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DIGITIZATION OF CULTURAL HERITAGE AS A POTENTIAL FOR INCREASING MUSEUM ATTENDANCE IN CENTRAL SERBIA

DIGITALIZACIJA KULTURNOG NASLEĐA KAO POTENCIJAL ZA VEĆU POSETU MUZEJA U CENTRALNOJ SRBIJI

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Abstract: *Serbian cultural institutions, including foundations and museums, are faced with various ongoing challenges. One of them is an increasing lack of interest in cultural events by cultural consumers. Each year, there is a significant decline in the number of cultural consumers interested in cultural and historical exhibitions and displays. The number of museum visitations in Central and Western Serbia has dropped more than 200.000 in just two years. The aim of this study is to find an answer to the following question: Can the digitization of material culture, supported by new technologies, lead to the development of cultural tourism? Over the past few years, many museums have started the process of digitizing their tangible and intangible cultural heritage. However, the number of visitations will not be increased solely by digitization. It is necessary to combine some digital tools with new technologies, and duly implement them in the marketing strategies of cultural institutions. The main challenge is the fact most people are not properly*

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informed about the possibilities of the digitization application. This research shows that young people express some level of interest. However, the problem with young people is the fact they have limited knowledge about culture and history, especially when it comes to their own region. Some of the digital applications that can be used to increase people's interest in cultural institutions are: virtual tours, augmented reality, video games, and storytelling. To increase the number of visitors, new technologies should be properly implemented into the marketing strategies as an instrument of integrated marketing communications.
Key words: *cultural institutions, digitization, cultural heritage, integrated marketing communications.*

Sažetak: *Kulturne ustanove u Srbiji, u koje spadaju i muzeji i zadužbine, suočavaju se sa različitim problemima. Jedan od njih je smanjenje zainteresovanosti konzumenata kulturnih dešavanja. Broj zainteresovanih za izložbe i postavke vezane za kulturno-istorijske događaje se smanjuje svake godine. Za samo dve godine, broj posetilaca muzeja u Centralnoj i Zapadnoj Srbiji je opao za preko 200.000. Istraživanje u okviru ovog rada bi trebalo da da odgovor da li digitalizovana prezentovana materijalna građa, potpomognuta novim tehnologijama, može postati potencijal za razvoj kulturnog turizma. Mnogi muzeji su u prethodnim godinama ušli u proces digitalizacije materijalnog i nematerijalnog nasleđa. Međutim, sama digitalizacija neće povećati broj posetilaca. Potrebno je spojiti neke od digitalnih alata sa novim tehnologijama i pravilno ih implementirati u marketing strategiju ustanova kulture. Glavni problem leži u činjenici da većina ljudi nije dovoljno informisana o mogućnostima primene digitalizacije. Istraživanja u ovom radu su pokazala da kod mladih postoji određeni stepen zainteresovanosti. Problem kod mladih je loše poznavanje istorije i kulture, prevashodno svog kraja. Virtualne ture, Agmented reality, video igre, storyteling su samo neke od aplikacija koje mogu da se upotrebe za povećanje zainteresovanosti njihovih korisnika za rad ustanova u kulturi. Da bi došlo do povećanja broja posetilaca, nove tehnologije treba pravilno implementirati u marketinšku strategiju, kao jedan od instrumenata integrisane marketinške komunikacije.*
Ključne reči: *ustanove kulture, digitalizacija, kulturno nasleđe, integrisane marketinške komunikacije.*

1. INTRODUCTION

Serbian cultural institutions, including museums and foundations, face decreased attendance. The data collected by the Statistical Office of the Republic of Serbia at the request of the Center for Studies in Cultural Development, show that there were 669.443 (Culture, 2013) visitations in Central and Western Serbia in 2013. Two years later, in 2015, the number of

visitations dropped to 431.477 (Culture, 2015). Dragana Martinovic, who conducted a research for every region in Serbia, found that three groups of visitors made up the total number of visitors. The groups consisted of people aged 13-18, 19-26 and 36-50. All of the groups participated with 20% (Martinović, 2010). It should be noted here the research had been done before the number of visitors dropped.

The youngest group visits museums as a part of their school activities and excursion programs, whereas the most regular visitors are the highly educated aged 36-50. Consequently, it can be concluded that the highest decrease in visitations comes from the group aged 19-26. How potential visitors choose to stay informed about current museum events and exhibitions is certainly one of the main issues. According to the IPSOS Agency research in 2014, 29% of Central Serbia population chose local TV stations as the primary source of information. The same research showed that local TV stations were followed only by people who were 65 and older. Another interesting point was that 52.9% of young people aged 15-29 hardly ever watched history documentaries, whereas 26,2% did not watch them at all (Tomanović & Stanojević, 2015). This research shows that there is a relatively poor interest in historical events offered by television programs. A recent research conducted by the UK IPA Agency shows that almost 100% of participants aged 15-34 have Internet access and spend online more than five hours weekly. They spend less than two hours on social networks (BIinet & Field, 2017). In comparison, Ninamedia Research Agency completed a survey in 2015 in Serbia and it showed that 99% of respondents aged 20-24 used the Internet, while 90,7% had an account on a social network. The young spent most of their time listening to music or actively using social networks, while most of men the same age (70,2%) played video games. The problem with social networks is finding the ways to attract people's attention in a jumble of other information and advertisments.

As one of the priorities of 2018, digitization of cultural heritage opens up new possibilities. The possibilities are based on a proper combination of digital tools.

This research aims to find out if digitization can be used as an instrument of marketing communication for the purpose of increasing museum attendance in Central Serbia. The development of marketing communication strategy that would use the Internet instead of mass media could turn visits to museums and historical places into a tourist potential.
The reason to look further into the possibilities of cultural heritage digitization is to find new ways to communicate with Generation Z[1] and

[1] The generation born between mid-90s and the first decade of 2000s

increase their interest. The increased interest may lead to an increased involvement in the work of cultural institutions. The increased involvement in the work of cultural institutions would provide the establishment of new cultural capital because it is evident that the previous resources have been spent.

The problem here is insufficient knowledge about history and cultural heritage, as well as insufficient awareness of the possibilities of digitization.

The social aim of this paper is to learn about the possibilities of digitization and its uses. The purpose of digitization is not only to preserve, reconstruct and repair cultural heritage in the age of constant development of new technologies, but to make it more common and available to a greater number of its users, thus making it an educational tool as well.

The scientific aim of the paper is to connect various digital tools in order to increase the number of visitors to cultural institutions and historical sites.

Hypothesis: A combination of digital tools will increase interest in cultural institutions and historical sites among people aged 19-24.
The indicators are:
Independant variable (cultural institution):
- new possibilites
- two-way communication
- new types of promotion
- more outside employees

Dependant variable (user):
- a combination of digital tools
- interest.

The aim of the research is to prove that serious video games, which are available for download on the Internet and various social networks, can increase interest in history, culture as well as institutions that present them. To complete the research, the authors used survey research design.

The study consists of five sections. After the introductory section, there is a literature review that analyses various digital tools and their possibilities. The importance of video games is emphasized not only because they have the capacity to combine multiple digital tools, but because they may serve educational purposes as well. Section three deals with a review of previous research the author used as the basis for further investigation. After that, the author explains in greater detail the research methodology as well as the sample structure. Section four provides both research results and their translation into charts. Finally, section five offers conclusions, contributions

and solutions which may be successfully implemented into marketing communications strategy of various cultural insitutitons as parts of cultural tourism.

2. LITERATURE REVIEW

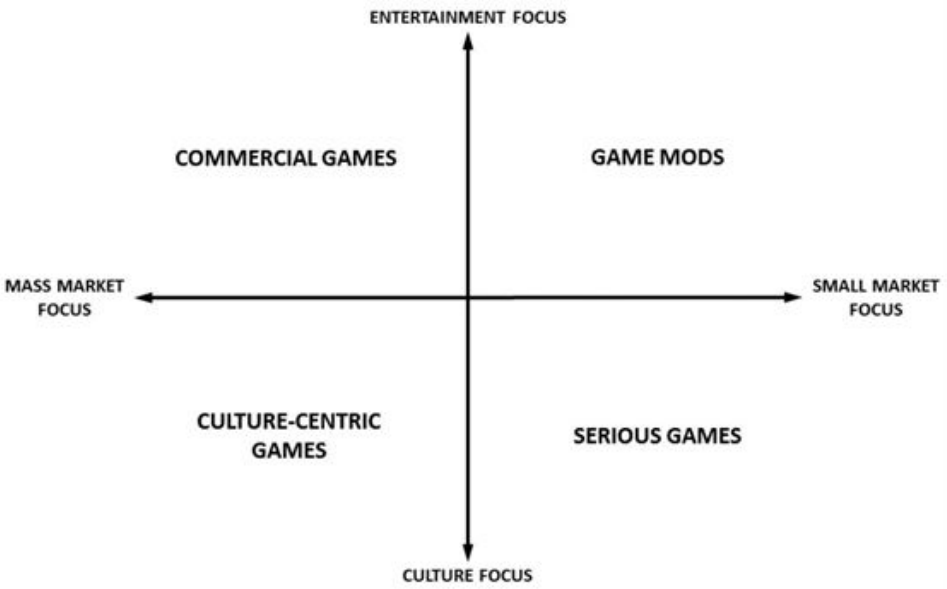
2.1. VIDEO GAMES IN THE SPHERE OF DIGITALIZATION OF CULTURAL HERITAGE

Video game is any of various interactive games played using a specialized electronic gaming device or a computer or mobile device and a television or other display screen, along with a means to control graphic images. Clearly, the definition is based solely on technical characteristics. In an attempt to find accademicaly more appropriate, somewhat shorter and more comprehensive definition, Nicholas Esposito defined it as follows: "A videogame is a game which we play thanks to an audiovisual apparatus and which can be based on a story"(2005).

Jakub Majewski specified four types of games which can be used for cultural heritage presentation. He divided the data depending on game developers. In his opinion, cultural heritage can be the main aim of the game or simply a background material used to improve products. Games can be designed to appeal to wider audience or to focus on smaller, specific audience. The latter implies that the specific audience will be precisely targeted, but the game itself will be less popular and appealing. Four types of games are:

1. Commercial games
2. Serious games
3. Culture-centric games
4. Player-developed modifications (mods) (Majewski, 2015).

It should be noted here that commercial games focus primarily on wider audience not to increase the number of visits to cultural institutions but to gain more profit. They also tend to simply use cultural heritage motives without the intention to properly interpret historical facts.



Majewski, J. 2015. Cultural heritage in role-playing video games: A map of approaches

Instead of focusing solely on commercial aspects, serious video games focus on educational aspects as well. "As a tool for learning cultural heritage, SGs possess incredible potential thanks to offering free choice of learning place, flexible time-management, choice of learning time and speed, autonomous learning in the game context, self-controlled learning, problem-solving, systemic-thinking and willingness for cooperation" (Karner & Härtel, 2010). Serious games deal with cultural heritage “including cultural content, narratives and tasks by means of virtual and augmented reality techniques"(Zhou, Duh & Billinghurst, 2008).

“Interesting project is online multiplayer Serious Game ThIATRO that helps students to learn art history (Froschauer et al., 2011). In this game there is much more interaction between the user and virtual objects."

A group of authors that researched educational aims of serious games and cultural context noticed the potential of the games that deal with intangible cultural heritage (Mortaraa at all 2014). They classified the entire culture heritage as (Mortaraa at all 2014):

- historical reconstruction
- heritage awareness
- artistic/archaeological heritage
- architectural/natural heritage.

Video games can also be classified by their installation area. The areas may include museums and households, as well as mobile applications. The most challenging are the ones installed in households because their educational function is thus increased due to various additional questions.

2.2. CULTURAL HERITAGE DIGITALIZATION AND TOOLS FOR ITS APPLICATION

"The Charter on the Preservation of Digital Heritage of UNESCO defines digital heritage as embracing "cultural, educational, scientific and administrative resources, as well as technical, legal, medical and other kinds of information created digitally, or converted into digital form from existing analogue resources"(Kalay, Kvan & Affleck, 2007). "Digitization contributes to the conservation and preservation of heritage and scientific resources; it creates new educational opportunities; it can be used to encourage tourism; and it provides ways of improving access by citizen to their patrimony" (Ross et al. 2003). "The primary, and usually the most obvious, advantage of digitization is that it enables greater access to collections of all types" (Hughes, 2004). Digitization of both tangible and intangible cultural heritage plays a huge role in the preservation of old cultures. Most of the artifacts damaged during the wars in countries with rich and profound history, such as Iraq and Syria, can be restored using digital tools. 3D technology provides three- dimensional view of the artifacts, which leads to proper restoration. 3D technology can also be used in archeology for the purpose of settlement reconstruction and its artifacts, which can further be used to promote archeological parks in virtual tours. 4D and 5D technologies have recently started to attract more attention.

The digitized collections are also suitable for storytelling. "The Storytelling part, due to the connection with the purposely design repository, is intended to provide detailed information about the objects and various artifacts in the museum or similar other venues. The repository might contain textual, audio and video records, as well as photos and 3D models of objects and other artifacts" (Tatić et al., 2015).

4D and 5D technologies have recently started to attract more attention. In addition to three visual dimensions, the technologies also have the fourth dimension – time. Wasen and Brierley (2013) developed the fifth dimension they referred to as “the idea of visual touch”.

Digital technologies help to preserve valuable library collections as well as its wider availability. "Today, the information revolution has given the ability to scientists, educators, researchers, and individuals not only to use a variety of digital libraries as an information source but also to contribute to these

libraries by uploading data that they create, leading to a massive production of knowledge that we need to verify, manage, archive, preserve, and reuse" (Ioannides et al., 2017).

2.3. IMPLEMENTATION OF NEW TECHNOLOGIES AND PRODUCT OF CULTURAL HERITAGE DIGITALIZATION

American website *Mental Floss* has recognized 11 advances in gaming technology. The author will mention only those that can be directly linked to better usage of products of cultural heritage digitization: virtual reality, augmented reality, wearable gaming, mobile gaming, and cloud gaming (http://mentalfloss.com). It should be emphasized here that various digital tools can be combined (for example, virtual reality and augmented reality) to create multimodal serious games. "In recent years, multimodal serious games technologies, such as virtual reality (VR) and augmented reality (AR), have emerged as areas of particular interest as methods for visualizing a museum's digital artefacts in differing contexts" (Liarokapis et al., 2017). Instead of using expensive hardware, cloud technology enables the use of smaller, more portable gadgets because the load is lightened with the cloud. Thus, more powerful games may become portable by installing them on mobile phones.

"Wearable technology, wearables, fashionable technology, wearable devices, tech togs, or fashion electronics are smart electronic devices (electronic device with micro-controllers) that can be worn on the body as implants or accessories" (O'Donovan et al., 2009). A game player wears some kind of apparel which helps him move through virtual space, be it a museum, a historical site or a video game.

2.4. MEDIA COMBINATION FOR THE PROMOTION OF DIGITAL CULTURAL HERITAGE

The Internet has dramatically changed marketing communications between organizations and end-users. Traditional media are used primarily for advertising. Thus, the communication is strictly one-way and the results cannot be directly evaluated. However, it should be noted that this type of communication with consumers is still the most widely used. The reason for that is the fact that television, though less popular today, still seems to be the leading mass media. The problem of mass media advertising, especially TV advertising, is high advertising cost with relatively low impact on target audience.

Communication has changed due to the Internet development. From one-way, organization-user oriented communication, it has become two-way and even three-way: one-to-one, one-to-many and many-to-many (Jensen, 2010).

This type of communication has changed the very concept of integrated marketing communication. The Internet and other digital tools (social networks, mobile applications, video games, cloud technologies, etc.) are not only an advertising instrument, they are also used for direct marketing, sales improvement and even some types of personal selling. The Internet sales of goods, tickets for cultural events and holiday packages has shifted the conventional trade to new developing platforms.

The concept of integrated marketing has been developed for the purpose of defining as well as constantly advancing new technologies and new types of communications with potential customers. "Interactive marketing refers to the use of an information infrastructure network and devices connected to the network for mediating interactions between an organization and its customers in the context of activities and processes employed by the organization for creating, communicating, and delivering products that offer value to customers in an exchange." (Shankar & Malthouse, 2006).

However, interactive marketing does not exclude the use of traditional communication forms but tends to combine the traditional and the new. The research of Varadajan and Yadav (2009) demonstrates the necessity to combine previous marketing recources with the emerging Internet techologies when choosing the right marketing strategy.

"Illustrative of marketing strategy decisions that entail augmentation of the current strategy, to varying degrees, by leveraging of the potential of the Internet are the following: 1. Relative emphasis on traditional channels versus the Internet for providing product-related information to customers, communicating with customers, promoting to customers, and transacting with customers. 2. Relative emphasis on marketing direct to customers via the Internet versus through intermediaries (traditional, electronic, and/or hybrid intermediaries). 3. Leveraging the potential of the Internet to innovate, customize and personalize in the realms of product, price, promotion, distribution and customer relationship management (e.g., product innovations, product customization, and product personalization)" (Varadajan & Yadav, 2009).

3. METHODOLOGY

The basis for this research was a video survey conducted in the early 2016. The survey was conducted for the Open Competition for Co-financing Public Information Projects. Twenty-one participants aged 19 to 24 were surveyed. They were asked to answer the questions about the history of Arandjelovac. 57,1% did not know where the first Serbian Uprising began (about 4 kilometers near the place they were surveyed); 38,1% did not know who and

when led the uprising. However, after the resondents had been given an explanation, 66,7% stated that they had visited the place with their school excursion but were not sure if that was the right answer.

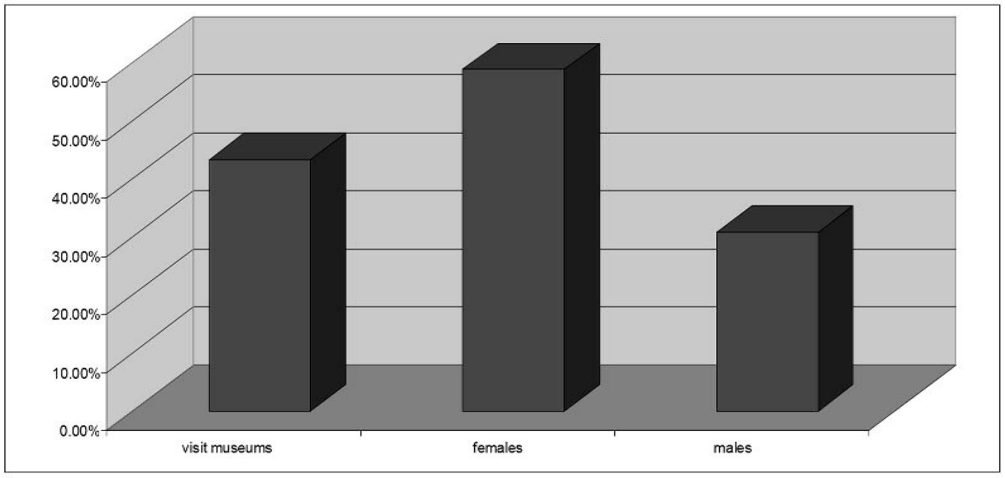
This reasearch was conducted using primarily survey research method. The author chose this type of research in order to collect data based on the type of information necessary for the study.

A historically-themed video game based on local cultural and historical heritage has never been developed in Serbia. Thus, the purpose of the survey was to either accept or reject the hypothesis that the video game would increase the interest in museum and culture institutions of people aged 19 to 24. The first few questions were designed to discover the current number of museum visitors and their sex, while the last question was supposed to prove that the hypothesis was true. The survey consisted of closed-ended questions and the respondents were asked to answer yes/no questions. The survey was conducted at the beginning of 2018. Since the highest drop in museum visits was found among the young aged 19 to 24, they were the survey target audience. No serious research was conducted to prove the drop. It was discovered by the museum employees. There were 90 fully completed surveys. The percantage of female respondents was 56,7% and 43,3% of male respondents. More females than males were interested in completing the survey. There was 6,5 % of highly educated, 13,3% of college educated, 50% of students from various universities, and 30% of high school educated. None of the respondents had a permanent job. All of them lived in the towns of Central Serbia.

4. RESULTS

The survey results showed that 43,3% of the respondents visited museums at least once a year. There was a higher percantage of female visitors, 58,8%, than male, 30,8% (table 1). The results show that a lot can be done to increase the number of visitors, especially the male ones.

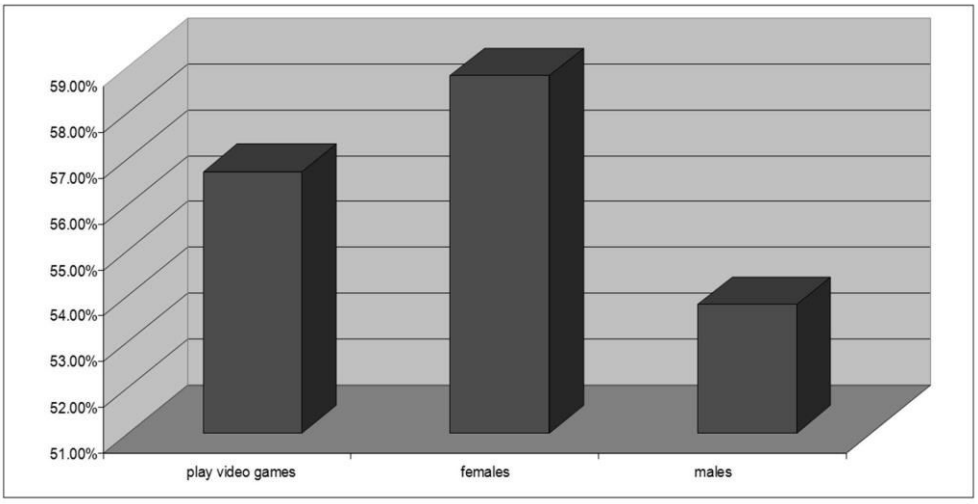
Table 1. Museum visits



However, there was a significantly larger number of visitors (63,3%) to historical sites which are free of charge. Therefore, it showed that this age group was not simply indifferent and uninformed, but that they also found the tickets too expensive. Too expensive because none of the respondents had a permanent job and their parents' income was also poor. Accordingly, 36,7% did not have a smartphone or the phone's capacity was too small for new applications. More women (64,7%) than men (61,5%) had and used a smartphone.

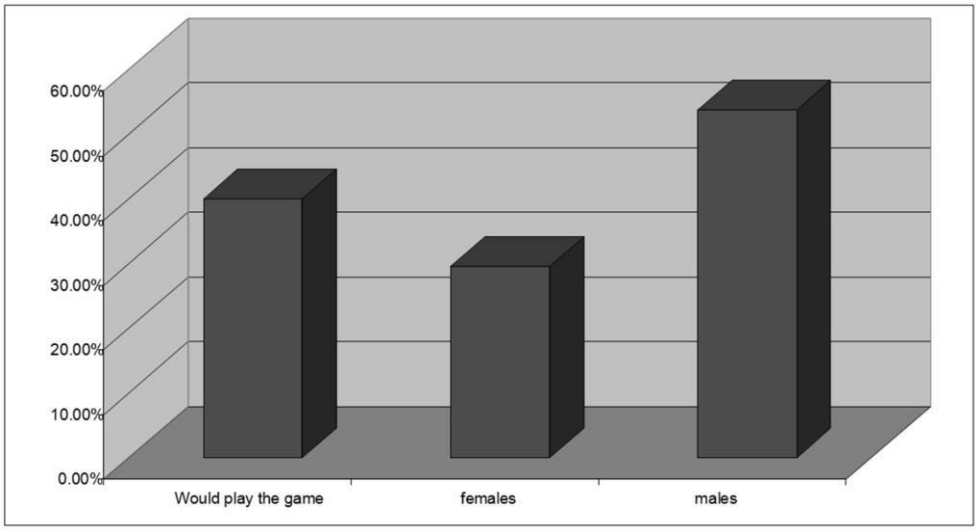
The percentage of respondents who played video games was 56,7%. Again, there were more females (58,8%) who played video games than males (53,8%) (table 2). It is assumed the percentage would be even higher if the respondents used smartphones more.

Table 2. Percentage of respondents who play video games



"Would you play a video game based on local historical themes?" was answered positively by 40% of the respondents. Interestingly, 53,8% of male respondents answered positively, which corresponded to the percentage of those who played video games. On the other hand, only 29,5% of females would play such a game (table 3). It can, therefore, be concluded that females are less interested in historically-themed video games. Males are also more interested in the local patriotism than females.

Table 3. Percentage of respondents who would play the game



However, when asked if playing such a game would increase the interest in museum visits, the respondents' answers were somewhat contradictory. There was 50% of those who thought it would and 50% of those who thought it would not. Male participants (53,8%) stated that they would be more interested in museum visits after playing the game, while 47% of females shared the same opinion.

The results show that the number of male museum visitors would stay the same and that they would rather play games than visit museums. The difference is 23%, which is a huge potential for museums and other cultural heritage institutions. Therefore, some 14.000 males aged 19-24 are potential museum visitors. The number of males is obtained through Statistical Office of the Republic of Serbia (RZS 2016) and their data show there are 116.072 of people aged 19-24 in Central Serbia; 59.716 are males and 56.356 are females. Considering the fact that more males were born during the period, the total potential is somewhat higher – 54,5%.

The results of the research are consistent with the hypothesis and the interest in museum visits would be increased by 11,2%. However, the increased

interest would be seen only in male population; the situation with female population would stay the same.

It should be noted here that such a video game has never been developed in this area, so the respondents could not clearly see the possibilities of the game.

5. CONCLUSION

The number of museum visits is constantly dropping. It is necessary to adequately use the process of cultural heritage digitization in order to prevent further drop and make museums a potential tourist attractions. The process includes not only preservation, reconstruction and reparation of cultural and historical artifacts, but also a possibility to develop new marketing communications.

The Internet development has led to the development of new strategies. By combining various digital tools and the existing marketing resources, a new concept of interactive marketing is being developed. This type of marketing communication does not rule out conventional media. On the contrary, combined with new technologies, interactive marketing provides better communication with potential customers and consumers.

Virtual reality, augmented reality, serious game, mobile game, and other digital tools create a new platform for the interaction between the users and cultural institutions and, thus, help to create new cultural capital.

The results of the research show that the hypothesis is true and that the combination of digital tools, as part of marketing communications strategy, will lead to the increased number of museum visits among people aged 19-24. However, the increase was detected only in the male part of the population. The research showed that females play video games more than males and, although there is a possibility to increase the number of female museum visitors, the combination of digital tools did not actually increase their interest. The reason for that could be the fact that this type of game has not yet been developed in Serbia.

Further research should aim to find the right combination of digital tools that would increase the number of female museum visitors.

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