The Influence of Digitization and New Media on the System of
Companies Marketing Communication, Consumers and Business
Enterprises

MIRJANA TANKOSIC, DRAGANA TRIFUNOVIC
Faculty of Business Studies
University Megatrend Belgrade
Goce Delceva 8
SERBIA
mtankosic@megatrend.edu.rs, dtrifunovic@megatrend.edu.rs

Abstract: - Digital technologies enable companies build and maintain relationships with consumers and to
efficiently collect and analyze information on consumer behavior in the purchase process. In addition, it is
possible to adjust products/services and promotional messages to consumers. The processes of globalization
and digitization, especially in the field of information and communication technologies affect the appearance of
new and changing existing ways of marketing communications. Digital media have completely redefined the
role of consumers, business and society. Considering the high importance of digitization and its impact on
consumers, and also the fact that digitization will experience the expansion, the aim of this paper is to show the
impact of digitization on marketing communication, consumers and business of the company.

Key-Words: - Marketing, digital media, digitization, marketing communications, innovations, consumers
marketing strategy

1 Introduction
The success of the modern enterprise depends not
only on its ability to develop good product or
service, to establish adequate prices and its own
offer make available to customers, but also depends
of the way how it communicate with the target
public. For modern company major challenge is that
all activities are carried out in the right way and to
add value for what different customers are
interested. Successful business is increasingly based
on interactive communication and adapting system
of marketing communication and new technologies.

The process of digitization has tremendously
changed the way of marketing communication with
final consumers so that traditional media was
replaced by digital media. Internet has taken place
primarily as a medium for communication. The
Internet has created a virtual and global market
which is unlimited in time and space. The Internet
has contributed to a change of promotion and
marketing form, from the traditional to the average
consumer and it adapted the instrument of
marketing in the promotion mix. There is a growing
approach to the development and use of promotions
over the Internet, which enables consumers to be
informed in detail. This way of advertising and
information is better acceptable by consumers and
produces greater stimulatory response for the
purchase of products. Digital technologies have
influence on all aspects of life. Digitization provides
an opportunity for all branches to collect a lot of
information in real time and to collect more
effectively the needs of consumers. Key sources of
power digitalized consumers are possibility of
connecting with other consumers, increasing of
information, mobility and as a result - control of
communication and influence on the business of the
companies. With the development of digital media,
consumers change their behavior so as to be
dverted from traditional to digital media.

Higher level of the media literacy provides capa-
bility of more accurate and brighter view of the
boundary between real and the world created by the
media. Through this paper we will appreciations that
we can more clearly find signs for understanding the
world of media. Depending on the sampling of pub-
lic opinion polls and how close the race is, media
customers will receive different information about
which candidate is ahead and which is behind [1].

Consumers are use different media or media mix,
so companies need to create messages for different
media [2].

Some of the topics that will be presented in this
paper are concept of digitization, role of media in
marketing communications. Also, the paper will
give an answer to how each of us is exposed
seamless of media digitization influences and it will be shown a stationary of media networks.

2 The Concept of Digitization
Digitization is the representation of an object, image, sound, document or a signal (usually an analog signal) by a discrete set of its points or samples. The result is called digital representation or, more specifically, a digital image, for the object, and digital form, for the signal. Strictly speaking, digitization means simply capturing an analog signal in digital form. For a document the term means to trace the document image or capture the "corners" where the lines end or change direction. The term is often used to describe the scanning of analog sources such as printed photos or taped videos into computers for editing, but it also can refer to audio and texture map transformations. In this last case, as in normal photos, sampling rate refers to the resolution of the image, often measured in pixels per inch. Digitization is the primary way of storing images in a form suitable for transmission and computer processing, whether scanned from two-dimensional analog originals or captured using an image sensor-equipped device such as a digital camera, topographical instrument such as a CAT scanner, or acquiring precise dimensions from a real-world object, such as a car, using a 3D scanning device.

This shift to digitization in the contemporary media world has created implications for traditional mass media products. The more technology advances, the more converged the realm of mass media will become with less need for traditional communication technologies. For example, the Internet has transformed many communication norms, creating more efficiency for not only individuals, but also for businesses.

2.1 The Role of Media in Marketing Communication
Relatively novel definition of marketing from the year of 2007 states that “Marketing is the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large” [3].

Recently, a new Destination Management Organizations (DMOs) marketing evaluation framework was developed under increasing pressure to demonstrate cost effectiveness and evidence the additional value which accrues from marketing interventions [4].

Marketing education is essential component of near future, world-wide, development of marketing strategies and concepts [5].

The media are an important element of marketing communications. If the message will be transferred to the target audience in the right way and in the right place depends on the media. Marketing Communication is defined as coordinated promotional messages delivered through one or more channels such as print, radio, television, direct mail, and personal selling.

The mass society is a society of new media or rather "society saturated with media". In such a society, the mass media are very powerful. In the contemporary postmodern society, they do not reflect reality and create (produce) our experience of reality. The quality of mass media arises from the fact that they direct communication to a large and open-ended to the audience, using relatively advanced technology [2] Electronic (television and radio) and print media (newspapers and magazines) can transmit different messages. The tabloids and tabloid media provoke different reactions. The emergence of so-called "new" media (cable and satellite telecommunications, the Internet, etc) supposedly caused a change in understanding mass media, due to the rapid increase in media production and the division of the audience. The media are those social institutions engaged in the production and expansion of all forms of knowledge, information and entertainment. The specificity of the media has the following characteristics: Nature communicator refers to the organization and division of labor, and high costs but also the profits that in this exercise. Communication of organizations employs a large number of journalists and includes a wide division of labor. The journalist is not only an individual writer, but a link in a complex organization. Its performance is much more distant and separate from the end product of mass communication. The public communication. Communication in mass media is public, is intended for all groups in public. Therefore, the communication is accessible and subject to public control. If it is intended only to certain individuals and groups, communication is private; Facilities and announcements of mass communication are current as transmitted current and even simultaneous events. Actuality influence that mass communication must be regularly and periodically and relate to the daily events. Because of its topicality Mass Communication is an important social force (means of informing indoctrination, manipulation, assurance
of conformity, disinformation ...). The mass media, not only simplify certain events, but they very often "blur". The audience of the mass media is vast and heterogeneous from the point communicator anonymous. Immense masses of people receive information without the possibility of "backflow". That is why the Mass Communication DC character. Only functionalists emphasize the primacy of the system, the inter-dependence of the mass media and the audience and talk about communication as the "social dialogue".

The mass media spreads and accelerates information. They represent a kind of means of showing and revealing the hidden. It character is instrumental and spectacular. Media glorify themselves and their presence and are prone to interference. Complicity media can modify the performance affect the continued existence but also neglect and "disappearance" of some events. Simply put, the media can change the attitude towards history. Computer technology helps media to create a virtual reality that "potentially replace real social reality". The economic reality is increasingly turning to buying and selling of media images, and non-physical products. The term mass media is recognized in the international scientific terminology, although, in the opinion of many, from a linguistic point of view is not the best name. It means a set of modern devices, diffusion (spreading) suitable to reach large numbers of people and to convey an identical message. In society high density occur inability to abundance of information attach any meaning. At work is an information overload, a plethora of citizens bewildered crowd dials and electronic gadgets, dozens of alternative radio and television programs, hundreds of reviews and journals, thousands of electronic messages and manuscripts, millions of books. Citizens do not have enough time to receive and to deliver a flow of information that reshapes language, sense of time and space, basic inclinations.

Each classification is based media, especially of the press although there is talk about the oral transmission of messages. Printed media in the widest sense includes flyer, posters, books, newspapers, comic, etc. Then it stands photos, record, film, radio and finally television. Some researchers in the new classification introduced the so-called McLuhan’s media (money, telephone, telegraph, car, etc.), but also everything that gathers mass (fashion, holidays, football, etc.). They stand out, also, typical levels in the socio-psychological adaptation of the mass media to the environment. It is a stepped development of technological and structural aspects of individual media on the other side of the evolutionary changes of the environment in relation to new media.

Historically dominant media platforms such as television, radio, and newspaper have ensured a divisive boundary between the media producer and consumer, allowing for the hegemony of corporations, with consumers merely acting as passive consumers [6].

2.2 Media Digitization

Internet technology is a form of what has not existed in the media landscape as completely relative space and time. This is an era when Internet research tended to treat offline and online communication as dichotomous spheres of interaction. Communication has ceased to be a limited distance and national borders. It is evident that today there is a trend technophile the behavior of people and it is often considered that if someone wants to be part of a modern and developed society, it must be online.

Depending on how often you use the Internet other daily activities will suffer minor or major changes. To make the situation more complicated and other forms of information technology and the media in general are similar to the time off of their users. It seems that electronic and information resources designed to save us time during daily activities in fact have the effect to a certain limit. When individuals use a greater intensity and scope, there is almost the opposite effect.

E-mail or SMS can facilitate the coordination and organization of daily activities, but more than that, and we are involved in network "technology for technology." A classic example is the distribution of duties. Employees today with the help of technical aids can continuously perform tasks themselves reducing leisure time planned for the family.

Finally, a medium such as the Internet, does not specify the content or value of the information sent, but often its structure and condition the options and possible. Internet publishers and journalists have to be very careful in the future to properly exploit the advantages offered by the new medium, and when it does not succumb to the temptation of abuse of freedom of expression and thus undermine the integrity of its own, and the integrity of the media in general. The negative impact that certain events (acts of terrorism, sects, racist, fascist and other tendencies that promote intolerance and calls for the destruction and aggression, as well as pornographic content) could have on the wider social trends, but
also the fate of individuals is the immense and often irreversible.

New media and media technologies provide major changes in the media landscape and greatly influence to the economy and society in general. Digital television, Internet and mobile media are all present and changing attitude towards media content. In this sense, it is possible to speak of: increasing the value of the media and telecommunications market and the growing influence of economic factors on program content; auditorium has greater freedom in the way of obtaining information; the legitimacy of public service; traditional regulation.

The advantages of digital media are available to most of the population, but in developing countries and the developing media markets cannot provide enough income [7].

2.3 The Influence of Digitization on Consumers

When Digitized consumers are very good at communication and search for information, comparing data, brands and price and have the opportunity to choose. Once those possibilities had been unthinkable and bidders have had a monopoly in relation to consumers. Now the situation is completely different [8].

Digital technology has many advantages in terms of better quality of broadcasting, lower costs, more substantial programs, freedom of choice of services. The legitimacy of public services is prejudice because the public service media are losing audience, especially among young people who are turning more modern services [9].

We are living in the era where the industrial manufacturing as basic organizational principle of society, is being replaced with the new technology, media, informational processors, entertainment and industry of knowledge [10], [11], [12], [13], [14].

One of the most important indicators of consumer’s behavior is a consumer’s lifetime value (CLV) that is an estimate of how much that consumer would spend on a corporation’s offerings if he or she continued reusing them at a given rate for some designated future period, minus the cost of marketing to that person [15].

The process starts when the buyer recognizes a problem or need. The need may be caused by internal and external stimulant. There are two levels of information seeking: Increased attention - condition moderate investigations when a person simply becomes more sensitive to product information; Actively search for information - people can find out about the product seeking material for reading, phoning friends, visiting shops.

Sources of information for consumers are divided into four groups: personal sources - family, friends, neighbours and acquaintances; commercial - commercial sources - advertising, sales staff, dealers, packaging, product display; public sources - media, consumer organizations; experimental sources - testing and use of the product [2].

The relative impact of the above sources of information varies according to the type of product and consumer characteristics.

It has a great impact on research before buying. Instead of visiting a store or getting to know the manufacturer to obtain information (e.g. from brochure.), Web sites can provide consumers with more relevant information about the considered products/services.

By gathering information consumer introduces competing brands and their characteristics. The starting point is the total set of brands that are available to the consumer. The individual consumer will meet only some - a subset of these brands, it is known collection. Some brands will meet the initial criteria of purchase - a collection under consideration. How a person collects more information, only a few will remain on the shortlist and it is a set of choices. All brands in the election rally can be acceptable. From this meeting, a person makes a decision on the final choice.

In the third stage of the decision making process of consumers about purchasing, the question is how consumers process information about competitors' brands to get to the brand choice. There is no single assessment process that would benefit all consumers, or at least one consumer, in all situations of purchase.

There is several alternatives assessment process. Most of today's model of customer evaluation process cognitively oriented, that is deemed to form a judgment about a consumer product mainly on a conscious and purpose on (rational) basis.

Some basic concepts enable understanding of the assessment process consumers. First, the consumer is trying to meet the need. Second, the consumer is asking for certain uses of the product. Third, the consumer sees each product as a number
of characteristics with different abilities to deliver benefits that are required to meet this need.

Characteristics for which customers are interested vary depending on the product: Camera - image sharpness, speed, size, price; Hotels - location, cleanliness, atmosphere, price; Tires - safety, durability, ride quality, price.

Consumers differ in that the characteristics of the product are considered the most important and the importance awarded by each feature. Consumers will pay the greatest attention to the features that they provide the required benefits.

The market for a product is often segmented according to the characteristics they are interested for different groups of consumers.

The consumer develops a set of beliefs about brands, in relation to the position of each brand in relation to each characteristic. The set of beliefs about the brand makes the image - the image of the brand. Consumers’ image of brands will vary with his experience, which is a purified impact of selective perception, selective distortion and selective retention (retention).

In the assessment phase, the consumer forms preferences for certain brands from an election rally. The consumer may also form the intention to buy the brand that most preferable. However, two factors may affect between intentions of buying and purchasing decisions.

### 3 Stationary Media Networks

With the increase in world population, the social network became of a crucial importance for communication. Most communication between human take place directly, but social network enhances communication in many ways.

In the literature survey can be found a numerous applications of networks modelling [8]. For example, in some studies, a mail inbox is used as a source to develop a social network and use it to fight spam messages. Some other researches tried to use social network to represent web-communities to analyse the World Wide Web.

Many social networks are dynamic, but recent observations indicate that many social networks are approaching the threshold of a constant size. As defined in a study [9] a matured state the dynamics of the network is approximately stationary in a statistical sense, meaning that the network topology as well as the probability for receiving and sending messages do not change in the long-time limit. To characterize the stationary properties of arbitrary communication network, a new type of quantity called entropy production in statistical physics was introduced [9].

With each pair of individuals \(i,j\) that take part in communication process, entropy \(H_{i,j}\) is mapped. The value of this entropy depends on the number of messages sent from \(i\) to \(j\), and vice-versa. \(H_{i,j}\) measures the directionality of the information exchange and fades for communication that is perfectly balanced. Defining the entropy production of a node as the sum over the entropy of all its links, one can identify nodes contributing preferentially to balanced or unidirectional information transfer. The message sent from node \(i\) to node \(j\) increases the entropy by applying the following equation [9]:

\[
\Delta H_{i,j} = \ln \omega_{i,j} - \ln \omega_{j,i},
\]

where \(\omega_{i,j}\) and \(\omega_{j,i}\) are rates of messages from \(i\) to \(j\) and from \(j\) to \(i\), respectively.

In Eq. (1), it is trivial to calculate the entropy if rates and are known. However, in realistic social networks, where the messages are being exchanged of a time span \(T\), only the number of messages that are exchanged, \(n_{i,j}\) and \(n_{j,i}\) are known.

In study [9] a social networks with a small-world topology were observed, where the probability distribution of multiple communication follows a power of law:

\[
P(n) \sim n^{-1-\alpha}
\]
References: