universities display a good knowledge and understanding of digital citizenship. Furthermore, faculty should not disregard the already defined norms and should continue to display more responsible conduct against other new technology users without forgetting their principles. Similarly, as suggested by R.J. Coffin and P.D. Mac Intyre (1999) faculties should also know the responsible way of using information they have and also know how best to use the available materials ethically without being a threat to others in a digital world. It is the fact that the digital world is complex, and people have the right to be protected and attempts to be free from illegal search and the possibility to avoid security threat. Additionally, it is also the responsibility of faculties to protect their students against its negative effect.

REFERENCES

Al-Zahrani, A. (2015). Toward Digital Citizenship: Examining Factors Affecting Participation and Involvement in the Internet Society among Higher Education Students. *International Education Studies, 8*, 203-217. https://doi.org/10.5539/ies.v8n12p203

Aviram, A., & Eshet-Alkalai, Y. (2006). Towards a Theory of Digital Literacy: Three Scenarios for the next steps. *The European journal of open distance and e-learning. 9.*

Isman,A., & Gungoren,O.C.(2014).Digital citizenship. *The Turkish Online Journal of Education Technology, 13,* 73-77.

Tsai, C.C., Lin,S.S., & Tsai,M.J. (2001).Developing an Internet attitude scale for high school students. *Computers & Education*, *37,* 41-51. https://doi.org/10.1016/S0360-1315(01)00033-1

Li,D.G.,(2012).New Trend of Media Literacy Education in the Background of New Digital Divide*. Ideological & Theoretical Education*, 9-13.

Nickell, G. S., & Pinto, J. N. (1986). The computers attitude scale. *Computers in Human Behavior, 2*(4), 301–306. https://doi.org/10.1016/0747-5632(86)90010-5

Yang, H., Xu, J., & Zheng, S.D. (2016). Digital citizenship in the information age. *China Educational Technology*, 9-16.

Hu, H.D. (2012) Library in University and the Education of Digital Literacy for college students. *Marketing management review.*

Sam, H.K., Othman, A.E.A., & Nordin, Z.S. (2005) Computer self-efficacy, computer anxiety, and attitudes toward the Internet: A study among undergraduates in Unimas. *Educational Technology & Society*, 205-219.

Zou, J.Q., & Yu, F.U., (2017) Problems and strategies of network security among college students. *Science and Technology & Innovation*, 35-36.

Facer, K., Sutherland, R., Furlong, R., & Furlong, J., (2001) What's the point of using computers?The development of young people's computer experience in the home. *New Media & Society*, 199-219. https://doi.org/10.1177/14614440122226056

Zhong, K.D., & Liu,Y.H., (2007) Research on Factors Influencing College Students' Computer Self-efficacy. *E-Education Research.*

(a) Ribble, M., (2008) Passport to digital citizenship. *Learning & leading with technology*, 14-17.

(b) Ribble, M., (2010) Digital citizenship: Using technology appropriately.

(c) Ribble, M., (2011) Digital citizenship in schools. *International Society for Technology in Education.*

Searson, M., Hancock, M., Soheil, N., & Shepherd, G., (2015) Digital citizenship within global contexts. *Education and Information Technologies.* https://doi.org/10.1007/s10639-015-9426-0

Shelley, M., Thrane, L., Shulman, S., Lang,E., Beisser,S., Larson, T., & J. Mutiti (2004) Digital citizenship: Parameters of the digital divide. *Social Science Computer Review*, 256-269. https://doi.org/10.1177/0894439303262580

Tsai, M.J., (1999) The impact of strategic and cooperative learning on Taiwanese eighth graders' computer achievement, attitudes, and anxiety. *The University of Texas at Austin*, 1-146.

Ribble, M.S., & Bailey, G.D., (2004) Digital Citizenship Focus Questions For Implementation. *Learning & Leading with Technology*, 12-15.

Ribble, M.S., Bailey,G.D., & Ross, T.W., (2004) Digital citizenship: Addressing appropriate technology behavior. *Learning & Leading with Technology.*

Houle, P.A., (1996) Towards understanding student differences in a computer skill course. *Journal of Educational Computing Research*, 25- 48. https://doi.org/10.2190/C06X-G9UQ-6BUB-YPTY

Hollandsworth, R., Dowdy, L., & Donovan, J., (2011) Digital citizenship in K- 12: It takes a village. *Tech Trends*, 37-47. https://doi.org/10.1007/s11528-011-0510-z

Martin, R., (1991) School children's attitudes towards computers as a function of gender, course subjects and availability of home computers. *Journal of Computer Assisted Learning,*187-194. https://doi.org/10.1111/j.1365-2729.1991.tb00246.x

Coffin, R.J., & Mac Intyre, P.D., (1999) Motivational influences on computer- related affective states. *Computers in Human Behavior*, 549- 569. https://doi.org/10.1016/S07475632(99)00036-9

Wangpipatwong, S., Chutimaskul, W., & Papasratorn,B., (2008) Understanding Citizen's Continuance Intention to Use e-Government Website: a Composite View of Technology Acceptance Model and Computer Self- Efficacy. *Electronic Journal of e-Government.*

Qian, S.L., & Dong, Y.Q., (2015) "Digital Citizenship" - The Pursuit of Information Technology Course. *China Information Technology Education*, 97-99.

Wang, Y., (2016) Research on the Construction of Netizens' Qualities in College Students in Network Environment. *Journal of Huaibei Vocational and Technical College*, 6-7.