

Digital Marketing and Outdoor Advertising in Smart Cities

Nikola Vangelov

Chief Assistant Professor, St. Kliment Ohridski Sofia University, Sofia, Bulgaria

E-mail address: nikolavangelov@gmail.com

Abstract

The paper focuses on analyzing the key aspects digital marketing, outdoor advertising and smart cities. It studies the foundations traditional marketing - the establishment of its theoretical framework and its development throughout the years. The articles aims at finding out what is the crossing point between digital outdoor advertising, urban areas and smart cities residents. It puts main focus on the promotional part of the mix and analyzes the new approaches in terms of using online channels. Through content analysis the main aspects of digital marketing, smart cities and outdoor advertising are being studied – the development of the definition of marketing; what digital is; the difference between digital and online; what the new opportunities before marketers in using online channels are, as part of the digital ones. The paper suggests an additional component of smart cities – interactivity. It sets examples from outdoor traditional advertising and digital advertising that is placed on cities' billboards, buildings and public transport with main focus on interactivity.

The articles is to be of interest to academicians, practitioners and students in the sphere of marketing, advertising, sales promotion and communication.

Keywords: Digital marketing, online advertising, outdoor advertising, marketing communication, smart cities

Introduction

As the world is becoming more digitalized people are using digital technologies on regular basis for various purposes, such as communication, bank services, shopping, acquiring information for products or services and just for leisure activities. This paints a picture of an increased usage of the internet via various devices: desktops, laptops, tablets, smartphones, wearables and even household appliances. There has been a gradual increase in the number of internet users worldwide [26] since 2005 when they were 1.1 billion and in 2020 the number grew to 4.8 billion with the projection to reach 5.6 billion in 2025. Among the digital devices smartphones are the true leader amounting for a bit over 80% of the world population owning one or several devices [27]. Through smartphones each day people are bombarded with various advertising messages and there are several reasons why, carrying them all day long being number one. Therefore, wherever we are at home, at work, driving our car or just simply walking the streets we are objects of marketing communication.

In the developed countries, the evolution of technology has transformed not only the devices themselves but people's perception of the surrounding world. Phones have become smartphones, TVs have become smart TVs, watches have become smartwatches even cities have become smart cities. Nowadays over 56% of the world population lives in urban areas and in the developed countries the percentage is well above 80 [28]. These figures make companies direct more of their marketing efforts toward cities and towns. This applies for all channels of communication – the traditional ones such as TV, radio, press, outdoor, as well as the Internet.

Outdoor advertising has become in many ways part of the urban experience and for good or bad it is developing along with technologies. One of the few examples that could be set for a city without outdoor advertising is Sao Paulo, which in 2007 banned all outdoor ads – a radical move through its Clean City Law [25]. And even then a Brazilian journalist went on to describe the penetration of outdoor advertising in people’s everyday lives: It is weird, because you get lost, so you don’t have any references any more... My reference was a big Panasonic billboard. But now my reference is an art deco building that was covered through this Panasonic. So you start getting new references in the city. The city’s got now new language, a new identity” [25].

As displayed above there is an unseverable connection between the internet and the other channels of communication. And it is of the interest of this article that this connection is analyzed, especially with regard to outdoor advertising or OOH (out of home). Several key elements of this type of advertising are studied: digital marketing and what digital is; smart cities and the elements that the term “smart” is comprised of; the role of interactivity in advertising and especially outdoor advertising; the point of intersection between people, smart cities, the internet, digital marketing and digital outdoor advertising and interactivity. All of these elements would be analyzed through several case studies that reveal the effectiveness of digital OOH advertising in the scope of the smart city.

1. Digital marketing

Digital marketing has been around for quite some time. Though the term is widespread there is still some confusion among the broad audience about what it incorporates. Perhaps one of the most common issues with defining it is its substitution for online marketing. However, the two terms do indeed differ. A next step in our analyses would be to dive into some basic definitions and point out the difference between digital and online marketing. One of the somewhat broad definitions of digital marketing is presented by [29] “Digital marketing includes the use of digital technology – the Internet, email, data bases, mobile or wireless, digital TV, in order to support interactive marketing activities that aim at acquire and retain customers through a multichannel process of buying and life cycle.” This definition puts emphasis on “digital technology” and differentiates between the Internet and other digital channels. Several years later Kotler and his colleagues come up with the following definition: “As a concept digital marketing describes a number of profiled processes that use every possible digital channels to promote a good or service or to build a digital brand.” [10]. If we analyze both definitions, we would undoubtedly notice the term “digital” is being used for technology and channels. A quick reference from the definition of digital from the Bulgarian language institute explains in plain terms what digital is: “Digital – done or functioning through the transformation of a signal (video, TV, sound, telephone impulses, etc.) into digital quantities that are suitable for decoding and processing by electronic devices.” [30]. This would suggest that any electronic device could be used as a digital channel. A succinct definition can be found in the digital marketing institute: “Digital marketing is usually defined as marketing efforts that include electronic devices or are focused on online platforms.” [31].

It becomes clear that digital marketing is much more than using just online channels. It also incorporates the traditional channels, such as television, radio, digital OOH, SMS technology, as well as the online ones: Social media; Content marketing; Banner advertising; Email marketing; Mobile marketing; Search engine marketing: Search engine optimization (SEO) и Pay per Click (PPC).

One of the objects of analysis of this article is to study key aspects of digital outdoor advertising as it is at the crossroad of the smart city, the people and the smart devices. However, let us first analyze what makes a city smart.

2. Smart cities

There have been many definitions of a smart city throughout the years and many of them replace the term “smart” for alternatives such as “intelligent” or “digital”. Starting its life in the beginning of the 1990s the term was generally used with regard to Information and communications Technology (ICT) which on its behalf is used to describe the integration of communications – telephones, wireless signals, computers, as well as the necessary software that enables users to store, access, convey and govern information. Nam and Prado [16] analyze the meaning of the term “smart” in the context of the smart city. They discuss that in terms of the language of marketing “smart” is a more user-friendly expression than “intelligent” which implies to have a quick mind and being able to give a feedback. Some other translations of the term propose that intelligent is contained in smart since a smart system is an intelligent system that adapts to users’ needs. They also discuss the difference between the term smart city and other terms that are used as substitutes – intelligent, digital and ubiquitous and also the three categories of technology, people and the community.

Albino et al [2] explore the definitions, dimensions and performance of smart cities. Various definitions of smart cities are presented, such as: “(Smart) cities as territories with high capacity for learning and innovation, which is built-in the creativity of their population, their institutions of knowledge creation, and their digital infrastructure for communication and knowledge management.” [9]; “The application of information and communications technology (ICT) with their effects on human capital/education, social and relational capital, and environmental issues is often indicated by the notion of smart city.” [9]; “Smart Cities initiatives try to improve urban performance by using data, information and information technologies (IT) to provide more efficient services to citizens, to monitor and optimize existing infrastructure, to increase collaboration among different economic actors, and to encourage innovative business models in both the private and public sectors.” [13]. Now, what these and some other definitions lack is the clearly stated role of the people in the concept of the smart city. The simplest of reasons of the inclusion of people is that without them cities become obsolete places without any inhabitants. So, a definition by Alawadhi et al. [1] propose a place for people: “The social infrastructure, such as intellectual and social capital, is an indispensable endowment to smart cities as it allows “connecting people and creating relationships”. Indeed, the presence of people in a smart city definition is key since it is one of the prerequisites of a smart city to improve the quality of life of its residents.

Some of the basic components or as some theorists define them “dimensions” are: economy, mobility, environment, people, governance [4]; technology, economic development, job growth, increased quality of life [6]; quality of life, sustainable economic development, management of natural resources through participatory policies, convergence of economic, social, and environmental goals [19]. A visible component in the proposed sets is “quality of life”, which according to some researchers is arguable since all the actions that have been undertaken in the other areas should result in raising the quality of life, so it should not present a separate component [17]. Some of the most notable characteristics of smart cities according to the analyzed components [2] are: a city’s networked infrastructure that enables political efficiency and social and cultural development; an emphasis on business-led urban development and creative activities for the promotion of urban growth; social inclusion of various urban residents and social capital in urban development; the natural environment as a strategic component for the future.

What this paper proposes as an additional component of smart cities is *interactivity*. It is only through actions that we as people go by in our everyday lives. And the activity process is key in all areas of the urban life, as well. So, a research question of this paper is to analyze what part *interactivity* plays in increasing the quality of life in smart cities with regard to digital outdoor advertising.

3. Interactivity and advertising

It is only fair to ask the question: “What has interactivity, especially in advertising, has to do with the quality of life of cities’ residents?” Well, as an example would serve the city of Singapore, which was considered the smartest city in 2012, according to a ranking by Forbes [32]. A key component for this nomination was Singapore’s IT2000 plan, which was designed to create an “intelligent island” with IT (information technology) that would transform work, life and play of its residents. It would be safe to assume that play has a lot to do with interactivity, which in basic consists of the words “inter” and “action” or through action. The definition of “interactive” [22] is 1: “mutually or reciprocally active”; 2: “involving the actions or input of a user”. The noun action is vital for the adjective “interactive” and it is only through action that people play, whether by themselves or with each other. Based on the components that comprise smart cities we inevitably see technology. And digital outdoor advertising is just the crossing point of people, technology, urban space and interactivity. But let us further dive into the notion of interactivity and its role in the efficiency of advertising.

Karimova [7] argues that interactivity is inherent in the traditional forms of advertising, as well as the so-called new media, denoting mainly the Internet. Her arguments are not without grounds however some of them may be approached from the philosophical perspective rather than the practical one. Basically the proposed model of inherent components of interactivity in advertising consists of seven dimensions: active engagement and reaction; physical action; flow; involvement; control of consumers; two-way communication and feedback. We would analyze each of them and propose a solution and an addition that would better suit the needs of digital outdoor advertising and its role in smart cities.

The argument for active engagement is that consumers do so by interpreting, constructing and co-creating the meaning of the advertising. This may be found as a somewhat broad definition and it could be addressed to any form of communication that a user is influenced by. It would seem that this is a more passive role of the consumer than really taking an action toward the marketing communication of advertising. Which brings us to the second dimension – physical action. Karimova's examples in this regard are quite apt that traditional advertising could also suggest that the user does a particular action toward the advertising – it may be as simple as rubbing a scented page of a magazine that advertises perfumes or as complex as building a model out of a magazine's page. The third component is flow. Hoffman and Novak [5] state that there are two conditions that are necessary for the flow state to be in play – skills and challenges and focused attention. Any situation in which the skills exceed the challenge would result in boredom and when the challenge exceeds the skills the result would be anxiety. In either cases the interaction between the customer and the ad would be interrupted. The fourth dimension, involvement, is really important for the interaction to be in place. Some researchers find a correlation between interaction and experiential involvement; they assume that the more immersive the experience, the more interactive it is [11]. The fifth dimension is control of consumers. It means that in a technology driven world the consumer could easily take control of what information is being mediated toward him. According to some researchers traditional media does not give control over the content and form of the message to the audiences and Van Raaij [20] states that „traditional“ media is doomed to fade away. However, this seems far-fetched since we still have advertising through traditional media. The sixth component “two-way communication” is strongly defended by Karimova in that it is simply a tautology. Communication implies at least two sides or communicators and any communication is a two-way street. The seventh and last dimension is feedback. Some researchers characterize an ad as interactive when it provides feedback [14, 18]. In any form of interactive advertising the consumer could respond to the message by participating in a series of online discussions and forums, providing comments, personal information, surveys or any type of feedback. Karimova's argument in this regard that any reaction on behalf of the customer, including buying or not buying the product may be regarded as feedback is not strongly supported.

All of the analyzed components play a vital role in the interactivity of advertising. What this article would propose is an additional component that seems at place – personalization of advertising communication. When a message is personalized, it speaks to a particular customer or set of customers. No matter the medium online or offline, personalization is key. In the internet environment personalization is played through contextual advertising. The same could be and is applied in the natural environment of cities' spaces. Though the interactivity is key for the digital media it is also present, as analyzed in the traditional ones, in most of the cases. What the digital environment presents is a higher degree of interactivity, as discussed earlier. In this regard, several cases of interactive digital outdoor advertising would be studied in order to pinpoint its relevance in the urban environment.

4. Digital outdoor advertising

Outdoor advertising may be regarded as one of the oldest forms of advertising. Myers [15] states that outdoor advertising has a cultural impact with relevant to its marketing communication goals. It is due to the fact that residents encounter this form of advertising and interact with its visual or textual messages. Cronin [3] distinguishes the influence that outdoor advertising exert on urban space. According to him, advertising adds its semantics to the rich urban context and shapes its geography while introducing new technologies. Indeed, technology is key to the application of digital outdoor advertising. It is also one of the key components of a smart city, as analyzed by Vrabie and Tirziu [21].

Koeck and Warnaby [8] study the effects of outdoor advertising in the urban context on spatiality, temporality and individuality. They state that although outdoor advertising has, as a tradition always been commercially oriented, it can also contribute to the engaging and aesthetic dimension in terms of the perceptions of the urban space by the residents or visitors of a city and could perhaps have implications for the making of the place. Moreover, “digital outdoor advertising can host highly versatile and variable content, timed to the split-second, which turns advertising into spectacles and events.” [8].

The following examples would reveal the interaction between outdoor advertising, urban areas, residents and visitors and technology.



a



b



c



d

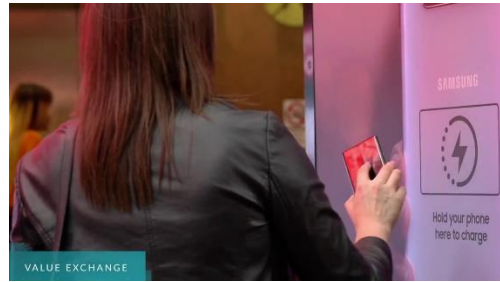
Fig. 1. a, b, c and d

Source: https://www.youtube.com/watch?v=BFKCRS4PpCk&list=PLQ7imRgciAOYSCvnZ-J8zf2bMNG6HDeDE&index=2&t=7s&ab_channel=Didi%26BryanTravels

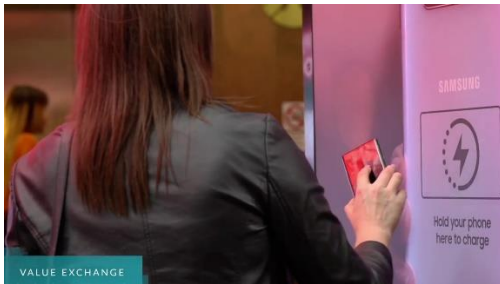
Towering Shinjuku station square, an enormous 3D digital billboard is displaying a gigantic kitten that is breaking the boundaries of digital and real life (figure 1). It appears to be moving outside of the billboard and becoming alive. This image illusion is possible through 3D technology, as well as the shape of the billboard itself – it spreads along the two facades of the building. Of course, the animation instantly turns into a tourist attraction gathering people from all corners of the city. All of them are astonished at the technological landmark and are taking photos and videos of the giant cat. The outdoor advertising transforms into an interactive one and serves as an amusement – all components of a smart city. The ad is so attractive that people are waiting for it to play in between the other ads thus transforming the urban environment into a hotspot and an interactive crossing point of people, technology and public space.



a



b



c



d

Fig. 2. a, b, c and d

Source: https://www.youtube.com/watch?v=XQxcHd84vUU&list=PLQ7imRgciAOYSCvnZ-J8zf2bMNG6HDeDE&index=3&ab_channel=JCDecaux

An interactive outdoor ad by Samsung is placed on a panel on a bus shelter (figure 2). It welcomes people to engage and charge their smartphones. This type of ad is called rewarding since the user gains a reward of sort. In our everyday lives, many of us encounter the problem of a low battery on their mobile device. Therefore, the brand offers a solution. Again, this is an example of an interactive and engaging crossing point of people, digital OOH and urban space, which increases the quality of life of residents and visitors of the smart city.



A



b



c

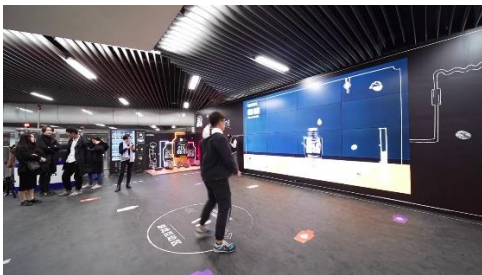


d

Fig. 3. a, b, c and d

Source: https://www.youtube.com/watch?v=YWmXXII7yoU&ab_channel=JCDecaux

Promoting a Batman vs Superman movie a digital outdoor advertising campaign takes place again on a bus shelter (figure 3). This time the marketing communication transcends the bus shelter using mannequins for both superheroes places on top of it. This serves as an attractive element, which raises the curiosity of the passersby. In addition, there is an engaging experience through people's smartphones, who are able to scan their faces and be transformed as the chosen hero. The interaction is made possible through a touchscreen display. Then the avatar is sent to the user's smartphone and able to be shared to various social networks. Thus, the communication could go viral. This serves as a good example of a communication being personalized, which increases the level of engagement and involvement – dimensions of the smart city.



a



b

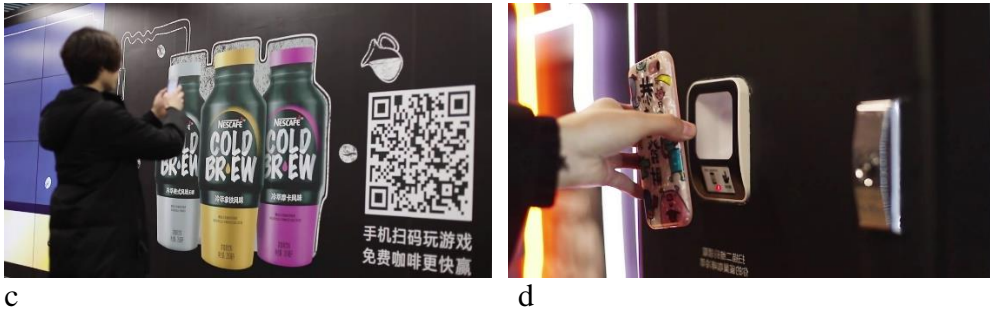


Fig. 4. a, b, c and d

Source: https://www.youtube.com/watch?v=d8BflpjcPe4&ab_channel=JCDecaux

A digital outdoor advertising takes place in Shanghai metro station (figure 4). It promotes a Nescafe product via an interactive, engaging and involving experience. Through the instrument of gamification it offers people the chance to win one of the advertised products. Users are welcomed to play via moving left or right along the digitalized floor. Their movements respond to movements of the product on the digital screen. Once they win, they could collect their price via their smartphone. The brand transforms the underground public space into a game arena for people to enjoy playing and winning, thus raising their positive attitude and quality of life.

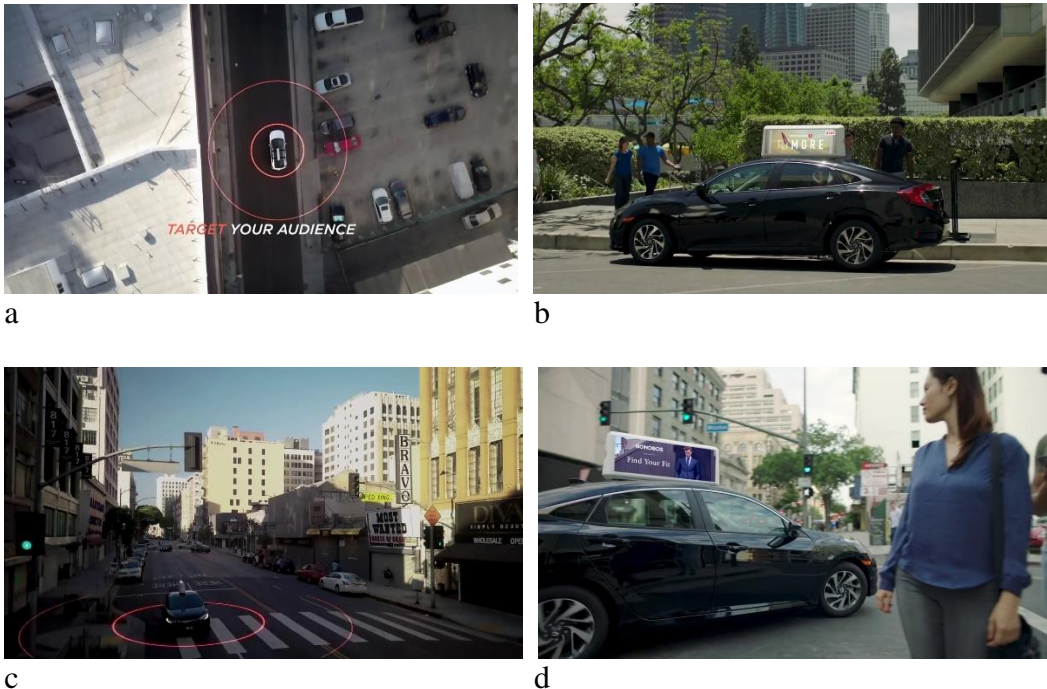


Fig. 5. a, b, c and d

Source: https://www.youtube.com/watch?v=jxnoLlgHPUQ&ab_channel=Firefly

Firefly is the first mobility-based smart cities' advertising and data platform (figure 5). It creates public private partnership utilizing the ride share economy for distribution and

scale. The system provides personalized geo-localized targeting for advertising transforming the outdoor transport ad with regard to local businesses and customers. It promotes a better quality of life for all residents with data in motion thus displaying the right ad content to the right urban area and eventually the right customers. Firefly bridges the digital life to real life while innovating around insights, impact and engagement with a focus on action – smart screens, smarter cities, as is the company’s slogan.

Conclusion

The article analyzed the key aspects of digital marketing, smart cities, interactivity of outdoor advertising and its application. It proposed an additional component of a smart city – interactivity since it is through action that people learn more and in an interesting and enjoyable way. Interactivity is also key for marketing communication and especially advertising. Thus this element becomes a crossing point between the urban environment, the outdoor advertising and the residents. Several examples of digital outdoor advertising were analyzed in order to reveal the interactive element in all of them. They all attracted passers by with innovative communication and required their reaction. Besides interactivity, other major factors were found to play an important role, as well – involvement, active engagement and reaction, physical action. Digital outdoor advertising is the one marketing communication that could add a new and interesting meaning to the urban areas while bringing brands and people together in an involving and engaging, increasing enjoyment, interaction and quality of life.

References

- [1] Alawadhi, S., A. Aldama-Nalda, H. Chourabi, J.R. Gil-Garcia, S. Leung, S. Mellouli, T. Nam, T.A. Pardo, H.J. Scholl, S. Walker, (2012) “Building Understanding of Smart City Initiatives,” Lecture Notes in Computer Science 7443, 40–53.
- [2] Albino, V., Umberto Berardi & Rosa Maria Dangelico (2015). Smart Cities: Definitions, Dimensions, Performance, and Initiatives, *Journal of Urban Technology*, 22:1, p.13, 3-21
- [3] Cronin, A. M. (2010). Advertising, commercial spaces and the urban. Houndmills: Palgrave Macmillan.
- [4] Giffinger, R., C. Fertner, H. Kramar, R. Kalasek, N. Pichler-Milanovic´, and E. Meijers, Smart Cities: Ranking of European Medium-sized Cities (Vienna: Centre of Regional Science, 2007).
- [5] Hoffman DL, Novak TP (1996). Marketing in hypermedia computer-mediated environments: Conceptual foundations. *J. Mark.* 60: 50-68
- [6] Eger, J.M., (2009) “Smart Growth, Smart Cities, and the Crisis at the Pump A Worldwide Phenomenon,” *I-Ways* 32: 1, 47–53.
- [7] Karimova, G. 2011. „Interactivity“ and advertising communication. *Journal of Media and Communication Studies* Vol. 3(5), pp. 160-169
- [8] Koeck, R., Gary Warnaby (2014) Outdoor advertising in urban context: spatiality, temporality and individuality, *Journal of Marketing Management*, 30:13-14, 1402-1422, p.1414
- [9] Komminos, N., (2011) “Intelligent Cities: Variable Geometries of Spatial Intelligence,” *Intelligent Buildings International* 3: 3, 172–188.
- [10] Kotler, P., Hermawan Kartajaya&Iwan Setiawan (2017). Marketing 4.0. Moving from Traditional to Digital. John Wiley&Sons, Inc., Hoboken, New Jersey, p. 32
- [11] Laurel, B. (1991). Computers as Theatre. Boston, MA: Addison Wesley
- [12] Lombardi, P., S. Giordano, H. Farouh, and W. Yousef, “Modelling the Smart City Performance,” *Innovation: The European Journal of Social Science Research* 25: 2 (2012) 137–149.

- [13] Marsal-Llacuna, M.L., J. Colomer-Llina` s and J. Mele´ndez-Frigola (2014) Lessons in urban monitoring taken from sustainable and livable cities to better address the Smart Cities initiative, *Technological Forecasting and Social Change*.
- [14] McMillan SJ, Hwang JS (2002). Measures of perceived interactivity: An exploration of the role of direction of communication, user control, and time in shaping perceptions of interactivity. *J Advert.* 31(3): 29-42
- [15] Myers, G. (1999). *Ad worlds: Brands, media, audiences*. London: Arnold.
- [16] Nam, T., T.A. Pardo (2011), *Conceptualizing Smart City with Dimensions of Technology, People, and Institutions,*” Proc. 12th Conference on Digital Government Research, College Park, MD, June 12–15.
- [17] Shapiro, J.M., (2006) Smart Cities: Quality of Life, Productivity, and the Growth Effects of Human Capital, *Review of Economics & Statistics* 88: 2, 324–335.
- [18] Straubhaar, J., LaRose R (1996). *Communications media in the information society*. Belmont, CA: Wadsworth Press.
- [19] Thuzar, M., (2011) Urbanization in SouthEast Asia: Developing Smart Cities for the Future?, *Regional Outlook*, 96–100.
- [20] Van Raaij, W. F. (1998). Interactive communication: Consumer power and initiative. *J. Mark. Commun.*, 4(1): 1-8.
- [21] Vrabie, C., Andreea-Maria Tirziu (2018) Top ten smart cities in the world. What do they have in common and how can Eastern European cities use that? MPRA Paper 88291, University Library of Munich, Germany.
- [22] <https://www.merriam-webster.com/dictionary/interactive>, accessed on 02.12.2021
- [23] IDA Singapore, “iN2015 Masterplan” (2012) ,<http://www.ida.gov.sg/~media/Files/Infocomm%20Landscape/iN2015/Reports/realisingthevisionin2015.pdf>., accessed on 01.12.2021
- [24] Adbusters.(2007) São Paulo: A city without ads. Retrieved May 26, 2010, from adbusters.org/magazine/73/Sao_Paulo_A_City_Without_Ads.html, accessed on 01.12.2021
- [25] <https://www.statista.com/statistics/273018/number-of-internet-users-worldwide/>, accessed on 01.12.2021
- [26] <https://www.bankmycell.com/blog/how-many-phones-are-in-the-world>, accessed on 01.12.2021
- [27] <https://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS>, accessed on 02.12.2021
- [28] Chaffey,D. 2010. E-marketing and Internet marketing definition. <http://www.davechaffey.com/Internet-Marketing/C1-Introduction/E-marketing-Internet-marketing-%20definition>, accessed on 01.12.2021
- [29] <https://ibl.bas.bg/rbe/lang/bg/%D0%B4%D0%B8%D0%B3%D0%B8%D1%82%D0%B0%D0%B%D0%B5%D0%BD/>, accessed on 02.12.2021
- [30] <https://digitalmarketinginstitute.com> , accessed on 01.12.2021
- [31] <https://www.forbes.com/sites/sap/2016/11/11/smart-cities-the-next-digital-frontier/?sh=3c5ebd416544>, accessed on 01.12.2021