

Assessing the Effects of Managers in the Digital Age on the Management Process of Digital Citizenship Roles

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ABSTRACT The frequent use of technology in education has led to developing certain norms and standards in order to prevent the potential negative results and the chaos of using technology in education. These standards gave rise to the concept of digital citizenship. The term digital citizenship is used to refer to the certain standards that should be followed by students and teachers as well as the education managers. This is why the managers should possess these standards and reflect them in the management processes. The current study, which is based on this necessity, aims to evaluate the influence of the digital citizenship roles of today's managers in digital age on the management processes. Hence, this study worked with the participation of managers working at the Ministry of National Education. The study adopted mixed method research design with 11 participants. Participants were asked to complete the digital citizenship scale and attend focus group interviews. The collected data was analysed through content analysis and descriptive statistics. The results of this study showed that managers possess digital citizenship roles at 70 percent and that these roles influence the management processes. However, despite the low rate, there are still some problems faced while reflecting digital citizenship roles in management processes.

INTRODUCTION

The concept of citizenship has recently been discussed in fields such as political science, sociology and educational sciences. Citizenship is considered as individuals knowing their rights and responsibilities and actively participates in social events (Goodman and Adler 1985; Sunal and Haas 2005; Kiliç 2015).

Although, the reasons behind the recent increase of the discussions on the concept of citizenship are listed as the increasing migration due to economic, social and political reasons; and increasing number of international organizations due to globalization; however, the most influential factor is indicated as technological developments (Temelat 2011; Kiliç 2015).

Being able to use digital technologies in many parts of the world proves that all world citizens can be digital citizens with equal rights and responsibilities. Reasons such as the disappearance of citizenship dependant on borders due to globalization and all world citizens being able to use same digital platforms gave rise to the concept of digital citizenship (Çubucu and Beyzan 2013).

Digital citizenship means defending and implementing behaviour that ensures legal, ethical, safe and responsible use of information and

communication technologies (ISTE 2011). Another definition of digital citizenship is considering the basic norms and behaving according while using technology (Ribble and Bailey 2007). While Mossberger et al. (2008) define digital citizens as people who effectively and constantly use the Internet through the band access they own within their budget and have the ability to read, write, understand and guide the texts on the Internet; Farmer (2010) defines digital citizens as people to can effectively participate in the virtual space by appropriately sorting through the electronic information and can use this information for personal and social development. In this regard, digital citizens are individuals who effectively participate in online communities.

As can be seen from these definitions, digital citizenship develops over the information and communication technologies. At this point, it is possible to the effects of Internet, which is a very significant tool, mostly on social life. Internet, whose primary function is to enable people communicate with each other, works without any time or space limitation and leads to positive social results on the daily lives of people by increasing both the quality and period of interpersonal communication. People who can easily communicate with others through tools like e-mail, chat room

and forum are also strongly supported by others and are able to form various social network communities (Tyler 2002). From this perspective, the effect of Internet on people and communities gave way to moving the concept to citizenship to digital platforms. Another important point is that the number of people using the Internet is 3,010 billion (We Are Social 2015). This significant number of people using the Internet highlights the need to be cautious about the potential negative effects as well as positive ones on each individual joining the digital world. That is why digital citizenship is also defined as 'acting within the ethical and global rules on the Internet setting aware of all types of dangers' (Aydin 2015).

Ribble (2011) formed the rules to be followed in the process of becoming digital citizens as follows: digital literacy; digital ethics; digital communication; digital security; digital commerce; digital access; digital rights and responsibilities; digital law and digital health and stated that digital citizens should act according to these rules.

Digital Literacy

Although, Internet use is very common in today's world; problems are still experienced on how to benefit from the Internet. One of the most important problems is accessing relevant information which requires digital literacy (Mossberger et al. 2008). Digital literacy is defined as being able to use technology along with knowing when and how to use it. Digital literacy involves searching skills to find relevant information as well as realizing education by using technology and benefitting from Internet and technological tools in this regard (Ribble and Bailey 2007).

Ribble and Bailey (2007) state the following regarding the main issues to be learned about digital literacy:

- ♦ Learning the main topics about digital medium;
- ♦ Evaluating online resources;
- ♦ Improving online and distance education.

Digital Ethics

Ethics is describes as the principles regarding rights and wrongs that will influence an individual's choices and their behaviour (Laudon and Laudon 1996) In recent years, new ethical issues arouse such as Internet use; appropriate

use for schools and workplaces; confidentiality and security; copyright and intellectual property (Rader 2002). These rules that signify acceptable or unacceptable behaviour on the Internet are names as Internet ethics. American Sociology Association gathers the ethical rules to be followed on the Internet under four headings (BSA 2002):

1. Showing respect to the other individuals on the Internet;
2. Not threatening the privacy and security of the other users;
3. Using the Internet for the benefits of other users;
4. Behaving according to the laws.

In addition to the ethical rules above, users should continuously ask themselves questions such as: Am I using technology for its purpose? Am I violating the rights of others while using technology? (Ribble and Bailey 2007).

Digital Communication

Digital communication tools established a new social structure by enabling to share information, thoughts and emotions on electronic mediums. Mobile phones, instant messaging, and sending and receiving e-mails have changed the way people communicate (Ribble 2006). In this regard, digital communication is defined as the ability to have convincing communication skills by using digital tools. Nowadays, digital communication is regarded as a basic skill for many careers (Alberta 2012).

Digital Security

While digital security is defined as taking safety precautions against threats; digital privacy is taking necessary precautions for digital security and not sharing confidential information (Ribble and Bailey 2004). Some security cautions are explained below.

- ♦ Gaps resulting from the operation system of the gadget used;
- ♦ Gaps resulting from the personal user account;
- ♦ Gaps resulting from the Internet browser;
- ♦ Redundant shares;
- ♦ Insecure software;
- ♦ Viruses from network and Internet, worms, Trojan horses and hacker attacks;
- Not being able to create password in wireless modems.

Majority of the security flaws usually occur not because of the computer equipment but rather from the way people use them. Thus, administrators should be able to lead teacher and students in this regard.

Digital Commerce

It is also important to protect personal data and do tasks through secure pages during online shopping and banking services. A digital citizen should be able to pursue commercial activities and online shopping and banking systems without causing any data loss through secure pages as well as following the safety principles (Çubukcu and Beyzan 2013).

Digital Access

Internet is a very effective tool for providing political and citizenship related information to citizens. The new technologies related to the Internet offer both more information for the citizens and it transforms this information into more accessible conditions compared to the traditional forms. That is why digital access is defined in accessing information in all organization (Ribble 2006).

Digital Rights

The developing information technologies bring their own law and regulations. In this regard, digital rights involve valuing the freedom of each student, administrator, teacher, family or community on the digital platform (Ribble 2006). They should also obey the laws and regulations established in parallel to digital citizenship rights. In relation to this, the laws regarding the use of technology are becoming significant for educational organizations. It is seen as a necessity that administrators provide resources for teachers and students about what is legal and illegal; also, administrators should determine whether the technological rules and policies are legally supported or not.

Digital Law

As there are laws to obey in all digital platforms; there are regulations to follow on the Internet as well. A digital citizen should be aware that all behaviour that constitutes as a crime in

real-life is also considered as crime on the Internet (Çubukcu and Beyzan 2013).

Digital Health

All technological gadgets that are used for a long time and uncontrolled can lead to health problems. The main health problems are physical, psycho-social and cognitive resulting from computer and Internet use (Muslu and Bolisik 2009). Especially, the content and contact risks of the Internet are among the factors that influence digital health aspect of digital citizenship directly.

The development of technology and variety of different digital tools and gadgets showed that digital citizenship can be handled from more dimensions. Cloud informatics along with digital gadgets such as smart phones, laptop computers and tablets have been added to the 9 dimensions suggested by Ribble and digital citizenship is being evaluated from 11 dimensions (Alberta 2012). Akçil (2015) in his PhD study, found that digital citizenship can be investigated from 11 dimensions. His study showed that a scale that is formed by considering cloud informatics and mobile gadgets would be valid and reliable.

Use of Mobile Gadgets

It is seen that mobile digital gadgets are widely used. Similarly, it is beyond doubt that such gadgets became inevitable parts of our lives. These technologies include portable computers, PDS, and smart phones. These gadgets do not only ease our personal lives; but also provide many opportunities for our work and school lives. It is an important necessity to use these gadgets appropriately and consciously as these gadgets allow faster communication along with easier document transfer and business management (Çubukcu and Beyzan 2013).

Use of Cloud Informatics

According to the Cloud Informatics definition of the American National Technology and Standards Institute, cloud informatics is the technology formed to have Internet or offline access to the pool of computer resources that are structured as easily accessible and ready-to-use (Sanli 2011). Quick access to information and storing more information for a longer time is possible

through cloud informatics. A service setting that is created to enable reliable, immediate and cheaper access to all information provided in a flexible infrastructure is possible via "Cloud Information Technology" (digital storage). This is why, especially managers should be aware of cloud information technologies and they are required to be able use virtual store spaces created over the Internet.

Generally, digital age citizens who are aware of these different dimensions of digital citizenship will be able to live a safer life and achieve more success. Also, one of the ways to move forward without being lost in the digital age is to possess digital citizenship qualities. Therefore, both educators and managers will have major roles in embracing digital citizenship as it is the duty of educators and managers to help the generation known as digital locals (generation born and grown in the digital age) and digital migrants (adults who try to adapt to digital age) adapt to the digital age. Similarly, education system should also be ready for the changes brought by the digital age. Hence, the management layer that will change or develop the education system should possess digital citizenship qualities and reflect these qualities in their management processes.

Management at Digital Age

The significance of the technological developments on social life is well-known. Technological developments caused changes in all aspects of life starting from value judgments in society to life standards, attitudes and behaviours. This causes individuals to develop new adaptation methods, attitudes, skills and working methods that will help them adapt to the changes brought by technology (Çakir and Oktay 2013). It is acknowledged that technology influences people's success rate, motivation, human relations, interpersonal relations, and group behaviour and management styles. Taking the fact that results of the studies proving the significant of technology with modern and postmodern management approaches (Aydin 2007) as the starting point, it is revealed that the changes occurring in management at digital age can be explained through modern and postmodern management theories.

Concepts such as globalization, perfection in management, human rights, international competition, information society, creative manage-

ment, organization based on information, information age, information communication tools, telecommunication and quick technological development revived with the postmodern management theory focusing on human and technology. These developments bring significant changes in the structuring of organizations and institutions (Zeyyat and Tuncel 2001).

Management Processes at Digital Age

It is seen that the first comprehensive study on the management functions that can be used in management approaches started with French Henri Fayol. According to Fayol, who handled the concept of management as a process, the management functions can be examined under five headings: planning, organization, guidance, coordination and supervision (Güney 2001).

The functions and principles put forward by Fayol, have been revised based on contemporary management perspective and modified as follows: planning, organization (organizing), implementation, coordination and control (Dalay 2002; Dalay 2013).

Alkan (2005) emphasizes the need to renew the education system through this fast social change process. Managers should realize the renewal of the education system in order to enable adaptation to today's world. Therefore, it is crucial to know the effects of education managers' digital citizenship roles on management processes. This study planned to investigate the digital citizenship roles of managers at digital age within the frameworks of planning, organization, implementation, coordination and control processes.

In this regard, this study aims to:

1. Firstly, identify the managers' level of having the 11 qualities of digital citizenship with its updated version,
2. Investigate whether these qualities are reflected in management processes or not in today's age, and
3. Develop suggestions for the betterment of digital citizenship roles needed in the management stages.

METHODOLOGY

This study benefitted from mixed method research techniques. According to Creswell (2008), mixed method research design can be describe

as simultaneous or combined use of qualitative and quantitative research methods. The dominant dimension of this study adopted the qualitative research methods. Mixed research methods can be partial or fully mixed; simultaneous or sequential based on time frame; dominant or equal based on emphasis approach (Leech and Onwuegbuzie 2007).

For the qualitative research method part of the study, digital citizenship scale involving eleven dimensions (digital literacy, digital ethics, digital communication, digital safety, digital commerce, digital access, digital rights and responsibilities, digital law, digital health, mobile gadget use, and cloud informatics use) have been implemented. The scale was designed by Akçil (2015) as part of his PhD dissertation. The Cronbach Alpha coefficient of the scale was calculated as .878. The scale examined the participants' level of having digital citizenship qualities. Data analysis for the scale results were done by using SPSS 20.00 software and basic statistical analysis.

"Focus group work" model was used as for the qualitative research method part of the study. The focus group interview used in qualitative methods is the process of gaining in-depth information and thought-production within a small group and the leader (Bowling 2002).

The field notes taken during focus group interviews and participants' notes on the interview forms were transferred onto Excel. Participants were asked semi-structured questions and the notes and comments from the interview forms are analysed through content analysis technique.

Taking Seidman (1998) as the reference, the most relevant common quotes to the main research questions were chosen. The chosen comments are indicated as direct quotes in this report. Participants were given numbers to maintain their anonymity.

Some strategies suggested for ensuring validity in qualitative research have been implemented: "plausibility" instead of "internal validity" and "transferability" instead of external validity terms have been used for the validity of data. As this point, comments that were not considered as plausible were eliminated. As for reliability, "consistency" instead of internal reliability and "affirmability" instead of external reliability was used (Lincoln and Guba 1985; Yildirim and Simsek 2006). The notes taken during inter-

views and the comments on the forms filled by participants were compared and their consistency was determined. The researcher, later on, confirmed these comments by individually interviewing the participants.

Participants

This study was conducted with educational administrators as part of a PhD study in the 2014-2015 academic years. The number of managers working at the Ministry of National Education is 14 and 11 of them participated in the study (Table 1).

Table 1: Participants

| | <i>N</i> |
|---|----------|
| Instruction and Education Department | 1 |
| Inspection Department | 1 |
| Common Services in Education Department | 1 |
| Primary Education Department | 2 |
| General Secondary Education Department | 1 |
| Vocational Technical Secondary Education Department | 2 |
| Higher Education Department | 2 |

FINDINGS

It can be seen from Table 2 that participants possess digital citizenship behaviours at 73.25 percent level by considering the maximum score they could get. Managers' opinions were asked in order to examine the effects of these behaviours of managers at digital age on management processes.

Table 2: Managers' level of having digital citizenship behaviour

| <i>Groups</i> | <i>N</i> | <i>X</i> | <i>SS</i> | <i>Min score</i> | <i>Max score</i> |
|---------------|----------|----------|-----------|------------------|------------------|
| Manager | 10 | 145.10 | 14.91 | 115.00 | 163.00 |

The opinions of managers in regards to the question: "What is the influence of digital citizenship on management processes at digital age? What are the concrete examples of this influence?" evaluating the management functions within the planning, organization, implementation, coordination and control processes are as follows:

Opinions of Managers Regarding the Planning Process

Manager 1: "...as the education department, I can say that we are intensely affected by the digitalization brought by digital age. In this process, we immediately share our opinions and suggestions by using digital communication. We benefit from mobile applications (viber, Whatsapp, etc.) in the planning process."

Manager 4: "... I can say that the path we, as the education department, follow for planning at digital age has changed. We benefit from computers and Internet during the planning process. For example, we visualize our plan for a specific task on computer setting with drawings and graphics."

Manager 7: "... we, as education department, are now doing our planning on online settings at digital age. We make our programs online and send it to institutions related to online settings and use our website and e-mail system during this process."

Most of the managers who agreed on the aforementioned opinions, tried to express the effects of digital citizenship behaviour at digital age on planning process. When these comments are reviewed, it can be seen that managers' digital citizenship behaviours are influential at the planning stage of management process. However, negative opinions towards this concept were also observed. The common statements are as follows:

Manager 5: "... as the department, I cannot say that we are very effective in the digital world. I observe certain problems while using digital platforms during management process. For example, we see that most of the departments do not reply on time when we e-mail them a planned work."

Manager 6: "... as the education department, we face problems with digital communication."

As it can be understood from the comments of the managers, there are effects of digital citizenship behaviour on the planning stage of management functions but the current situation is not sufficient.

Opinions of Managers Regarding the Organization Process

Manager 1: "...as the education department, we arrange all our work and announce all our organizational works on digital platforms."

Manager 4: "... as the education department, we are able to pursue most of our organization jobs through Internet network. Our colleagues are responsible on such platforms."

Most of the managers who agreed on the aforementioned opinions, tried to express the effects of digital citizenship behaviour at digital age on organization process. When these comments are reviewed, it can be seen that digital citizenship roles influence organization process of management functions. However, there are contrasting negative views from managers as well. The common statements of such views are as follows:

Manager 7: "...as education department, we organize the works of our managers in online setting. However, we are still not at a sufficiency level on this issue. For example, we cannot follow works online; our file follow-up system is not working."

Manager 5: "...as the department, I can say that our communication with other departments cannot occur online. We deliver our memos in person and get them signed. This should be transferred to online setting."

As can be seen from managers' statements, digital citizenship influences organization process but it is not sufficient.

Opinions of Managers Regarding the Implementation Process

Manager 1: "... as the education department, all works regarding the pursuit of duties are done through digital settings. For example, the forms needed for completing a job are stored digitally."

Manager 9: "...as the education department, we, specifically, benefit from technology to pursue our jobs. After division of labour, we create the updated reports digitally to use for follow-ups."

The manager who agreed on the opinions above, tried to express the effects of digital citizenship roles on implementation process. When these opinions are reviewed, it can be seen that managers' digital citizenship roles influence the implementation process of management functions. However, there are contrasting views as well. The common statements of these views are as follows:

Manager 6: "... as education department, we use division of labour for managerial duties but we are inadequate at implementation stage. We, especially, need to improve our skills for

using mobile technologies in order to be able to do all of our organization immediately and effectively from anywhere.”

Manager 5: “...as department, we need to benefit from more modern methods regarding the follow-ups and implementation of works. For example, although, we have a document management system, it is not being effectively used.”

Manager 7: “... as education department, we do not share documents and memos online due to security risks.”

As it can be understood from the statements of managers, digital citizenship has effects on implementation process but there are problems at this stage.

Opinions of Managers Regarding the Coordination Process

Manager 3: “... as education department, we are able to coordinate our duties with other departments and relevant school via the Internet. We enable e-mail coordination for most of the time.”

Most of the managers agreed on the opinions above and they tried to express the effects of digital citizenship behaviour on coordination process. It is seen that digital citizenship behaviour influences coordination process of management functions. However, there are views contrasting with this finding. The common statements of these views are as follows:

Manager 5: “... as the department, we do not experience problems with coordination. However, inter-departmental coordination is still based on old systems (delivering in person) rather than digital settings. I think this is related to the institution’s infrastructure.”

Manager 10: “...as the department, our control mechanism is not very healthy. We sometimes experience problems while reaching the managers of schools in rural areas via the Internet. The messages and documents we sent over the Internet are not effectively followed.”

As can be seen from the managers’ statements, digital citizenship has effects on coordination process but it is not at the desired level at digital age.

Opinions of Managers Regarding the Controlling Process

Manager 1: “... as education department, we try to use digital technologies. For example,

we use Internet networks. We form an e-mail or a Facebook group that brings together the participants of the relevant job.”

Manager 4: “... as education department, I do all the controlling of works through digital settings. Our employees send me via e-mail and I send them feedback after checking.”

All the managers who agreed on the statements above tried to express the effects of digital citizenship behaviour on the controlling process at the digital age. When these opinions are reviewed, it is seen that digital citizenship behaviours of the managers has certain effects over the control process of management functions. From another perspective, the lower rate of 30 percent in the digital citizenship roles of manager can be interpreted differently. It can be due to the fact that managers do not possess all of the digital citizenship roles and thus, they cannot reflect them in their management processes.

DISCUSSION

Digital citizenship means radical differentiation in general in individual-state relationship and in the inner functioning of citizenship concept in private. The old implicit sediments of the absolutist, authoritative and one-sided dominance concepts that continue their existence in modern democracies through individual-state relationship began to melt with the digital activism of the digital citizens. (Isikli 2015) These changes hold the potential to improve people’s lives by making information more available, increasing avenues for political and economic engagement, and making government more transparent and responsive. But they also carry dangers of a growing knowledge divide influenced by technology access, threats to privacy, and the potential loss of diversity of knowledge (Gregson et al. 2015).

Çetin (2008), in his research, stated that some managers avoid using technology due to their lack of knowledge and some others due to the fear and attitude they developed against technology. Helvacı (2008) expressed the attitudes of managers who cannot adapt to digital age towards technology as technological constraint. Similar results are observed in the study of Hacifazıoğlu et al. (2011) which involved school managers. The inadequacy of managers in terms of technology is shown as one of the reasons for school managers’ inability to adapt to the tech-

nological age. Bülbül and Çuhadar (2012) discussed that once the acceptance level of managers regarding the use of information and communication technologies in academic and managerial duties will also enable the integration of such technologies into academic and management processes as well as managerial structure. Lai (2015) supports the view that the importance of raising teachers' awareness of the different roles they can play and of enhancing their abilities to perform a combination of the roles to promote learner self-directed use of technology for learning outside the classroom. Additionally, improvement of the organizational infrastructure will be enabled by the increased acceptance of technology and level of trust in technology use.

CONCLUSION

When all the comments are reviewed, it is seen that digital citizenship behaviour has effects on management functions at certain levels. However, no statements regarding the digital ethics, digital commerce and digital health dimensions of digital citizenship were mentioned. Also, it was expressed that certain problems are experienced during the process of reflecting digital citizenship behaviours on management functions.

Despite the finding that managers possess digital citizenship roles at 70 percent, the experienced problems with reflecting these in management processes can be related to the infrastructure of the institution. Moreover, the reason for managers not acting according to digital age can be the lack of sufficient security on using technology. Both situations will prevent managers from reflecting their digital citizenship behaviours in management processes.

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