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**PUBLIC LIBRARIES AND DIGITAL NATIVES: THE SITUATION  
IN TURKEY**


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**ABSTRACT**

Digital natives are the generation of people who are born into and raised in digital technology, accept digital instruments as a part of their lives, see technology as an ordinary part of their everyday lives, and create a unique lifestyle shaped by digital media. These people differ from individuals of former generations with their unique characteristics. Especially while learning, they exhibit different attitudes, perceptions and behaviors from individuals of former generations in processes such as searching, accessing, using, sharing information, etc. Due to these differences, it is inevitable for education and culture institutions to develop new methods, services and applications intended for digital natives. One of these educational institutions is the public libraries. Today, it is essential to take into consideration the changing needs and expectations of digital natives, who are the most important users of public libraries' services and applications. In this study, with which efficacy of digital native-oriented services and policies that public libraries in Turkey have developed have been questioned, it has been aimed to determine the perceptions, thoughts and expectations of the librarians, administrators and clerks working in the public libraries regarding the services and applications provided to digital natives in the libraries they work. Within this framework, a questionnaire has been executed covering 399 participants selected randomly from administrators, librarians and

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clerks working in public libraries in Turkey. The data obtained from the questionnaire have been analyzed on SPSS 24.00. From the data being analyzed, the conclusion drawn is that a great majority of the participants have negative perceptions regarding the services and applications provided to the digital natives. Within the context of the results gained from the study, some suggestions regarding the public libraries in Turkey have been developed.

### **STRUCTURED ABSTRACT**

The “Information Society”, which we have a place in, witnessing the development of, but we have not fully identified, is a social structure that all fields in daily life are affected and formed by information-communication technologies digital culture (Colbert, Yee and George, 2016, p.731). The most important feature of the Information Society is the dizzying change experienced nowadays and the ability of people and institutions to adapt quickly to this change. This change and transformation in Information Society affect all social structures, as well as the public libraries, which are the universities for the people. At this stage, it has become mandatory that the basic services and elements of the public libraries to be revised and developed into a more flexible structure. In this study, the services and policies the public libraries in Turkey should develop for digital natives, the most important user groups, will be discussed, and it is aimed to determine the views and opinions of the public library personnel regarding the services and policies provided to digital natives by the libraries they work at.

It is possible to define digital natives as the generation who are born into and raised in digital technology, who accept digital instruments as a part of their lives, who see technology as an ordinary part of their everyday lives, and who create a unique lifestyle shaped by digital media (Çetin and Özgiden, 2013, p.175; Thang, Nambiar, Wong, Jaafar and Amir, 2015, p.354). They are a new generation, different from their predecessors, which were born into a technology-based world and develop a technology-based language for themselves by getting used to technology since their birth. In other words, digital natives use digital language as their mother tongue and grow up with new technologies (Bilgiç, Duman and Seferoğlu, 2011, p.3; Nelms, 2015, p.99).. However, when defining the term digital native, it is not enough to limit this concept only to culture, age factor is also an important determinant in the separation point of digital nativeness (Fritsch, 2010, p. 22).

Digital natives differ from their predecessors with their unique characteristics listed above. Especially while learning, they exhibit different attitudes, perceptions and behaviors from digital immigrants in processes such as searching, accessing, using, sharing information, etc. In this context, it is inevitable that educational institutions develop new methods, services and practices for digital natives (Wang, Hsu, Campbell, Coster and Longhurst, 2014, p.638; Yang, Huang, and Kinshuk, 2015, p.1049). One of these educational institutions is the public libraries.

In the process of transition to Information Society, the most important element for which public libraries need to develop new strategies and policies is their users, and the most important service is

user services. Because technological developments in the Information Society have significantly affected the need for information, information search behavior, access to information, and the means and methods used by the public library users to use and share information they accessed. In this process, the perception and expectations of the users regarding the public libraries have also changed. From this point of view, it is essential to consider the changing needs and expectations of public library users concerning the services and applications. It is of great importance that particularly children and teenagers, who are considered as the most important user group of public libraries today and who are defined as digital natives, are given the habit of using public libraries. Because the children and teenagers, who benefit from the services of the public libraries and gain the habit of reading and using the library, will be good library users both today and tomorrow. In other words, the services and policies of the public libraries to encourage children and teenagers will fruit both today and in the future. Developing new strategies for the digital natives is also very important in terms of positions and presence of public libraries in the Information Society.

It is inevitable that information and communication technologies will be included in the processes of user services in the activities and policies developed by public libraries for digital natives. The public library must have a strong technological infrastructure as a venue. Moreover, user services must be supported by computer, Internet and digital technology. As a matter of fact, many recent studies point out that digital natives generally do not use libraries that do not have access to the Internet. For today's digital natives, even websites are not sufficient. Because today's children and teenagers prefer social networking sites rather than websites for access to the library. The main reason for this is that such social networks "have quickly become webs within the web and a single shop for a variety of services." Social networking systems provide users with a virtual environment to share information, run thousands of applications, or create their own content and applications as well as socializing. (Rayport, 2009, Kakırman Yıldız, 2012, p.531). Therefore, it is very important that the public libraries use social media efficiently.

Public libraries have an important role in raising the creative and qualified human capital of the information society that produces and uses information. In order for the public libraries to perform this role, they need to capture change and even turn into institutions that are the pioneers of change. Public library services, especially for children and teenagers, are of great importance in this respect.

The main purpose of this research, which focuses on public libraries related to central administration in Turkey in terms of their services and practices for digital native, is to determine the opinions and expectations of the public library personnel upon the services provided to the digital natives. In this context, whether the responses from the library personnel depend on demographic factors (gender, age, educational level, duty, self-identification, type of library, total working time, total working time in public library, etc.) is dealt with in the study.

The following results were obtained by analyzing the responses to the questionnaire:

- A significant part of the participants think that the library they are working with does not have sufficient qualifications to serve digital natives.

- 42.1% of the participants consider the libraries they work as an important life-long learning center for digital natives. However, the proportion of participants who do not think this way is 37.6% and 20.3% of participants remained neutral about this.

- The majority of respondents (83.4%) think that the service buildings/units of their library should be reorganized depending on of the digital natives' the changing perception upon public libraries. In other words, an overwhelming majority of the participants do not consider the current status of their libraries –in the context of services and policies offered to digital natives- sufficient and they think that their libraries must be renovated.

- Most of the participants find their library's human resources insufficient. In addition, most of the participants think that personnel of their libraries do not have the knowledge, experience and infrastructure to meet the needs and expectations of the digital natives.

- Most of the public library personnel participated in the questionnaire think that the technological equipment of the service units in the libraries they work in is insufficient for the digital natives.

- Responses to the statement “Digital natives' interest in our library is sufficient” show that more than half of the participants (55.6%) do not think that the children and teenagers' interest in libraries is sufficient It is also remarkable that one fifth of the participants responded “neutral” to this question.

- Nearly half of the participants do not consider libraries as comfortable and welcoming places for the digital natives. However, one third of the participants responded positively to this statement. Although it is not enough, it is a remarkable rate. This statement is at a rate of five percent of the neutral participants.

- It is remarkable that 24,8% of participants agree with the statement “Our library has modern systems / equipment with which digital natives can access information.” In other words, three quarters of the participants find the modern systems and equipment used in their libraries insufficient.

- Nearly half of the participants find Internet/social media practices aimed at announcing /sharing activities and PR activities in their libraries sufficient. However, significant part of participants (32.4%) have positive thoughts about the Internet and social media practices carried out in libraries.

- More than half of participants responding to the questionnaire (56.4%) have negative views on the digital technology infrastructure and practices in their libraries. It is also observed that one-fifth of the participants remained neutral about this statement.

- The same table reveals that the participants' responses to the statement “Computer technology in our library is sufficient”. Nearly half

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of participants responding (47.4%) disagreed with the statement. However, the 35.4% “agree” response to the statement shows that a significant part of the participants have positive views on computer technology in their libraries.

- "Our library keeps up with and practices innovations in information and communication technologies." the responses to this statement indicate that more than one quarter of respondents (26.3%) have an undecided perspective on this issue. Although there is more (41.4%) disagreeing sampling rate, it is understood that significant sampling (32.4%) think that libraries try to practice and keep up with information and communication technologies.

- As a result of the analysis on the data, the responses of the participants showed that gender, age, educational level, self-identification, duty and the type of library they work in did not differ significantly. However, there are some differences in the overall total working time in the dimensions of library service perception and technology perception. Again, there is a difference in service perception in terms of working time in the public library. In fact, it is possible to interpret this difference as the difference between the “digital natives” and the digital immigrants. As a matter of fact, there was also a correlation between age variables and self-identification in the analysis results. The result was that the participants in the 20-40 age range identified themselves as digital native, while the personnel in the 40+ age range responded “neutral” or “digital immigrant.”

In order to make an overall assessment of the responses to the questionnaire, a large part of the participants have a negative view of the services provided to digital natives in the libraries where they work. However, in response to almost all statements, it is remarkable that there is a considerable amount of neutral participants. This result shows that the public library personnel has a hypocritical or unresolved view on the subject.

The following suggestions have been developed in the context of the results achieved above:

- Public library personnel must be able to use digital technologies and information communication technologies well. Public library personnel who cannot keep up with the technology and the transformation cannot be expected to communicate effectively with users, especially with children and teenagers. Therefore, the General Directorate of Libraries and Publications of the Ministry of Culture and Tourism must organize courses, conferences, panels, seminars, etc. for personnel to improve their information, computer, media, digital and technology literacy.

- Children and teenagers who are digital natives should be directed to group work in public libraries. The public library should become a place to where digital natives can come with their friends and study and spend good time together.

- Public libraries should be learning-centered instead of teaching-centered in information services for digital natives.

- In the library, methods and practices that will blind users ' creative characteristics should be avoided, and strategies that will improve their creativity must be created.
- Arrangements should be made to enable access and participation at any time and from anywhere using smart phones, Internet tools in the library.
- Game-based learning methods should be developed, and the learning and research process in the library should be made entertaining.
- Environments and activities that will enable socialization and team work should be created in the library.
- Public libraries should use technology, Internet and social media tools like Hotmail, Skype, Facebook, Google etc. effectively when communicating with their users.

In summary, the public libraries should be flexible for the digital natives to become institutions that support different learning styles, provide environments where they can collaborate, communicate and interact socially, and teach them to learn. Public libraries should be able to integrate new technologies and applications into the information services they provide. In addition, the focus should be on supporting and developing the skills of digital natives when designing spatial designs of public libraries.

**Keywords:** Public library, digital natives, digital culture, Information Society, public library services.

## **HALK KÜTÜPHANELERİ VE DİJİTAL YERLİLER: TÜRKİYE'DE DURUM**

### **ÖZ**

Dijital yerliler, dijital dünyanın içinde doğup büyüyen, dijital araç ve aletleri yaşamlarının bir parçası olarak kabul eden, teknolojiyi gündelik hayatlarının sıradan bir parçası olarak gören ve içinde bulunduğu dijital teknolojinin şekillendirdiği kendine özgü bir yaşam tarzı oluşturan bir kuşaktır. Onlar kendilerine özgü özellikleriyle kendinden önceki kuşaklardan ayrılmaktadır. Özellikle öğrenirken bilgiyi arama, erişme, kullanma, paylaşma vb. süreçlerde önceki kuşaklardan çok farklı tutum, algı ve davranışlar sergilemektedirler. Bu farklılıklarından dolayı eğitim ve kültür kurumlarının dijital yerlilere yönelik yeni yöntem, hizmet ve uygulamalar geliştirmeleri kaçınılmazdır. Bu eğitim ve kültür kurumlarından birisi de halk kütüphaneleridir. Günümüzde halk kütüphanelerinin hizmet ve uygulamalarında en önemli kullanıcıları olan dijital yerlilerin değişen gereksinim ve beklentilerini göz önünde bulundurulması olmazsa olmaz bir zorunluluktur. Türkiye'deki halk kütüphanelerinin dijital yerlilere yönelik geliştirdikleri hizmet ve politikaların yeterliliğinin sorgulandığı bu çalışmada, Halk kütüphanelerinde görev yapan yönetici, kütüphaneci ve memurların, çalıştıkları kütüphanelerde dijital yerlilere yönelik sunulan hizmet ve uygulamalara ilişkin algı, düşünce ve beklentilerinin

belirlenmesi amaçlanmaktadır. Bu kapsamda çalışmada Türkiye'deki halk kütüphanelerinde çalışan yönetici, kütüphaneci ve memurlardan rastgele belirlenen 399 katılımcıyı kapsayan bir anket çalışması yapılmıştır. Anket çalışmasından elde edilen veriler SPSS 24.00 istatistik programında analiz edilmiştir. Analiz edilen verilerden katılımcıların büyük bir çoğunluğunun çalıştıkları kütüphanelerde dijital yerlilere yönelik verilen hizmet ve uygulamalar konusunda olumsuz bir bakış açısına sahip olduğu sonucuna ulaşılmıştır. Çalışmada elde edilen sonuçlar çerçevesinde de Türkiye'deki halk kütüphanelerine yönelik bazı öneriler geliştirilmiştir.

**Anahtar Kelimeler:** Halk kütüphanesi, dijital yerliler, dijital kültür bilgi toplumu, halk kütüphanesi hizmetleri

## **Introduction**

The "Information Society", which we have a place in, witnessing the development of, but we have not fully identified, is a social structure that all fields in daily life are affected and formed by information-communication technologies digital culture (Colbert, Yee and George, 2016, p.731). The most important feature of the Information Society is the dizzying change experienced nowadays and the ability of people and institutions to adapt quickly to this change. This change and transformation in Information Society affect all social structures, as well as the public libraries, which are the universities for the people. At this stage, it has become mandatory that the basic services and elements of the public libraries to be revised and developed into a more flexible structure.

In recent years, it has been observed that the perception and expectations of public library users concerning libraries have altered significantly due to the developments in computer, Internet and information-communication technologies. Public libraries should take user requirements, which vary depending on technology, into consideration when developing user services. A group of users public libraries should pay a great deal of attention to when developing services and applications is the digital natives, who have been under the influence of "digital culture" from the moment they were born and are growing with technology. The fact that public libraries develop services for digital natives and help them to gain the habit of using libraries is vital for the existence of libraries in the Information Society.

Public libraries in Turkey, a country that has experienced the transition to Information Society and has encountered challenges during this process, has been developing new policies and practices to keep pace with the changes that are experienced due to information - communication technologies and digital culture that is rapidly spreading. The use of computer and Internet-based technologies that started in public libraries in Turkey in 1990s has gained even more speed since the 2000s. It is possible to say that today's hardware and software studies for the use of technological innovations in public libraries and the development of Digital Services are promising . However, it is not possible to say that these studies are sufficient. Compared to the development of different types of libraries in Turkey, it can be said that there is much work to be done for public libraries (Altay, 2017, p.321-322).

In this study, the services and policies the public libraries in Turkey should develop for digital natives, the most important user groups, will be discussed, and it is aimed to determine the views and opinions of the public library personnel regarding the services and policies provided to digital natives by the libraries they work at. Nevertheless, it will be useful to draw the conceptual framework of the very concept "digital native" before moving on to the main topic.

### **Digital Natives: Conceptual Framework**

Technology, surrounding our lives more and more day by day, is one of the most important driving forces that shape the Information Society we have a place in. Due to digitalization and information and communication technologies studies that have been developing especially in recent years, it is mandatory to redefine and restructure many fields, such as communication studies, education, culture, sociology, economics, philosophy, art, psychology, law, ethics, and so on. Today, there is no social, economic, cultural or political fields that was not affected by information and communication technologies and digital culture. The great changes that technology and digitization caused in every field of life in a very short time have also brought with it great problems and conflicts. This process caused a huge difference between people who especially encounter with technology and digitization in the later stages of their lives (digital immigrants) and the new generation that was born into a digital culture-dominated structure and grow in and affected by it (digital natives) and thus this difference led to a conflict of generations (Akbuğa, 2014, p.16; Kurt, Günüş and Ersoy, 2013, p.2). There have always been conflicts between generations throughout history. However, the generation difference between digital natives and digital immigrants is beyond any generational difference. The difference in question is related to all areas, particularly technology and communication, which played role in the emergence of the Information Society. (Uğraş, 2012, p.19-20; Arabacı and Polat, 2013, p.13)

The next generation, raised in the digital world shaped by information and communication technologies, is named in many different ways in literature. Most of these names are: Net Generation, Digital Generation, Y-Generation, Internet Generation, Multitasking Generation, Millennium Generation, Technology Generation, Media Generation (Jukes, McCain, and Crockett, 2010; McCrindle and Wolfinger, 2010; Rosen, 2010; Wallis, 2006; Lancaster and Stillman, 2010; Howe and Strauss, 2000; Lancaster and Stillman, 2010; Cvetkovic and Lackie, 2009; cited by Uğraş, 2012, p.1-2.) This generation is also described as Millennials, Net Generation, the Gamer Generation, Next Generation, N-Generation, Cyber Kids, Homo Zappiens, Grasshopper Mind. However, the term “digital native” used by Prensky (2001) is one of the most common concepts used to describe the digital generation.

It is possible to define digital natives as the generation who are born into and raised in digital technology, who accept digital instruments as a part of their lives, who see technology as an ordinary part of their everyday lives, and who create a unique lifestyle shaped by digital media (Çetin and Özgiden, 2013, p.175; Thang, Nambiar, Wong, Jaafar and Amir, 2015, p.354). They are a new generation, different from their predecessors, which were born into a technology-based world and develop a technology-based language for themselves by getting used to technology since their birth. In other words, digital natives use digital language as their mother tongue and grow up with new technologies (Bilgiç, Duman and Seferoğlu, 2011, p.3; Nelms, 2015, p.99).. However, when defining the term digital native, it is not enough to limit this concept only to culture, age factor is also an important determinant in the separation point of digital nativeness (Fritsch, 2010, p. 22).

The digital natives are rapport with the virtual environment since birth and their connection is seen usual. Therefore, the difference between digital natives and digital immigrants, who encounter with digital culture and technology in the later stages of their lives, is based on the perception of using the Internet/digital world. Digital immigrants, in contrast to digital natives, are people who have not opened their eyes to the digital world in any significant way, but have found their own route in the digital world (Palfrey and Gasser 2008; cited by Eşgi, 2013, p.184). Developing and new technologies, like instant messaging environments, mobile phones, discussion forums, computer games, Internet and social networks, etc. are in the center of the lives of the digital natives. Digital natives discover new ways and methods among the technologies they use continuously while carrying out their daily activities. In addition, the on-line activities of the digital natives are increasingly becoming an indispensable part of their daily lives. The interaction of digital natives with developing and renewing technology does not only affect their activities in everyday life, but also shapes their learning traits to a great extent. The idea



of being a community for digital natives is not related to physical intimacy. They are able to meet people whom they have never met face to face, but have something in common, in digital environments on virtual networks. These associations, which seem very difficult for digital immigrants, are natural and ordinary for digital natives. In this context, when compared to their predecessors, digital natives are much more inclined to learn on-line environments. (Rosli, Saleh, Aris, Ahmad, and Salleh, 2016, p.30; Bilgiç, Duman and Seferoğlu, 2011, p.3-4)

There is no consensus on the emergence date of the digital native generation in the literature. For example, according to Prensky (2001), the first to use digital native concept, the turning point for this generation is 1980, while in some sources (Sprenger, 2010), the beginning of digital native generation dates back to 1977. According to the sources that written especially in recent years, middle 1990s, or even beginning of 2000s marks the beginning of digital native generation (Çukurbaşı and İşman, 2014, p.30; Arabacı and Polat, 2013, p.13). Considering that digital technology-based products, services and applications like smart phones, tablet computers, social media applications, etc. have become more widespread beginning from 2000s and become an internal part of everyday life, it seems reasonable to consider the beginning of digital native generation as the 2000s.

When digital natives' technology use is examined, it can be clearly seen that technology encompasses every part of their lives. Generally, digital natives use technology extensively for five reasons. These being:

- Personal hobbies, interests and/or entertainment,
- Communication,
- Daily use (such as storing information or accessing information, looking at bus tickets or booking places for theater...),
- Professional study,
- University/course study. (Bilgiç, Duman ve Seferoğlu, 2011, p.4).

It is also possible to list the characteristics of the digital natives in the light of various sources (Prensky, 2001; Prensky, 2004; Prensky, 2010; Bennett, Maton and Kervin, 2008; Lei, 2009; Günther, 2007; Kaiser Family Foundation; 2003; Rideout, Roberts and Foehr, 2005; Brown, 2002; Sprenger, 2010; Helsper and Eynon, 2010; Koutropoulos, 2011; Günüş, 2011; Tapscot, 2009; Oh and Reeves, 2014; Çukurbaşı and İşman, 2014, p.30-31) in the literature as follows:

- Digital natives have great skills in using information and communication technologies and in adapting to these technologies. Unlike digital immigrants, they adapt rapidly to the change and transformation in technology. Their ability to adapt is natural.
- As a result of growing up with technology and gaining experience, digital natives have different learning styles than their predecessors. The reason for this difference is that the digital natives spend lives integrated with technology since their birth.
- Digital natives spend most of their time on computer.
- Digital natives use social networking tools like Facebook and YouTube very often, as well as email and smart phones, and spend a lot of time with such technologies.
- Digital natives have developed a unique language, consisting of abbreviations and images, especially in digital environments. The use of this language is also reflected upon their everyday lives.
- As the age of the digital natives becomes younger, the frequency of use of Internet and social media is increasing.

- Also the technologies they use become more diversified and complex.
- Digital natives can easily use multimedia tools, and spend a long time with these tools.
- Digital natives can use two or more technological tools simultaneously when performing two or more jobs, tasks or activities. For instance, when performing a learning activity on Internet, they can simultaneously listen to music through the music player, or communicate with a friend via the smart phone. This ability, which is referred to as multitasking, is one of the most important features of today's digital natives.
  - Digital natives have eight basic norms: independence, personalization, integrity, research, collaboration, entertainment, innovation and speed. These eight norms shape digital natives' perspective on life.
  - Digital natives' information search habits and approach to information access differ from other generations.
  - Digital natives are tech-savvy, they follow the technology very well. They are constantly interacting with their own digital worlds. They also have high levels of trust in existing technologies.
  - Digital natives are motivated by the desire to engage in jobs that they are keen on and interested in, and they do not want to miss anything.
  - Digital natives follow the whole process when they use computers and digital devices.

Digital natives differ from their predecessors with their unique characteristics listed above. Especially while learning, they exhibit different attitudes, perceptions and behaviors from digital immigrants in processes such as searching, accessing, using, sharing information, etc. In this context, it is inevitable that educational institutions develop new methods, services and practices for digital natives (Wang, Hsu, Campbell, Coster and Longhurst, 2014, p.638; Yang, Huang, and Kinshuk, 2015, p.1049). One of these educational institutions is the public libraries.

### **Public Library Services For Digital Natives**

Rapid change in Information Society has led to a radical transformation in all social structures and institutions. One of the social institutions that are deeply influenced by this change is undoubtedly the public libraries. Public libraries are the social institutions that aim to provide educational and cultural services to society without any discrimination. Social institutions are institutions that are affected by the society to which they serve and also affect it themselves. In this context, it is impossible for the public libraries to be not affected by the change experienced during the transition process to Information Society. The public libraries, which are built in industrial society and shape their services and their elements in line with paradigms of industrial society, must review their services and their elements in accordance with the change in the society in which they are included during the transition to Information Society. Public libraries should restructure their basic elements and services from a new perspective and in line with the innovations introduced by the Information Society and information technologies. Developing new strategies for the basic services and elements is also very important for public libraries in terms of their positions and presence in the Information Society. (Altay and Todorova, 2016, p.6, Bayter, 2018, p. 62).

In the process of transition to Information Society, the most important element for which public libraries need to develop new strategies and policies is their users, and the most important service is user services. Because technological developments in the Information Society have significantly affected the need for information, information search behavior, access to information, and the means and methods used by the public library users to use and share information they accessed. In this process, the perception and expectations of the users regarding the public libraries have also changed. From this

point of view, it is essential to consider the changing needs and expectations of public library users concerning the services and applications. It is of great importance that particularly children and teenagers, who are considered as the most important user group of public libraries today and who are defined as a digital natives, are given the habit of using public libraries. Because the children and teenagers, who benefit from the services of the public libraries and gain the habit of reading and using the library, will be good library users both today and tomorrow. In other words, the services and policies of the public libraries to encourage children and teenagers will fruit both today and in the future. Developing new strategies for the digital natives is also very important in terms of positions and presence of public libraries in the Information Society.

Public libraries must get to know them well before they serve their “digital local” users. A healthy user service cannot be provided for digital natives, if their opinions, attitude and behavior especially in learning and information access process are not taken into account. Digital natives, for example, do not prefer to use printed sources and physical libraries as digital immigrants do in information search process. They usually prefer to obtain the information they need from the Internet, search engines or through social networks first (Bilgiç, Duman and Seferoğlu, 2011, s.3). In other words, in terms of cognitive features, digital native users of public libraries often prefer digital resources rather than printed resources; they pay more attention to visuals, movements, music than plain text; they can easily perform simultaneous tasks at the same time and prefer to obtain information from non-linear data (Gu, Zhu and Guo, 2013, p.392). For an effective public library service, library personnel, especially librarians, should be able to analyze digital natives' characteristics and create an environment to which digital natives can easily adapt by eliminating barriers to their public library use. In this process, it is inevitable that all public library personnel, especially librarians, have more technical and technological roles. In other words, library personnel should constantly deal with rapid transformation in technology and they should regularly renew themselves. (Emanuel, 2013, p.21)

The fact that digital natives are distracted very quickly is another issue to be paid attention by library personnel. Technology has an important effect in their quick distraction. The case when child or teenager is on the phone while the librarian is trying to help them with their homework or research is a common in public libraries nowadays. Another feature of these users is the desire to access accessible information without generating it. Users who want to print information they access via digital or written media without the need of reading it or photograph it with a mobile phone are now usual for public libraries.

In summary, in information research process, digital natives in a public library (Bilgiç, Duman and Seferoğlu, 2011, p.4; Arabacı and Polat, 2013, p.14):

- Would like to access information very quickly,
- Prefer to browse the graphic instead of reading text,
- Prefer to read information they find aimlessly instead of reading in a linear way, from beginning to end.
- They want to learn and access information through games instead of accessing information by doing serious studies,
- They do not have sequential but rather a parallel cognitive structure,
- They want to do many jobs and activities simultaneously,
- They want to learn by exploring.

The fact that digital natives' behaviors when it comes to using library and searching information are shaped by technology, Internet and computers, has some advantages as well as significant

disadvantages. Access to information from the Internet may cause in inadequate and inaccurate information. Moreover, most of the Internet resources are unreliable. In addition, many websites are fed from one source. For this reason the information is limited and unreliable. Another important problem is that digital technology diverts the digital natives from research, leading them to direct their attention to games and activities that cause them to waste time. At this point, public libraries should take important roles and responsibilities. It is inevitable that the public libraries develop services and policies, taking into account the user characteristics and expectations that change from the digital locality perspective. The guidance of public libraries for children and teenagers will enable them to use digital resources more accurately and effectively. In addition, the services and guidance of the public libraries extremely very important for the digital natives to be a good information literate. In this process, the most important responsibility falls on librarians and library managers. However, at this point we have a very important detail. Library managers and librarians involved in the development of services for digital natives should be “digital native” or “digital immigrants” who meet digital technology in the later stages of their lives. This detail is extremely important. Because the thinking and process information of digital natives are very different from the “digital immigrants” who work in public libraries. This difference can lead to failures and even conflicts in the effective practice of the services and policies that the public libraries have developed for digital natives.

For the reasons stated above, digital immigrants working in public libraries must be able to meet the needs and expectations of the digital natives in terms of technology literacy and to improve themselves continuously. Public library personnel who can be defined as digital immigrants will be given courses, seminars, conferences and so on, and the activities will be extremely useful in terms of services provided by public libraries for children and teenagers. In order to transform public libraries into learning places, employees need to internalize lifelong and continuous learning. Every activity for public library personnel is an investment in intellectual capital of the library.

It is inevitable that information and communication technologies will be included in the processes of user services in the activities and policies developed by public libraries for digital natives. The public library must have a strong technological infrastructure as a venue. Moreover, user services must be supported by computer, Internet and digital technology. As a matter of fact, many recent studies point out that digital natives generally do not use libraries that do not have access to the Internet. For today's digital natives, even websites are not sufficient. Because today's children and teenagers prefer social networking sites rather than websites for access to the library. The main reason for this is that such social networks “have quickly become webs within the web and a single shop for a variety of services.” Social networking systems provide users with a virtual environment to share information, run thousands of applications, or create their own content and applications as well as socializing. (Rayport, 2009, Kakirman Yıldız, 2012, p.531). Therefore, it is very important that the public libraries use social media efficiently.

Public libraries have an important role in raising the creative and qualified human capital of the information society that produces and uses information. In order for the public libraries to perform this role, they need to capture change and even turn into institutions that are the pioneers of change. Public library services, especially for children and teenagers, are of great importance in this respect.

### **Purpose, Scope and Method**

The main purpose of this research, which focuses on public libraries related to central administration in Turkey in terms of their services and practices for digital native, is to determine the opinions and expectations of the public library personnel upon the services provided to the digital natives. In this context, whether the responses from the library personnel depend on demographic factors (gender, age, educational level, duty, self-identification, type of library, total working time, total working time in public library, etc.) is dealt with in the study.

The scope of the study, or in other words, the universe of the study, is composed of the personnel working in public libraries that subsidiaries of General Directorate of Libraries and Publications of the Ministry of Culture and Tourism. The total number of universes is 3328 (Kütüphaneler ve Yayımlar Genel Müdürlüğü [KYGM], 2018). Since the research universe is extensive, convenience sampling method was preferred in the study. The purpose of this method is to include sampling of all respondents (Altunışık, Coşkun, Bayraktaroğlu and Yıldırım, 2012, p.142). In this context, 500 randomly selected public library personnel from different regions of Turkey have been reached and 399 of the them have returned. According to Sekeran (1992, p. 253), for a universe of 4000 people, 351 samples are sufficient. From this point of view, it is possible to say that the sample applied in the questionnaire represents the universe.

The questionnaire technique was used to collect the research data. While forming the questionnaire, studies and questionnaires on similar subjects were examined and a questionnaire consisting of 24 questions was developed using the scales in the literature. Thereafter, the opinions of the acknowledged experts and academicians were taken, and the questionnaire was put into its final form. Questionnaire is consisted of 8 demographic information-descriptive questions and 16 questions that were designed to address perceptions and expectations upon the services provided by public libraries to digital natives. SPSS Statistics 24.0 was used to evaluate the data obtained from the questionnaire. Reliability analysis, factor analysis, Chi-square analysis, independent t-test and one-way variance analysis (one-way ANOVA) were used for data analysis. The question form that was decided to be used in the research was applied to 50 participants and according to the preliminary survey, questions that were not suitable for the research were excluded from the questionnaire.

## Research Findings

### Demographic Features

**Table 1:** Findings regarding demographic features of participants

| Demographic Features                     | Number of People | Percentage of % | Demographic Features                        | Number of People | Percentage of % |
|--|------------------|-----------------|---|------------------|-----------------|
| <b>Gender</b>                            |                  |                 | <b>Age</b>                                  |                  |                 |
| Female                                   | 138              | 34.6            | 20-40                                       | 180              | 45.1            |
| Male                                     | 261              | 65.4            | 41+   | 219              | 54.9            |
| <b>Educational Level</b>                 |                  |                 | <b>Self-Identification</b>                  |                  |                 |
| High school graduate or Associate Degree | 49               | 12.0            | Digital native                              |                  |                 |
| Bachelor's Degree or Higher              | 351              | 88.0            | Digital immigrant                           | 120              | 30.1            |
|  |                  |                 | Neither                                     | 132              | 33.1            |
|  |                  |                 |   | 147              | 36.8            |
| <b>Duty</b>                              |                  |                 | <b>Type of Library</b>                      |                  |                 |
| Civil servant/DPCO                       | 72               | 18.0            | Province Public Library                     | 111              | 27.8            |
| Librarian                                | 183              | 46.7            | District Public Library                     | 261              | 65.4            |
| Manager/Assistant Manager                | 141              | 35.3            | Public Library                              | 27               | 6.8             |
| <b>Total Working Time</b>                |                  |                 | <b>Total Working Time in Public Library</b> |                  |                 |
| 1-10 years                               | 279              | 69.9            | 1-10 years                                  | 189              | 47.4            |
| 11-20 years                              | 63               | 15.8            | 11-20 years                                 | 84               | 21.1            |
| 21+ years                                | 57               | 14.3            | 21+ years                                   | 126              | 31.6            |

In Table 1, the data regarding the library personnel participating in the questionnaire shows that 34.6% of the 399 participants were female and 65.4% were male. In the present study, the age distribution of the participants was 45.1% in the age range of 20-40 years and 54.9% in the age range of 41 years and above. While 12.0% of the participants graduated high school or had associate degree, 88.0% had Bachelor's Degree or higher. From this data, it can be seen that the majority of the participants in the questionnaire have high educational levels.

When examining the responses to the question regarding whether the participants identify themselves as a digital native or a digital immigrant, it can be seen that 30.1% of the participants identify themselves as a digital native or 33.1% as a digital immigrant. In this question, the main remarkable data is 36.8% "neither." More than a third of participants who responded to the questionnaire could not identify themselves as neither fully digital nor fully digital immigrants.

Responses to the question about their duty in public libraries indicate that nearly half of the participants (46.7%) were librarians. However, a little more than one third of the participants (35.3%) work as manager/assistant manager. At least 18.0% of the participants are civil servants. It is understood that most participants (65.4%) from the data in the table are from the district public libraries. While 27.8% of the participants were personnel of the province public library and 6.8% were personnel of the local public library. When total working time of librarians is examined, it can be seen that 69.9% of the personnel work for 1-10 years, 15.8% for 11-20 years, 14.3% for 21 years and more. 47.4% of the personnel were employed in the public library for 1-10 years, 21.1% for 11-20 years, 31.6% for 21 years and over. From data, it can be deduced that a significant number of respondents do not have much work experience.

### **Factor and Reliability Analysis**

The scale used to determine the opinions and expectations of library personnel upon the services rendered to the digital natives in their libraries was 5 point Likert scale.

Factor analysis was performed in order to determine the sub-dimensions of the scale. "*Factor analysis is a group of multivariate analysis technique designed to summarize or reduce to a lesser number of basic dimensions in order to facilitate the understanding and interpretation of the correlations between multiple variables that are thought to be correlated. The basic logic in factor analysis is that a complex phenomenon can be explained with the help of fewer factors (basic variables)*" (Altunışık, Coşkun, Bayraktaroğlu and Yıldırım, 2012, p.264). Factor analysis is a type of analysis made to test construct validity in social sciences. The reliability of each sub-dimension must be numerically determined after factor analysis. In this context, 3 expressions of sampling adequacy measure less than 0.50 were extracted from the analysis and the analysis was repeated. Ensuring the data set is compatible with factor analysis, The KMO coefficient and Barlett's Test p-value were obtained as 0.904 and 0.000 and the total variance explained was 61.01%. The two factors obtained were called "service perception" and "technology perception" in order of dimension. When the reliability of the dimensions resulting from factor analysis is examined, Cronbach Alpha value of the service perception dimension was 88.6, Cronbach's Alpha value of the technology perception dimension was 86.7. Cronbach's Alpha value of both dimensions is considered as high-reliability coefficient.

**Table 2:** Factor and Reliability Analysis Results of Scale Used In Research

| Name of Factor        | Question   | Factor Weights | Factor Explanatoriness | Reliability    |
|-----------------------|--|----------------|------------------------|----------------|
| Service Perception    | *Our library has sufficient qualifications / features to serve digital natives.  | 0,540          | 31.819                 | 0.886          |
|                       | * Our library is an important life-long learning center for digital natives.   | 0,561          |                        |                |
|                       | * The service buildings/units of our library should be reorganized depending on of the digital natives' the changing perception upon public libraries. | 0,643          |                        |                |
|                       | * Our library personnel has knowledge, experience and infrastructure to meet the needs/expectations of digital natives.                                | 0,687          |                        |                |
|                       | * The technological equipment of the service units in the library is sufficient to meet the needs of the digital natives.                              | 0,722          |                        |                |
|                       | * The interest of the digital natives in our library is sufficient.  | 0,729          |                        |                |
|                       | * Our library is a comfortable and welcoming place for the digital natives.  | 0,783          |                        |                |
|                       | * Our library has modern systems / equipment with which digital natives can access information.  | 0,767          |                        |                |
| Technology Perception | * Changing user profile and new information technologies are taken into consideration when creating our library budget.                                | 0,794          | 29.195                 | 0.867          |
|                       | * Internet / social media applications are sufficient for the announcements/sharing of activities and PR activities carried out in our library.        | 0,745          |                        |                |
|                       | * Digital technology and applications used in our library are sufficient.  | 0,717          |                        |                |
|                       | * Computer technology is sufficient in our library .   | 0,824          |                        |                |
|                       | * Our library keeps up with and practices innovations in information and communication technologies.   | 0,712          |                        |                |
| Total 61,014          |  |                |                        |                |
| KMO Scale Validity    |  |                |                        | <b>0,904</b>   |
| Bartlett's Test       |  |                | Chi-square             | <b>939,034</b> |
|                       |  |                | sv                     | <b>78</b>      |
|                       |  |                | P value                | <b>0,000</b>   |

### Findings According to the Dimensions of Perception and Expectations of Public Library Personnel upon the Services Provided to Digital Natives in Libraries

In Table 3, examining the average of perception and expectations of public library personnel upon the services provided to digital natives in terms of dimensions, it is handled from the point of “service perception” and “technology perception” emerging as a result of factor analysis.

**Table 3:** Frequency Values and Averages According to the Perception and Expectations of Public Library Personnel upon Services Provided to Digital Natives in Libraries

| Dimen<br>sions            | Question   | Strongly disagree |      | Disagree |      | Neutral |      | Agree |      | Strongly agree |      | Stat<br>eme<br>nt<br>Ave<br>rage | General<br>Average |
|---------------------------|--|-------------------|------|----------|------|---------|------|-------|------|----------------|------|----------------------------------|--------------------|
|                           |  | f                 | f%   | f        | f%   | f       | f%   | f     | f%   | f              | f%   |                                  |                    |
| Service<br>Percep<br>tion | *Our library has sufficient qualifications / features to serve digital natives.  | 66                | 16.5 | 141      | 35.3 | 69      | 17.3 | 99    | 24.8 | 24             | 6.0  | 2.68                             | 2.85               |
|                           | * Our library is an important life-long learning center for digital natives.   | 51                | 12.8 | 99       | 24.8 | 81      | 20.3 | 120   | 30.1 | 48             | 12.0 | 3.03                             |                    |
|                           | * The service buildings/units of our library should be reorganized depending on of the digital natives' the changing perception upon public libraries. | 15                | 3.8  | 18       | 4.5  | 22      | 8.3  | 153   | 38.3 | 180            | 45.1 | 4.16                             |                    |
|                           | * Our library personnel has knowledge, experience and infrastructure to meet the needs/expectations of digital natives.                                | 90                | 22.6 | 135      | 33.8 | 84      | 21.1 | 78    | 19.5 | 12             | 3.0  | 2.46                             |                    |
|                           | * The technological equipment of the service units in the library is sufficient to meet the needs of the digital natives.                              | 75                | 18.8 | 135      | 33.8 | 84      | 21.1 | 93    | 23.3 | 12             | 3.0  | 2.57                             |                    |
|                           | * The interest of the digital natives in our library is sufficient.  | 60                | 15.0 | 162      | 40.6 | 81      | 20.3 | 84    | 21.1 | 12             | 3.0  | 2.56                             |                    |
|                           | * Our library is a comfortable and welcoming place for the digital natives.  | 75                | 18.8 | 99       | 24.8 | 93      | 23.3 | 108   | 27.1 | 24             | 6.0  | 2.76                             |                    |
|                           | * Our library has modern systems / equipment with which digital natives can access information.  | 78                | 19.5 | 141      | 35.3 | 81      | 20.3 | 81    | 20.3 | 18             | 4.5  | 2.54                             |                    |



|  |   |    |      |     |      |     |      |     |      |    |      |      |      |
|--|---|----|------|-----|------|-----|------|-----|------|----|------|------|------|
| <b>Techn<br/>ology<br/>Percep<br/>tion</b> | * Changing user profile and new information technologies are taken into consideration when creating our library budget.                         | 60 | 15.0 | 114 | 28.6 | 78  | 19.5 | 120 | 30.1 | 27 | 6.8  | 2.84 | 2.89 |
|  | * Internet / social media applications are sufficient for the announcements/sharing of activities and PR activities carried out in our library. | 45 | 11.3 | 84  | 25.1 | 75  | 18.8 | 150 | 37.6 | 45 | 11.3 | 3.16 |      |
|  | * Digital technology and applications used in our library are sufficient.   | 57 | 14.3 | 168 | 42.1 | 81  | 20.3 | 84  | 21.3 | 9  | 2.3  | 2.54 |      |
|  | * Computer technology is sufficient in our library.   | 21 | 5.3  | 168 | 42.1 | 69  | 17.3 | 102 | 25.6 | 39 | 9.8  | 2.92 |      |
|  | * Our library keeps up with and practices innovations in information and communication technologies.  | 39 | 9.8  | 126 | 31.6 | 105 | 26.3 | 120 | 30.1 | 9  | 2.3  | 2.83 |      |

When the statements related to “service perception” in Table 3 are evaluated, it can be observed that 51.8% of participants responded “disagree” to the statement “our library has sufficient qualifications / features to serve digital natives”. 17.3% of the participants responded “Neutral” to this statement. This result shows that most of the participants think that the libraries they are working at do not have enough qualifications/features to serve digital natives.

37.6% of the participants disagreed with the statement “Our library is an important life-long learning center for digital natives.” 20.3% of the participants remained neutral, while 42.1% responded “agree.” Although nearly half of the participants consider libraries as a life-long learning center, a remarkable percentage of participants do not have a positive opinion on this statement.

The majority of respondents (83.4%) agreed with the statement “The service buildings/units of our library should be reorganized depending on of the digital natives' the changing perception upon public libraries.” It can be understood from the responses that participants do not think that the current status of libraries they work at is not sufficient -in the context of developing effective services and policies for digital natives - and they think that new arrangements should be made in this field.

Responses to the statement “Our library personnel has knowledge, experience and infrastructure to meet the needs/expectations of digital natives.” are also remarkable. Because one-fourth of the participants have a positive view of this statement. It can be said that the majority of the participants have the idea that the library personnel of the library they work at do not have the knowledge, experience and infrastructure to meet the needs and expectations of the digital natives.

The same negative point of view can be seen in responses to the statement “The technological equipment of the service units in the library is sufficient to meet the needs of the digital natives.” It is understood that more than half of the participants' responses do not have a positive point of view on this statement. The percentage of participants who responded to this statement positively is 26.3%. It can be

inferred from the responses that participants do not think that the technological equipment of the libraries are sufficient.

Regarding the statement, "The interest of the digital natives in our library is sufficient.", 15.0% of participants strongly disagree, 40.6% disagree, 20.3% remains neutral, 21.1% agree, 3.0% strongly agree. The participants think interest of digital native people - children and teenagers- in public libraries is insufficient.

Nearly half of the participants disagree with "Our library is a comfortable and welcoming place for the digital natives.", asked to determine their views on the current status of the libraries they work at. While 20.3% of the participants responded "neutral", 33.1% responded positively. The majority of the participants do not consider libraries as comfortable and welcoming places for the digital natives.

Another striking result obtained from the study was the response to the statement, "Our library has modern systems / equipment with which digital natives can access information." Only 24.8% of the responses to this statement are positive. In other words, more than 75% of respondents do not have a positive opinion on the statement.

In order to make an overall evaluation of the statements related to "service perception" in Table 3, it can be deduced that the majority of participants who responded to the statements in the questionnaire have a negative view of the services provided to digital natives in the libraries where they work. The highest participation rate in the dimension of "service perception" has been the expression "The service buildings/units of our library should be reorganized depending on of the digital natives' the changing perception upon public libraries." However, the responses to this statement show negative views about the library where they work.

If we look at the questions related to technology perception in Table 3, "Changing user profile and new information technologies are taken into consideration when creating our library budget.", 43.6% of respondents disagree, while 19.5% of respondents remained neutral. It is observed that 36.9% of the respondents have a positive opinion on the statement. In other words, more than one-third of the participants think that changing user profiles and new information technologies are taken into account when creating a budget in the libraries in which they work.

"Internet / social media applications are sufficient for the announcements/sharing of activities and PR activities carried out in our library." was responded positively by nearly half of the participants (48.9%). Most of the library personnel who participated in the questionnaire think that social media and Internet environments are being used effectively in the announcement of services and activities performed in libraries.

According to the responses regarding "Digital technology and applications used in our library are sufficient." statement, it can be inferred more than half of the participants (56.4%) consider libraries they work at insufficient in terms of digital technology infrastructure. It is also interesting that 20.3% of the participants remained neutral. The rate of participants who consider digital technology and applications in the library as sufficient is 23.6%.

Nearly half of the participants (47.4%) disagreed with the statement "Computer technology is sufficient in our library." The response "neutral" to this statement is also remarkable (17.3%). However, more than a third of the participants have a positive view about computer technology in their libraries.

When responses to the statement "Our library keeps up with and practices innovations in information and communication technologies." are examined, a significant rate of participants (26.3 per cent) remained neutral. Although the rate of participants who disagree with the statement is more, (41, 1%), nearly one out of three of participants (32,4%) think the libraries where they work are able to keep up with and practice innovations in information and communication technologies.

As shown in Table 3, most of the participants consider their libraries' technology-based services and policies for digital natives insufficient. In the dimension of "technology perception", it can be observed that participants agree with the statement "Internet/social media applications are sufficient for the announcement /sharing of activities and public relations activities carried out in our library" more than the other statements. Another striking result that can be inferred from the responses is that statements, participants chose to remain neutral in many statements.

#### Comparison of Perception and Expectations of Public Library Personnel Regarding the Services Provided to Digital Natives Based on Demographic Factors

Table 4 shows the results of t-test and one-way variance analysis(ANOVA) for independent samples in order to determine whether the perceptions and expectations of the public libraries for digital natives differ according to demographic factors. Before applying parametric difference tests, normality assumptions were revised and the data set was calculated as distributed normally.

**Table 4:** Findings on the Differences Between Perception and Expectations of Public Library Personnel Regarding the Services Provided to Digital Natives Based on Demographic Factors

| Dimensions Variables  | Gender ** | Age ** | Educational Level ** | Self-Identification *** | Duty *** | Type of Library *** | Total Working Time *** | Total Working Time in Public Library *** |
|-----------------------|-----------|--------|----------------------|-------------------------|----------|---------------------|------------------------|--|
| Service Perception    | 0,102     | 0,597  | 0,784                | 0,729                   | 0,817    | 0,142               | <b>0,014*</b>          | <b>0,029*</b>                            |
| Technology Perception | 0,051     | 0,443  | 0,484                | 0,417                   | 0,116    | 0,058               | <b>0,013*</b>          | 0,099                                    |

\*p< 0.05    \*\* t test result    \*\*\* anova test result

As shown in Table 4, in dimension of Service Perception and Technology Perception, sub-dimensions of the perception and expectations of participants regarding the services provided to digital natives, do not differ according to age, gender, educational level, self-identification, duty and type of library they work at. However, there are some differences in the overall total working time in the dimensions of library service perception and technology perception. Again, there is a difference in the total working time in public library in the dimension of service perception.

**Table 5:** ANOVA test results to determine the differences between the perception and expectations of the public librarians regarding the services provided to digital natives according to the total working time

|                                    | Total Working Time |             |              |
|------------------------------------|--------------------|-------------|--------------|
| Service Perception<br>(p:0.014)    | 1-10 years         | 11-20 years | ,849         |
|                                    |                    | 21+ years   | <b>,018*</b> |
|                                    | 11-20 years        | 1-10 years  | ,849         |
|                                    |                    | 21+ years   | <b>,027*</b> |
|                                    | 21+ years          | 1-10 years  | <b>,018*</b> |
|                                    |                    | 11-20 years | <b>,027*</b> |
| Technology Perception<br>(p:0.015) | 1-10 years         | 11-20 years | ,852         |
|                                    |                    | 21+ years   | <b>,016*</b> |
|                                    | 11-20 years        | 1-10 years  | ,852         |
|                                    |                    | 21+ years   | <b>,025*</b> |
|                                    | 21+ years          | 1-10 years  | <b>,016*</b> |
|                                    |                    | 11-20 years | <b>,025*</b> |

\*p< 0.05

As shown in Table 5, there is a difference between personnel working for 1-10 years and 21+ years in the service perception and technology dimensions resulting from the perception and expectation of the services provided by the participants to the digital natives ( $p < 0.05$ ). There is a difference between personnel working for 11-20 years and 21+ years ( $p < 0.05$ ).

**Table 6:** ANOVA test results to determine the differences between perception and expectations of the public librarians regarding the services provided to the digital natives based on the total working time in public library

| Service Perception<br>(p:0.008) | Total Working Time |                           |               |
|---------------------------------|--------------------|---------------------------|---------------|
|                                 | 1-10 years         | 11-20 years<br>21+ years  |               |
|                                 | 11-20 years        | 1-10 years<br>21+ years   | ,490<br>,027* |
|                                 | 21+ years          | 1-10 years<br>11-20 years | ,145<br>,027* |

\* $p < 0.05$

As shown in Table 6, There is a difference between personnel working for 11-20 years and 21+ years in the public library in terms of the perception and expectation of services provided to digital natives ( $p < 0.05$ ).

#### Chi-Square Test

**Table 7:** The correlation between self-identification of library personnel and demographic factors

|  | Value              | Degree of Freedom | Significance Dir. Sig. |
|--|--------------------|-------------------|------------------------|
| Correlation between Gender and Self-Identification                               | 5,562 <sup>a</sup> | 2                 | 0,062                  |
| Correlation between Age and Self-Identification                                  | 9,047 <sup>a</sup> | 2                 | <b>0,011*</b>          |
| Correlation between Educational Level and Self-Identification                    | 1,992 <sup>a</sup> | 2                 | 0,369                  |
| Correlation between Duty and Self-Identification                                 | 9,203 <sup>a</sup> | 4                 | 0,056                  |
| Correlation between Type of Library and Self-Identification                      | 3,205 <sup>a</sup> | 4                 | 0,524                  |
| Correlation between Total Working Time and Self-Identification                   | 4,352 <sup>a</sup> | 4                 | 0,360                  |
| Correlation between Total Working Time in Public Library and Self-Identification | 2,975 <sup>a</sup> | 4                 | 0,562                  |

\* $p < 0.05$

As shown in Table 7, There was no significant correlation between gender, educational level, duty, total working time and the type of library in terms of self-identification in the Chi-square test conducted to analyze the relationship between self-identification of the personnel in terms of demographic variables.

There is a correlation between age variables and self-identification. The result was that the participants in the 20-40 age range identified themselves as digital native, while the employees in the 40+ age range responded neither or “digital immigrant.”

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### **Conclusions and Recommendations**

It is very important that the public libraries get to know their target audience well in the process of developing services and policy for digital natives. Public libraries cannot produce effective services and policies for users or children and teenagers who will be potential users if they do not know their characteristics, needs and interests. For today's "digital natives", the public libraries cannot be an attractive place by offering only a variety of material collections. In order to attract the attention of children and teenagers, public libraries should turn into places where many types of entertainment and Information Services are accessible, as well as traditional services. Children and teenagers should see libraries as a meeting place where they have a good time. Public libraries should support the services they provide to children and teenagers with information and communication technologies. For example, a child who borrowed a book from the public library should be able to write his / her comments about the book on the blog or web page of the library or discuss it with his / her friends in the library's social media account.

In the spatial arrangement of public libraries, it should be noted that the digital natives should not be distracted from the environments they are used to in their own world, which is integrated with technology. Considering the fact that there are teenagers from the lower socioeconomic level using the Internet with a mobile phone, although there is no Internet connection at their home, it can be observed that Internet service in public libraries provides a very useful opportunity to reach to the young people. Considering that the use of social media is quite high, it is also an important opportunity to use social media applications in public libraries. In addition to furnishing public libraries with new technological tools and equipment, library personnel should also be able to use these technologies effectively. In this context, library personnel should be given a variety of opportunities and employees should be open to developing themselves.

In order to determine the opinions of public library personnel regarding the services and policies offered to digital natives in libraries, the following results were obtained by analyzing the responses to the questionnaire:

- 88% of the participants have Bachelor's Degree or higher diplomas. The educational status of the participants is at good level.
- Almost one third of the participants are indecisive to describe themselves as "digital native" or "digital immigrant". It is noteworthy that the majority of the neutral participants are 41+ years old.
- Nearly half of the participants have a work experience between 1-10 years. In other words, an important part of the participants do not have much work experience.
- A significant part of the participants think that the library they are working with does not have sufficient qualifications to serve digital natives.
- 42.1% of the participants consider the libraries they work as an important life-long learning center for digital natives. However, the proportion of participants who do not think this way is 37.6% and 20.3% of participants remained neutral about this.
- The majority of respondents (83.4%) think that the service buildings/units of their library should be reorganized depending on of the digital natives' the changing perception upon public libraries. In other words, an overwhelming majority of the participants do not consider the current status of their libraries –in the context of services and policies offered to digital natives- sufficient and they think that their libraries must be renovated.

- Most of the participants find their library's human resources insufficient. In addition, most of the participants think that personnel of their libraries do not have the knowledge, experience and infrastructure to meet the needs and expectations of the digital natives.
- Most of the public library personnel participated in the questionnaire think that the technological equipment of the service units in the libraries they work in is insufficient for the digital natives.
- Responses to the statement “Digital natives' interest in our library is sufficient” show that more than half of the participants (55.6%) do not think that the children and teenagers’ interest in libraries is sufficient. It is also remarkable that one fifth of the participants responded “neutral” to this question.
- Nearly half of the participants do not consider libraries as comfortable and welcoming places for the digital natives. However, one third of the participants responded positively to this statement. Although it is not enough, it is a remarkable rate. This statement is at a rate of five percent of the neutral participants.
- It is remarkable that 24,8% of participants agree with the statement “Our library has modern systems / equipment with which digital natives can access information.” In other words, three quarters of the participants find the modern systems and equipment used in their libraries insufficient.
- Nearly half of the participants find Internet/social media practices aimed at announcing /sharing activities and PR activities in their libraries sufficient. However, significant part of participants (32.4%) have positive thoughts about the Internet and social media practices carried out in libraries.
- More than half of participants responding to the questionnaire (56.4%) have negative views on the digital technology infrastructure and practices in their libraries. It is also observed that one-fifth of the participants remained neutral about this statement.
- The same table reveals that the participants' responses to the statement “Computer technology in our library is sufficient”. Nearly half of participants responding (47.4%) disagreed with the statement. However, the 35.4% “agree” response to the statement shows that a significant part of the participants have positive views on computer technology in their libraries.
- “Our library keeps up with and practices innovations in information and communication technologies.” the responses to this statement indicate that more than one quarter of respondents (26.3%) have an undecided perspective on this issue. Although there is more (41.4%) disagreeing sampling rate, it is understood that significant sampling (32.4%) think that libraries try to practice and keep up with information and communication technologies.
- As a result of the analysis on the data, the responses of the participants showed that gender, age, educational level, self-identification, duty and the type of library they work in did not differ significantly. However, there are some differences in the overall total working time in the dimensions of library service perception and technology perception. Again, there is a difference in service perception in terms of working time in the public library. In fact, it is possible to interpret this difference as the difference between the “digital natives” and the digital immigrants. As a matter of fact, there was also a correlation between age variables and self-identification in the analysis results. The result was that the participants in the 20-40 age range identified themselves as digital native, while the personnel in the 40+ age range responded “neutral” or “digital immigrant.”

In order to make an overall assessment of the responses to the questionnaire, a large part of the participants have a negative view of the services provided to digital natives in the libraries where they work. However, in response to almost all statements, it is remarkable that there is a considerable amount

of neutral participants. This result shows that the public library personnel has a hypocritical or unresolved view on the subject.

The following suggestions have been developed in the context of the results achieved above:

- Public library personnel must be able to use digital technologies and information communication technologies well. Public library personnel who cannot keep up with the technology and the transformation cannot be expected to communicate effectively with users, especially with children and teenagers. Therefore, the General Directorate of Libraries and Publications of the Ministry of Culture and Tourism must organize courses, conferences, panels, seminars, etc. for personnel to improve their information, computer, media, digital and technology literacy.

- Children and teenagers who are digital natives should be directed to group work in public libraries. The public library should become a place to where digital natives can come with their friends and study and spend good time together.

- Public libraries should be learning-centered instead of teaching-centered in information services for digital natives.

- In the library, methods and practices that will blind users' creative characteristics should be avoided, and strategies that will improve their creativity must be created.

- Arrangements should be made to enable access and participation at any time and from anywhere using smart phones, Internet tools in the library.

- Game-based learning methods should be developed, and the learning and research process in the library should be made entertaining.

- Environments and activities that will enable socialization and team work should be created in the library.

- Public libraries should use technology, Internet and social media tools like Hotmail, Skype, Facebook, Google etc. effectively when communicating with their users.

In summary, the public libraries should be flexible for the digital natives to become institutions that support different learning styles, provide environments where they can collaborate, communicate and interact socially, and teach them to learn. Public libraries should be able to integrate new technologies and applications into the information services they provide. In addition, the focus should be on supporting and developing the skills of digital natives when designing spatial designs of public libraries.

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