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THE ANALYSIS OF DIRECTIONS FOR IMPROVEMENT OF COMPETITIVENESS IN DOMESTIC HOTEL ENTERPRISES – STUDENTS ATTITUDES

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Original Scientific Paper

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Global market changes are forcing modern hotel enterprises to adjust their business in order to survive on the market by satisfying their end users. Serbian hotel enterprises have, in a certain extent, accepted new market trends. However, the biggest problems seem to be poor traffic infrastructure and the introduction of the ISO management standards which are necessary conditions for increasing competitiveness level of domestic hotel enterprises. Modern hotel industry cannot be imagined nowadays without big international hotel chains and the emergence of new market niches aimed at young customers born between 1980 and 2000, the so-called *millennials*, who represent the largest group of smart phone users. Beside these obvious challenges that Serbian hotel industry has to face there is also a good potential in the field of congress tourism which has become very popular in the world in recent years.

Keywords: Hotel enterprises, competitiveness, quality.

INTRODUCTION

Nowadays, tourism is one of the fastest growing economic fields. Tourism development does not assume only significant investment in accommodation capacities and discovering new destinations worldwide but, above all, it represents differentiation of touristic offer along with permanent growth of service quality. All of this should be followed by appropriate marketing efforts. New ways of satisfying customers' requirements as well as improving quality aspects of a touristic product are essential for further development of tourism on the global level. Hotel organizations are investing significant efforts in order to satisfy already expressed and potential requirements of their customers and enhance the elements of their business offer. Permanent quality improvement of hotel organizations' business as well as their quality aspects represent an imperative related to competitiveness on the global market.

On the other hand, tourism still represents an insufficiently used potential in the economic growth of the Republic of Serbia. There are fields of touristic offer which are not developed enough on domestic market, such as congress tourism, sport tourism, spa tourism especially when compared to their international potential, (Bogetić, 2016).

Hotel organizations have an important role in development of touristic offer in Serbia and attracting a significant number of tourists assumes more developed accommodation capacities with more expanded concept of quality management.

HOTEL ENTERPRISES IN TOURISM BUSINESS

One of the most respected consulting companies in the field of hotel industry, Horwath HTL, has given an estimation of new trends related to the future tourism development. If hotel enterprises want to survive on the market, they must adjust to these trends. The first five trends on the list will

have a great impact on demand in a tourism sector but they will also affect the other set of trends which are related to supply change. Together, they represent the forces which will shape the future of tourism and hotel industry. The new trends in the field of tourism are (*Tourism Megatrends*):

1. Older tourists
2. X and Z generation
3. Middle class growth
4. Appearance of new destinations
5. Political problems and terrorism
6. Revolution(s) in technology
7. Digital channels
8. Loyalty programmes
9. Healthy life style
10. Sustainability

Hotel enterprises must think about these trends and begin with changes in their business philosophy in order to be ready to meet new requirements of their final customers.

However, hotel enterprises must be ready even now for a new focus group, the so called "millennials" who are representing the young, born from 1980 to 2000. A special characteristic of this focus group lies in the fact that they, during their stay at a certain destination or in a hotel, want to do research and achieve experiences. In addition, hotels should implement new Information Technologies more and more in order to offer hotel services and satisfy the requirements of their "millennials" and in this way give them a unique hotel experience.

In order to improve competitiveness on the modern touristic market and stimulate guests' loyalty hotels must rely on modern communication technologies and implement an application for portable computers/notebooks and mobile phones. The application Roomera is designed to make possible a direct communication with a hotel and enables an access to all information related to hotel services. On the other hand, it gives a chance to hotel staff to use their capacities in a more efficient and rational way, to reduce costs and form a unique database including guests and their habits related to travel and stay at the hotel (ICCA, 2013).

The advantage of using mobile applications is in the fact that a lot of employees will not have problems any more with a bunch of administration and the focus of their work will be on better service. Better experience will be available to them, both online and alive. The application is

adjusted to iOS and Android phones and will offer the hotel guests not only to enter their rooms but to go into other parts of the hotel for which they need a key, for instance, parking lots, fitness center, etc. Some InterContinental hotels enable their guests to check in by means of their smart phones while similar possibilities are given to the guests in more than a thousand Marriot hotels which includes check in and check out of a hotel (Petenji & Mišković, 2014).

Domestic hotel enterprises must also adjust to these new market demands if they wish to be competitive. However, the issues of ICT infrastructure and education for ICT represent a field that is insufficiently present in domestic hotel industry, especially in the hotels which are still not in private property. Namely, domestic hotel enterprises usually assume that implementation of IT assumes a creation of web site and perhaps a communication with possible guests by e-mail or the use of booking system. However, a new age asks for more – primarily. Social networks are partly present in the business practice on domestic market but the question is in what extent they are used and how serious they are taken in comparison to their comprehension globally.

The results of the research carried out by the site for booking accommodation Hotels.com showed that hotel guests mostly appreciate free Wi-Fi. Out of the total number of examinees, 4700 of them from 28 countries from both categories of guests (businessmen and holiday makers) considered this service a significant one (53%) and are ready to do without other free hotel services (Bogetić at all, 2015).

The quality aspects in hotel enterprises in the world assume directing a hotel organization towards two crucial fields:

- The field of implementing international management standards defined by ISO aimed at establishing integrated management systems and
- The field of establishing and developing hotel standards.

The first field assumes implementation of ISO management standards, primarily QMS and other management standards necessary for building the integrated management systems.

Halal industry will grow because of the expansion of Muslim population and a greater number of certified products which are harmonized with Islamic sheryat law. Global worth of Halal industry is now 2,3 billion dollars, according to some experts. A wide spectrum of Halal products, going from the food without pork to financial and touristic services is increased in general because of the growth of Muslim population. This industry with its total worth of 2300 billion dollars has 1,8 billion consumers which is, according to some estimations, the number of Muslim population (B92, 2015).

Beside the most used ISO standards, such as: ISO 9000, ISO 14000, ISO 22000, ISO 50001 in hotel industry and tourism are also used the following ISO standards:

- ISO 18513:2003 – Services in tourism – Hotels and other types of accommodation in tourism – Terminology;
- ISO standards for adventure tourism (ISO 21101:2014, ISO/TP 21102:2013, ISO 21103:2014);
- ISO 13009:2015 – Standard for beaches;
- ISO 13687:2014 – Standard for yachts marines;
- ISO 18065:2015 – Standard for protected natural areas;
- ISO 17680:2015 – Standard for wave therapy;
- ISO 13810:2015 – Standard for industrial tourism.

The second field of action related to hotel organizations and the issue of improving quality is about the implementation and development of hotel standards which are concentrated around problems of business in international hotel chains and fulfilling conditions prescribed by hotel associations or hotel clusters.

Hotel enterprises must create their internal standards which represent defined work processes in order to improve their business efficiency. Every hotel enterprise has its own internal standards by which it becomes recognizable on the market. A good example for introducing a standard of personalized character in their business is a hotel enterprise Ritz-Carlton. Their CRM model "Ritz-Carlton Mystique" confirms that care about customers, their wishes and needs is of crucial significance for success of this hotel enterprise. They have clearly defined rules of behavior of their employees towards hotel guests but also the rules related to hotel itself and to the employees. In this

way, the hotel Ritz-Carlton shows the wish for permanent improvement of its quality service and satisfaction of their guests. It's not surprising therefore that the hotel Ritz-Carlton won a national award Malcolm Boldridge (1992 and 1999) as the only enterprise from the field of hotel industry.

BUSINESS AND DEVELOPING CAPACITIES OF HOTEL ENTERPRISES - ANALYSIS OF SERBIAN MARKET

Domestic touristic enterprises rely on other aspects in touristic offer of a destination such as recreation, entertainment, festivals and other manifestations, fast food, etc. while the offer of accommodation capacities is an inappropriate segment in the total offer of domestic tourism. This fact is related both to big cities such as Belgrade and Novi Sad and classical touristic destinations in the Republic of Serbia, for example, mountains and spas. People who work in tourism in the Republic of Serbia invest a lot of effort in various aspects of consumption outside of board and lodging, which is far under the one in the countries from the Region, such as Austria or Hungary, neglecting the quality aspect of accommodation capacities and their diversity. However, they are essential for attracting new tourists and the increase of the number of night stay.

In the Table 1 the data of the World Economic Forum are presented, or some pillars related to Competitiveness index in the field of travel and tourism from which we can see competitiveness of the Republic of Serbia in this industry. The competitiveness index in the field of travel and tourism is consisted of 14 pillars which are divided in 4 sub-groups. According to the data from 2014, Serbia is at 95th place of competitiveness in the field of tourism and travel. We will present only three sub-groups here, those whose competitiveness index is in the Table 1.

Sub-group favourable environment includes general parameters necessary for the work in the country: business environment, human resources and labour market, ICT and readiness. Sub-group Travel and tourism policy includes certain policies or strategic aspects which act more directly on travel and tourism industry: giving priority to travel and tourism, international openness, price competitiveness and environmental sustainability. It is important to point out that the Index of price competitiveness of a touristic destination shows that the less value the less competitiveness is,

which in the case of Serbia, means that we are exceptionally uncompetitive. Sub-group infrastructure includes availability and the quality of physical infrastructure of every economy: infrastructure of air traffic, road and harbor infrastructure, touristic service infrastructure.

Traffic infrastructure is one of the preconditions for development, not only of tourism and hotel industry but the whole Serbian economy. Good traffic infrastructure offers development possibilities for other economic sectors, most frequently, services: hotels, motels, restaurants, etc. The presented data in the Table 1 show that traffic infrastructure in Serbia is still in bad condition, especially in relation to air traffic whose development is pretty intensive in other countries, particularly when speaking about low cost air companies. Good traffic connections make favorable conditions for development of hotel industry because final users want to be efficiently transported from one destination to another.

The indices in the Table 1 point at the key problems which prevent faster development of hotel industry competitiveness in the Republic of Serbia and can be divided in four groups:

1. Creation of an appropriate ambience that will encourage development of domestic tourism and hotel industry,
2. Development of human resources in hotel industry,
3. Transformation of domestic hotels business policy,
4. Development of traffic infrastructure.

Table 1: Pillars of Travel and Tourism Competitiveness for the Republic of Serbia in 2014.

Pillars of Competitiveness	Rank
Business environment	133
Human resources and labor market	89
ICT skills	56
Giving priority to travel and tourism	113
International openness	101
Price competitiveness	78
Sustainability of the environment	72
Infrastructure for air traffic	102
Infrastructure for roads and harbours	98
Infrastructure of touristic service	63

Source: WEF, 2015

A very important condition for successful development of hotel industry is the existence of an appropriate ambience which includes a good

cooperation between public and private institutions, such as Touristic Organization of Serbia and hotel businessmen who should appear together on the international market in order to achieve good results related to attracting foreign tourists to Serbia and better advertising of domestic hotel and touristic potential abroad.

The issue of human resources is of exceptional significance for development of hotel industry. According to some opinions of the experts from the field of hotel industry, luxury hotel without appropriate human resources would represent only a museum. Hence, domestic hotels have to work permanently on their human potential improvement. The position of Serbia according to human resources issue (86) shows that we are still falling behind the countries from the Region which does not fill us with optimism. However, it is important to pay a special attention to education related to hotel industry, especially to the young, future managers, receptionists and other important positions in hotel enterprises. Educational issues such as professional training of students of tourism and hotel industry and disharmony of our educational system with real needs of the market point at the lack of human resources strategy in this field. Therefore, a cooperation in the field of education and hotel industry is necessary, in other words, Ministry of Education, Commerce and Tourism on one side and schools, faculties, professional organizations, private sector etc. on the other.

Congress tourism represents an excellent opportunity for long-term development of business because it has been confirmed in practice that a majority of foreign professional associations and enterprises plan their symposiums and congresses several years in advance. Some hotels are therefore booked even a year before the date of the event which is a totally different business philosophy from the one in our country where there is still a lot of improvisation. If we compare a classical and congress tourism, we can see that it is possible to earn more on congress tourism. The reason for this lies in the fact that guests usually book their accommodation via the Internet, so the guests that we call classical tourists book their hotel rooms via the Internet and visit cities only for business meetings. When they choose a hotel the guests pay attention to ranking, then they read comments on Trip Adviser where they can see other guests' opinions about the hotel and its services, prices of

accommodation, etc. Based on these information, customers decide where to stay.

The Republic of Serbia has been trying to improve this type of tourism since 2007 through the establishment of Serbian Congress Agency which is the part of Touristic Organization of Serbia (TOS). According to International Congress and Convention Association, ICCA, the Republic of Serbia was in 2007 on 72nd place with 11 congresses which made Serbia the fastest growing congress destination in Europe in the future.

Belgrade and Novi Sad are the most distinguished cities in Serbia. In the Table 2, we can see the positions of Belgrade and Novi Sad according to the list of ICCA for 2013 and 2014. Both cities fell on the list in comparison to 2014 and in addition, there were fewer congresses in Belgrade. However, it is important to say that among 354 cities in the world Belgrade shares the 50th place in 2014 with Canadian city Montreal and in 2013 with Australian city Melbourne.

The Table 3 presents the ranking of the countries from ex-Eastern bloc in 2014. Serbia takes 46th place which is a fall in comparison to 2013(42nd). Compared to the previous year, better ranked than Serbia are Poland, Check Republic, Hungary, Croatia and Romania.

Table 2: Position and number of congresses

City	2013		2014	
	Europe	World	Europe	World
Belgrade	22	44	27	27
Novi Sad	148	294	143	289

Source: (ICCA,2014)

Table 3: Position and number of congresses of the Republic of Serbia and the countries from the Region in 2014

Rank	Number of congresses	Country
24↓	161	Poland
27↓	146	Check Republic
31↓	125	Hungary
40↑	81	Croatia
45↑	68	Romania
46↓	67	Serbia
48↑	48	B and H
48↑	48	Macedonia
49↓	47	Slovenia
55↑	42	Bulgaria

Source: (ICCA,2014)

On the grounds of these data we can conclude that the Republic of Serbia has potential for development of congress tourism but it is necessary to improve traffic infrastructure and hotels as places of congress organization according to ICCA standards.

Table 4 presents the first ten countries in the field of congress tourism. As we can see, there aren't many changes in comparison to 2013.

Table 4: Position and number of congresses of the first ten countries in 2014

Rank	Number of congresses	Country
1	831	USA
2	659	Germany
3	578	Spain
4↑	543	Great Britain
5↓	533	France
6	452	Italy
7	337	Japan
8	332	China
9↑	307	Netherlands
10↓	291	Brazil

Source: (ICCA,2014)

However, we can see two important information from the Table. First, the number of congresses organized in the USA is far the biggest and second, Europe is dominating compared to other continents.

QUALITY ASPECTS IMPROVEMENT ANALYSIS IN HOTEL ENTERPRISES ON SERBIAN MARKET

One of the essential issues related to directing a hotel enterprise towards a touristic destination/ offer is a quality aspect improvement.

The concept of business quality in domestic hotel organizations is directly connected to touristic offer. Namely, the biggest number of domestic hotels is designed according to the requirements of tourists who visit destinations in Serbia and they are mostly tourists with low purchasing power. The segment of tourists with more significant purchasing power is covered by hotels belonging to international hotel chains that are doing business on Serbian market. Domestic hotels lack the basic elements that are included in the offer, such as service quality, parking lots, attractive lobbies with additional services (shops, bars, cafes),

specialized restaurants, swimming pools, fitness centres and congress halls. The focus of domestic hotel businessmen is on nights stay mainly in certain parts of the year, such as New Year, winter holidays, certain festivals and events and summer holidays. Such a strategic orientation of domestic hotel enterprises in fact assumes a minimum effort in relation to building a concept of business quality.

When speaking about a quality aspect of domestic hotel enterprises the first thing that can be noticed is that the majority of hotels do not have a quality concept adjusted to the international standards of management. The problems are even bigger when we take into account the fact that certain hotel complexes, especially those in inland areas of Serbia do not satisfy the basic criteria of hotel service quality. They often have difficulties with running water, drinking water, hygiene in restaurants, etc. which in recent years have resulted in serious problems with infection and food poisoning of children who stayed in those hotels during their excursions.

Hotel industry market is consisted of three groups: big hotel chains, domestic private hotel chains and state owned hotels. As a result of the lack of an appropriate ambience and the market, there is always a disloyal competition which prevents the development of this industrial branch. However, domestic hotel enterprises must follow the trends in tourism and hotel industry and adjust to new requirements of their customers.

It is considered that the improvement of management process in modern organization depends on its relationship towards modern methods and techniques implementation (Bešić & Dorđević 2015). Global business practice has confirmed that the usage of modern methods and techniques affects knowledge productivity both of employees and a modern business organization itself.

Some of these methods and techniques are database management, quality management system, corporate social responsibility, relation marketing, benchmarking, as well as customer satisfaction management, etc. (Ćoćkalo at all, 2012).

Therefore, it is considered that more intensive implementation of management concept (for example, quality management, socially responsible

business, integrated management systems, etc.) which affect the quality improvement of hotel services and competitiveness of domestic hotels on the market represent an important condition. Some hotels have started implementing certain management concepts, such as QMS, HACCP, and IMS, but they still make a small number in comparison to all domestic hotels.

Considering the implementation of ISO standard in domestic hotel industry, there are, unfortunately, no data about the number of certified hotels. However, there are individual initiatives of some private hotels, for example, Hotel Zepter which successfully finished a certified inspection of integrated management system (ISO 9001 and HACCP) by a certified house Lloyds Register Quality Assurance (LRQA) Serbia in September, 2015. This is a good example of development of competitiveness related to domestic hotels in the current serious competition on Belgrade market.

Unfortunately, domestic hotel enterprises are not able to implement the above mentioned standards, except ISO18513:2003, because there are no translations in Serbian at the Institute for standardization, the only relevant institution. A special attention must be paid to ISO 17680:2015 because there is an increasing number of wellness and spa centers in Serbia and the implementation of this standard would significantly improve the quality of service.

The implementation of international standards in business of domestic hotel enterprises represents one of the key aspects in the process of improving their competitive abilities. Unfortunately, like we said before, only Hotel Zepter is implementing these international standards in their business. These data are disturbing because the implementation of international standards: QMS, HACCP, EMS, IMS and similar ones represents an important condition for improving quality and competitive abilities of domestic hotels.

The following problems are limiting the realization of international standards in domestic hotel enterprises:

- Insufficient level of consciousness development related to importance and advantages of international standards implementation of owners and top managers in domestic hotels.
- Inappropriate engagement of institutions which deal with the issues of international standards,

such as: Institute for Standardization, Departments at Serbian Chamber of Commerce, Belgrade Chamber of Commerce, relevant Ministries of Serbian Government. Beside the most well-known standards QMS, HACCP, EMS and IMS, more engagement is necessary in relation to the standards directly linked to tourism and hotel industry, for example ISO 17680:2015 - Standard for wave therapy. The key role of the Institute for Standardization and its Committee for Standards in the field of tourism and services must be distinguished here.

- Lack of financial means, knowledge and setting other priorities are the main causes for the absence of international standards (QMS, HACCP, EMS, IMS, etc.) in small hotels.

All these problems that domestic hotel enterprises have to face point at the absence of the ambience for encouraging the implementation of international standards which is best confirmed by a decrease of certified enterprises in the Republic of Serbia from 2011 (3.228 enterprises) to 2014 (2.637 enterprises). The ambience is consisted of the institutions, that we mentioned before and documents and strategies which will direct the implementation of international standards towards domestic economy in the right way. Therefore, a greater engagement of institutions in the promotion of international standards is necessary along with showing the examples of successful hotel enterprises that have already implemented them. This process asks for persistence and the struggle against the existing taboos, so the help of consulting agencies can be useful.

In addition, there is a big problem related to small hotels which represent an important segment of touristic and hotel offer in Serbia. A possible solution is a group implementation of international standards in small hotels which could reduce their costs for this project realization. It is necessary therefore that several small hotels merge in a cluster (regional clusters, for instance) so they could divide the price for training while the certification would be paid individually. Another advantage of this way of standards implementation is that they could solve the problems they face together during the training. This is especially significant for writing papers/documents, such as : definition of processes and responsibility of owners, measuring customers satisfaction, etc. Writing documents is of crucial importance for

efficiency of the implementation of international standards in hotel enterprises.

If the documents are too bulky, which often happens in practice, the whole implemented system will not function for a long time and the effort will be useless. We must stress here the necessity of institutional promotion of the implementation of these international standards in domestic hotel enterprises. It can be, beside the mentioned ones, HORES, Business Association of Hotel and Service Economy which is engaged in improving the business ambience in this field.

According to some authors ([Ćočkalo at all](#)), opinions of future executives and experts are crucial for defining development guidelines in the field of competitiveness improvement in relation to domestic enterprises. The research results obtained by the analysis of the attitudes of the young on tourism and hotel business show the way of thinking of future experts and executives who will directly deal with this business segment, especially operatively.

The research was carried out from January to March, 2016, on the territory of Belgrade, and the sample included 120 students oriented towards tourism (Belgrade Business School and High Vocational School for Tourism). The students of basic and specialistic studies in these institutions of high education were included in the research.

The greatest number of the studied respondents, 58,3% of them, think that the role of hotel capacities in tourism is significant, 33,3% of the students think it is exceptionally significant while 8,4% of them consider it partially significant. The majority of students would like to work in hotel business after graduation - 38,3%, 30,8% of them would like to work in tourist agencies and 20,8% would work as tourist guides. If they found job in hotel business, the majority of them would prefer working in international hotel chains - 62,6%, then in domestic hotels – 11,3%, in small city hotels – 10,3% and in holiday resorts – 9,3%,

The students think that the quality of hotel services in Serbia is partially good – 48,7% and good – 38,5%, and only 4,3% of them consider it exceptionally good, while 8,5% of the students think the quality is not good. The greatest number of students, 64,1%, think that there is no good ambience in Serbia now that is stimulating in relation to development of hotel enterprises but

35,9% of them think contrary. The most significant limits on the market of the Republic of Serbia represent unstable political and economic situation – 36,7%, bad traffic infrastructure – 31,6%, too high taxes – 13,9%, limited market – 12,7% and disloyal competition – 5,1%.

When speaking about competitive ability of domestic hotel enterprises in comparison to international hotel chains, most respondents, 54,3% of them, think that domestic hotel enterprises are partially competitive, 25,7% of the respondents consider it satisfying while 6,2% students find competitive ability unsatisfying. Only 3,8% of the respondents think that competitive ability is very satisfying.

These are the most significant factors that are missing in the process of competitive ability improvement concerning domestic hotel enterprises according to respondents' opinions:

- Marketing – 13,2%,
- Financial support – 12%,
- Education – 10,9%,
- Innovativeness – 10,2% i
- New technologies implementation – 9,5%.

When evaluating the degree of innovativeness of domestic hotel enterprises, the majority of respondents, 60,4%, find it partially satisfying, 22,7% of them think it is satisfying, then 11,9% of the respondents consider it unsatisfying while only 5% of them think it is very satisfying. All in all, 80,4% of the respondents find domestic hotel enterprises uncompetitive in international context while 19,6% respondents think the other way round.

On the grounds of the presented results it can be concluded that future young experts, in the field of management in tourism, who will deal with operational issues in hotel business are aware that implementation of modern management methods and techniques along with innovativeness and the use of modern technological achievements represent the framework for improving competitive abilities of domestic hotel enterprises. Furthermore, it must be stressed that in this field a financial support of the state/government is necessary, at least in the extent that the Government supports manufacturing industry because tourism and hotel capacities development represent a significant source of local, regional and national income.

The majority of examined students think tourism is exceptionally important for economic development of Serbia – 39,2% and 37,5% consider it important. Smaller number of them think that tourism is partially important – 20,8%, while 2,5% of the students find tourism unimportant for the development of domestic economy. The greatest number of students think that building hotel capacities is of crucial significance for the development of domestic tourism, such as spa tourism – 33,3% and mountain tourism – 21,7%, congress tourism – 8,3% and city tourism – 5,8%. To conclude, over 69% of the examined students point at the need for developing concrete hotel capacities as a form of tourism which requires the greatest attention.

CONCLUSION

Quality and competitiveness issues in domestic hotel enterprises are exceptionally important for further perspective of tourism and hotel industry in Serbia. Serbia has potential in tourism which hasn't been, unfortunately, used so far to the desired extent because of some limiting factors that we have tried to represent in this paper.

According to some authors (Đorđević at all, 2011), business policy of domestic enterprises should be based on the application of management techniques which support competitiveness, innovativeness and flexibility as well as on improving knowledge of their employees, especially of top management.

In order to increase competitiveness of domestic hotel enterprises it is necessary to solve the following problems which affect the quality of business:

- Insufficiently developed traffic infrastructure on the whole territory of the Republic of Serbia blocks free transfer of people and prevents filling up accommodation capacities.
- Inappropriate education of employees, insufficient knowledge about modern management concept.

Because of bad traffic infrastructure potential guests often think twice before they decide to stay in some domestic hotels. The example of the mountain Stara planina and its hotels is illustrative. Namely, the cooperation with a popular international hotel group Falkenstainer was

finished because of poor infrastructure which affected negatively their business plans and the quality of business. Customers were not motivated to stay in this hotel although it is among the first five hotels with the best spa centers on the list.

A direct result of insufficient knowledge from the field of management is the fact that a small number of domestic hotels already implemented or are planning to implement some international ISO standards. Without the acceptance of these management concepts our hotel enterprises will not have any perspective on the long run. These standards demand a focus on final customers through documented and planned approach without improvisations which our hotel enterprises tend to do.

Beside the afore mentioned two problems we must point at the lack of an appropriate ambience that will reduce the grey zone in hotel industry to minimum and establish the system which will include all key institutions from the field of tourism and hotel industry: Ministries, enterprises, professional associations, such as Business Association of Hotel and Services Economy – HORES and faculties and high vocational schools.

REFERENCES

Arbutina Petenji S., & Mišković I. (2014). *Razvoj i primena mobilne aplikacije Roomera u cilju unapređenja komunikacije hotela sa gostim*. Paper presented at the INFOTEH, Jahorina.

B92. (2015). *Tržište halal industrije "teško" 2,3 biliona \$*. Retrieved from http://www.b92.net/biz/vesti/svet.php?yyyy=2015&m=10&dd=10&nav_id=1049669

Bešić C., & Dorđević D. (2015). *Korporativna društvena odgovornost*. Čačak: Fakultet tehničkih nauka.

Bogetić, S. (2016). *Hotelski menadžment*. Beograd: Beogradska poslovna škola.

Bogetić S., Antić Z., & N., L. (2015). Analysis of hotel enterprises competitiveness aspects in modern business, (Review Scientific Paper). *Journal of Engineering Management and Competitiveness (JEMC)*, 5(2), 90-101.

Čočkalović D., Dorđević D., Bešić C., & S., B. (2015). Undergraduate business students attitudes towards CSR and competitiveness of serbian economy. *Journal of engineering management and competitiveness (JEMC)*, 5(1), 12-20.

Čočkalović D., Bešić C., Dorđević D., & S., B. (2012). From customer satisfaction to CSR in Serbian conditions - a review of literature and business practice. *Strategic management*, 17(4), 50-58.

Dorđević D., Čočkalović D., & S., B. (2011). *Novi model upravljanja i razvoj konkurentne sposobnosti domaćih preduzeća*. Paper presented at the Međunarodna konvencija o kvalitetu JUSK, Beograd.

ICCA. (2014). Statistics Report, from www.iccaworld.com

ICCA. (2013). Statistics Report, from www.iccaworld.com

Tourism Megatrends 10 things you need to know about the future of Tourism, www.horwathhtl.com

WEF (2015). *Travel and Tourism Competitiveness Report 2015*.

<http://www.weforum.org/reports/travel-tourism-competitiveness-report-2015>

ANALIZA PRAVACA ZA UNAPREĐENJE KONKURENTSKE SPOSOBNOSTI DOMAĆIH HOTELSKIH PREDUZEĆA – STAVOVI STUDENATA

U uslovima globalnih tržišnih promena hotelska preduzeća se moraju prilagodavati u cilju opstanka na tržištu, kao i zadovoljenja krajnjih korisnika. Jedan od najvećih izazova za hotelska preduzeća danas predstavljaju sve veća segmentacija tržišta i pojave novih tržišnih niša, kao što su tzv. "millenials", odnosno mladi klijenti rođeni u periodu od 1980 do 2000. godine koji su najveći korisnici pametnih telefona. Domaća hotelska preduzeća su uspela da prihvate nove trendove na tržištu i na taj način prilagode zahtevima krajnjih korisnika. Za ubrzani razvoj hotelske industrije, osim pojave brendova pojedinih međunarodnih hotelskih lanaca, značajan je i razvoj kongresnog turizma koji je pokazao dobar potencijal domaće hotelske industrije. Međutim, domaća hotelska preduzeća u cilju podizanja nivoa konkurentnosti moraju da reše dva problema i to: saobraćajna infrastruktura i podizanje nivoa upravljanja hotela i to kroz uvođenje ISO upravljačkih standarda.

Ključne reči: Hotelska preduzeća, Konkurentnost, Kvalitet.

COMPARATIVE ANALYSIS OF THE INFLUENCE ON CONSUMERS VIA MOBILE PHONES AND COMPUTERS

UDC: 004:339.138

Original Scientific Paper

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Business operations are nowadays characterized by a rapid development of technology and marketers are therefore searching for most efficient methods for drawing the attention of consumers to their business and occupying a position in their consciousness. The possession and use of mobile phones have become an integral part of lives of all consumers. This work investigates whether there are any differences in the degree of influencing consumers who watch advertising content via their mobile phones, in comparison to the influence on those watching the same content on computers, and how big they are, as well as whether the opinion of respondents concerning interactivity (perceived interactivity) of the observed content differs from the actual, existing interactivity.

Keywords: Perceived interactivity, Consumers, Mobile marketing.

INTRODUCTION

The former research by authors in the field of Internet Marketing has mainly pertained to the optimization, promotion, possibilities of increasing the Internet traffic, website traffic analysis. Having understood the significance of the concept of interactivity, which is permanently present in Internet Marketing, the authors shift their focus to the research of the concept of interactivity for the purpose of better Internet promotion (Vasic et al., 2011).

Surveys dealing with business trends of companies testify to the fact that advertisers are increasingly turning to mobile marketing, believing that such a method of investing in marketing will be most cost-effective. In 2011, an increase in mobile advertising compared with advertising via e-mail and social networks was observed, and it was then foreseen that the growth rate of mobile advertising

would increase to USD 8.2 billion until 2016 (VanBoskirk, 2011). A survey conducted in 2011 referred to the USA, which was considered the leading country in the world of marketing. It was determined that the reasons for such development were the following: the understanding of marketers that mobile phones are increasingly used, that mobile advertisements are always present around users for better targeting of advertising and dynamic contents, increased trade via mobile phones leads to increased investments in mobile advertising.

The author of a large number of books dealing with digital marketing, Dave Chaffey, speaks in his report about the influence of new digital media trends on marketing (Chaffey, 2016). He states that by 2016 the use of mobile phones for marketing purposes will constantly increase and become the main method for acquiring information in 2016.

MOBILE MARKETING

Mobile marketing is defined as the use of wireless media for turning the information about time and precise locations of consumers into personal information which promotes products, services and ideas (Scharl et al., 2005).

Mobile marketing is the most personal form of web marketing (Krum, 2010). The use of mobile phones makes it possible to obtain all the information needed for a company to approach its consumers, to understand the consumers' way of thinking, their needs and desires, how and when they wish to receive the advertising message, etc. In this manner the consumers become available 24 hours a day, 7 days a week. This helps advertisers to create the overall marketing campaign. The consumers' need for being constantly informed has always existed; the occurrence and frequent use of mobile phones have only facilitated the satisfaction of this need (Michael & Salter, 2006).

Some of the key features of mobile marketing are the following (Smutkupt et al., 2010): omnipresence, personalization, two-way communication, localization, and these features offer unlimited business opportunities.

The activities influencing an increase in awareness of an advertised brand which are included in mobile marketing are the following: mobile advertising, short text messages, location-based mobile marketing, mobile applications, mobile search marketing, online marketing on websites, in searches and e-mail (Krum, 2010).

Some of the advantages of mobile marketing are the following: higher response rate, lower investment cost, lower effort degree for the commencement of communication (Michael & Salter 2006).

Frequent use of mobile phones, in addition to the fact that it has changed the perception of consumer availability, offers a series of advantages: it is cost-effective, stable, targeted, personal, sharable, portable, flexible, interactive, immediate, measurable, effective, efficient, repeatable and entertaining. (Krum, 2010). Mobile marketing includes: advertisement, sales, promotion and direct marketing (Matti & Heikki 2008).

MARKETING PERFORMANCE MEASUREMENT

All analytics packages supporting mobile devices ensure special monitoring of consumers who have accessed the content both via a computer or via mobile devices, which includes: total number of visits, single visits, total page view, page view per visit, visit duration, single page view ratio, new visitors, repeated visits, organic searches, paid searches, source of visits, visits with conversation, visits with transactions, access pages, key words, browsers used to access the Internet, operating system used, etc. (Pasqua & Elkin 2013).

One of the software solutions offered free of charge for monitoring the behavior of consumers on the Internet is Google Analytics, which shows how users find and use the website, dividing the monitoring parameters into users accessing the content via a computer and via other devices, which enables advertisers to make higher quality decisions on the website design and content as well as on the overall upcoming marketing campaign. Google Analytics provides detailed statistics of the website traffic, including the number of visits, pages viewed, average visit duration, use of key words for searches, both in real time and for a desired period. Users may be monitored by age, gender, geographic location, inclinations, interests, etc.

The use of mobile phones also offers a number of specialized analytics tools. If you invest in mobile applications and if you want to monitor the use of such applications, you should use Localytics, Mobilytics and Flurry. These analytics packages should provide information about the frequency of use, average duration and total time spent on a website (Pasqua & Elkin 2013).

The effect on users is associated with the concept of interactivity, i.e. with the users' understanding of possible two-way communication in real time by the company being advertised. Interactivity and its perception by users influence the user satisfaction and formation of an attitude towards the company and its presentation on the Internet. By studying the concept of interactivity we can observe a difference between the perceived and actual interactivity (Figure 1), where the perceived interactivity determines further user behavior towards the company but does not influence a direct increase in the final user action, regardless of whether it is about the purchase of a

product/service, signing up for an advertised content, etc.

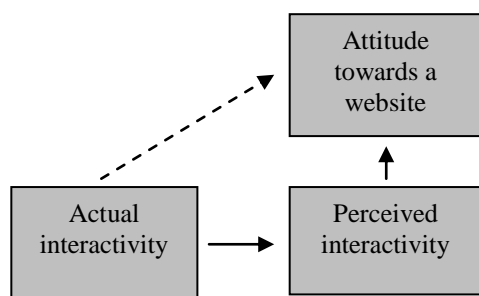


Figure 1: Perceived and actual interactivity, and attitude towards a website (Wu, 2005)

A large number of authors have dealt with the measurement of perceived interactivity (Newhagen et al., 1995; Hoffman, Novak, 1996; Wu, 1999; Shankar et al., 2003; Yuping, 2003; Chung & Zhao, 2004; Wu, 2005; Wu, 2006; Song & Zinkhan 2008); we have decided to present the model of Song and Zinkan (Song & Zinkhan 2008) in this survey, as a model which in the simplest and most comprehensive manner includes all parameters needed for measuring the perceived interactivity. This model differentiates between properties of the medium, which is an essential determinant of the perceived interactivity, and the message quality as a precondition for website interactivity. The authors use the following parameters for interactivity measurement: Communication, Control, Possibility of Response, Attitude towards a Website, User Satisfaction, Overall Website Quality, Loyalty Intention, Repeated Orders and WOM.

When measuring the influence of marketers on consumers it is also necessary to define the key success indicators. An evident success indicator for presentation on the Internet is a click, but there are also other indicators that should be taken into consideration during the optimization for mobile advertising. The first action expected within an advertisement is (Pasqua & Elkin 2013): a click on invitation, click on map or store location, click on offer, click on another access page or microsite, click on application download, click on screen containing an application, time spent on advertising experience, actions completed within advertising experience.

SURVEY

A survey has been conducted at the College of Electrical Engineering for the purpose of

determining different effects on respondents accessing the content via mobile devices and those accessing the content via computers. By analyzing the literature, it has been determined that in most cases a website has been used as a stimulus for investigating the interactivity between consumers and advertisers (Wu 1999; Downes & Mcmillan 2000; Liu & Shrum 2002; McMillan & Hwang 2002; McMillan 2002; Liu, 2003; Albert et al., 2004; Johnson et al., 2006; Wu, 2006; Song & Zinkhan, 2008; Jiang et al., 2010). For that reason, the content has been presented to responders via a website.

The survey website has been created taking into account that its layout should be adjusted to mobile devices. All elements of the website displayed on a computer are also present in the website displayed on mobile devices, but in a different manner due to the difference in the screen width (Figure 2). Navigation is displayed as a dropdown menu listing all pages and advertisements within pages. Quick links are displayed one below another. Articles are displayed one below another, as in the website layout on a computer. Auxiliary content elements and add-ons are displayed one below another as well. The only website element that is not displayed on mobile devices is the banner on the homepage.

Survey stages

In the first stage, which involved 350 respondents, the objective was to single out the respondents having the same or similar interests. All the respondents were first-year students at the College of Electrical Engineering who selected the subject Digital Multimedia 1. On the basis of the first stage results, we singled out 120 respondents searching for jobs/practice or training courses on websites.

In the second stage, the respondents singled out were tested in the computer laboratory with 20 computers having the same configuration and connected to the Internet via a 1,000 Mb/s Internet link with the academic network, in 6 groups of 20 respondents. The respondents were also provided with the local wireless computer network in compliance with the IEEE 802.11G standard, which enabled the respondents watching websites via mobile devices to participate in the survey without hindrance. Respondents were given slips of paper with the website address they should visit and a note indicating which device they should use, where it was taken into account that the total

number of respondents in both categories should be equal. All respondents, after receiving the same instructions, were given 30 minutes to view the obtained website. After expiry of this period, the respondents were given the survey questionnaire and unlimited time for its completion. The objective of the survey questionnaire was to show whether and in what segments the respondents

were satisfied with the interactivity of the obtained website. The survey questionnaire was prepared based on survey questionnaires used in the works of authors studying perceived interactivity (Song & Zinkhan 2008; Yuping 2003; McMillan et al., 2002a; Wu 1999; Qin et al., 2010; Wu, 2006; Yuping & Shrum, 2002).

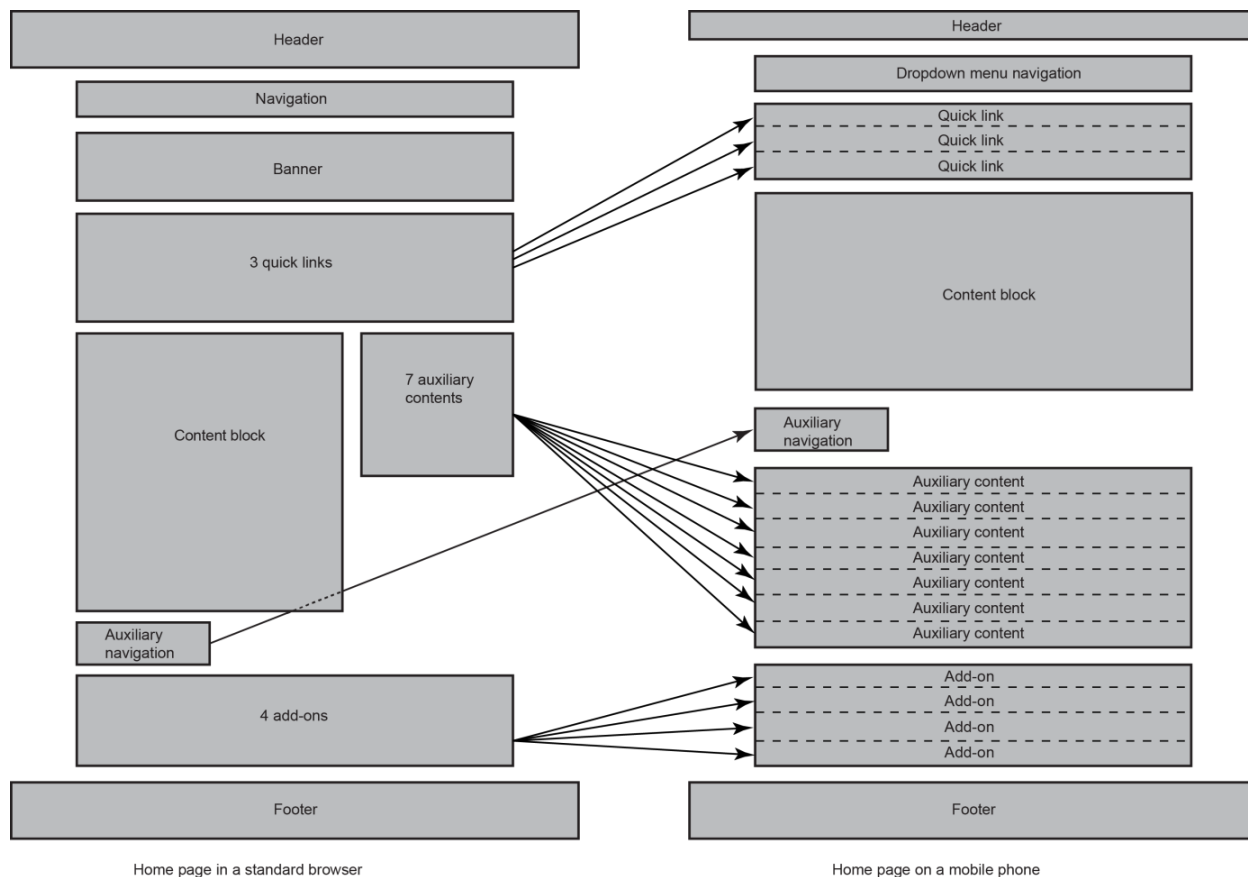


Figure 2: Differences between home page layouts on a computer (left) and on a mobile phone (right)

In the third stage, the data were processed and the survey results were presented. Upon the entry of data from the survey questionnaire it was noticed that some of the survey questionnaires were filled out inaccurately. They were eliminated from further analysis. After the entry of all the respondents' results, it was concluded that the number of respondents viewing the website via mobile devices was 49, while the number of respondents who viewed the website on a computer was 51, which impaired the number of respondents by the respective categories. For that reason, a uniformity analysis was performed by the number of respondents, and the obtained results ($\chi^2=0,005$, $p=0,943$) showed that the processing of results could be continued.

Survey results

Statistical data processing and analysis were performed in the program SPSS ver. 20 (Statistical Package for the Social Sciences). Statistical significance was defined at the null hypothesis probability level from $p \leq 0.05$ to $p < 0.01$. The difference between respondents using computers and those using mobile devices was determined by the use of a T-test for large independent samples.

The differences in understanding the achieved perceived interactivity can be seen in Table 1. A difference between the respondents using computers and those using mobile devices exists in the highlighted fields in column p, where $p < 0.05$. Statistically significant differences can be seen in

categories Possibility of Response, Consumer Satisfaction, Loyalty Intention, where in all the three observed categories the respondents using the website via mobile devices had a stronger impression:

- obtaining a quick, adequate and accurate response,
- satisfaction after using the website,

- they will remain loyal to the website use and give positive recommendations for the viewed website

The respondents' answers to the questions from the survey questionnaire are provided in Table 2. Statistically significant differences are highlighted in questions where $p < 0.05$.

Table 1: Overview of differences in categories of the SONG model

	Device used	M	SD	t	p
SONG model	Computer	5.1485	.58707	-1.928	.057
	Mobile device	5.3643	.52866		
Communication	Computer	4.5098	1.07363	.088	.930
	Mobile device	4.4932	.79710		
Control	Computer	5.8848	.68504	.473	.637
	Mobile device	5.8163	.76210		
Possibility of Response	Computer	5.1242	.74524	-2.033	.045
	Mobile device	5.4558	.88243		
Attitude towards the website	Computer	5.7516	1.09106	-1.536	.128
	Mobile device	6.0544	.86160		
Satisfaction	Computer	4.6797	.93799	-2.036	.044
	Mobile device	5.0544	.90099		
Overall website quality	Computer	5.5294	1.00206	-.988	.325
	Mobile device	5.7143	.85999		
Loyalty intention	Computer	4.7843	1.49444	-2.503	.014
	Mobile device	5.4776	1.26017		

M - Arithmetic mean; SD - Standard deviation; t - the t-test, p - Statistical significance

Table 2: Overview of differences in questions of the SONG model

	Device used	M	SD	t	p
COMMUNICATION					
The website facilitates two-way communication	Computer	4.7451	1.33930	-1.311	.193
	Mobile device	5.0816	1.22196		
The website offers a possibility for live communication with a company representative	Computer	4.2941	1.93178	.181	.857
	Mobile device	4.2245	1.91774		
The website enables simultaneous communication of a number of users	Computer	4.3333	1.87261	.879	.381
	Mobile device	4.0204	1.67692		
The website enables conversation	Computer	4.3333	1.95619	-1.163	.248
	Mobile device	4.7755	1.84012		
The website is effective in collecting feedback	Computer	5.1961	1.09580	-1.429	.156
	Mobile device	5.5102	1.10156		
The website does not offer a possibility of live communication with a company representative	Computer	4.1569	1.86947	2.214	.029
	Mobile device	3.3469	1.78595		
CONTROL					
While I was on the website, I was aware of my exact location all the time	Computer	6.1765	1.26025	.052	.958
	Mobile device	6.1633	1.26404		
While I was on the website I always knew where I was going	Computer	6.0980	1.08176	-1.448	.151
	Mobile device	6.4082	1.05906		
While I was on the website, I could freely select what exactly I wanted to watch	Computer	6.4314	1.00509	-.163	.871
	Mobile device	6.4694	1.30866		
While I was navigating the website, my actions determined the experience I obtained	Computer	5.4706	1.33196	-.230	.819
	Mobile device	5.5306	1.27642		
While I was on the website, I was always able to go where I wanted to go	Computer	6.0588	1.13863	.318	.751
	Mobile device	5.9796	1.34613		

Table 2 (continued): Overview of differences in questions of the SONG model

I was satisfied for being able to select the link I wanted and the time I wanted to click on it	Computer	6.1373	1.51023	-1.140	.257
	Mobile device	6.4286	.97895		
While I was navigating the website, I did not have absolute control over what I could do on the website	Computer	4,8039	2,04958	1.941	.055
	Mobile device	3.9592	2.29999		
The website is not suitable for use	Computer	5.9020	1.28460	1.003	.319
	Mobile device	5.5918	1.77856		
POSSIBILITY OF RESPONSE					
The website processes my inputs very quickly	Computer	5.1569	1.15538	-1.190	.237
	Mobile device	5.4694	1.45920		
Acquiring information from the website is very fast	Computer	5.6667	1.19443	- .449	.654
	Mobile device	5.7755	1.22925		
I was able to obtain the information I wanted without delay	Computer	5.5490	1.13690	-2.465	.015
	Mobile device	6.0816	1.01728		
When I click on a link I feel like I am obtaining immediate information	Computer	5.0980	1.66439	-1.997	.049
	Mobile device	5.6735	1.16168		
The website is very slow in responding to my requests	Computer	5.4706	1.75901	.247	.806
	Mobile device	5.3878	1.59186		
The website directly responded to my questions	Computer	3.8039	1.46996	-1.841	.069
	Mobile device	4.3469	1.47974		
ATTITUDE TOWARDS THE WEBSITE					
I think the website is good	Computer	5.8627	1.21687	-.966	.336
	Mobile device	6.0816	1.03756		
I think the website is suitable	Computer	5.8039	1.13172	-1.906	.060
	Mobile device	6.2041	.95698		
I think the website is appealing	Computer	5.5882	1.38819	-1.113	.269
	Mobile device	5.8776	1.20126		
SATISFACTION					
I am satisfied with my experience on the website	Computer	5.4510	1.47396	-.792	.430
	Mobile device	5.6735	1.32897		
This experience of looking for a job online is exactly what I wanted	Computer	4.7843	1.57878	-2.451	.016
	Mobile device	5.5102	1.37117		
This online experience was not similar to what I expected	Computer	3.8039	1.26522	-.643	.522
	Mobile device	3.9796	1.46472		
OVERALL WEBSITE QUALITY					
The overall quality of looking for a job on the website is	Computer	5.4706	1.20587	-1.431	.156
	Mobile device	5.7755	.89595		
My feelings for the website are	Computer	5.5882	1.08030	-.304	.762
	Mobile device	5.6531	1.05180		
LOYALTY INTENTION					
I will encourage my friends and relatives to look for a job on this website	Computer	4.8824	1.63275	-1.785	.077
	Mobile device	5.4286	1.41421		
I will tell positive things about the website to others	Computer	5.1765	1.63347	-1.929	.057
	Mobile device	5.7551	1.34676		
I will use the website to look for a job in the upcoming period	Computer	4.7451	1.75320	-2.437	.017
	Mobile device	5.5714	1.63299		
I would recommend this website to a person asking me for advice	Computer	5.1176	1.77366	-2.563	.012
	Mobile device	5.9184	1.30443		
I consider this website my primary choice for acquiring information about jobs on the market	Computer	4.0000	1.66132	-2.112	.037
	Mobile device	4.7143	1.71998		

M - Arithmetic mean; SD - Standard deviation; t – the t-test, p - Statistical significance

The results presented in the table testify to the fact that respondents feel comfortable when using the website. For the purpose of research, the website was registered on Google Analytics, by the use of

which we can obtain objective indicators of user behavior on the website. Table 3 shows the following parameters: total number of pages

viewed, number of pages viewed per visit, page stay time, page exit rate.

Table 3: Overview of parameters monitored - Google Analytics

	Number of pages viewed	Number of pages viewed per visit	Page stay time	Page exit rate
Computer	1104	11,16	15,48	11,7
Mobile device	818	9,98	13,53	20,73

Table 4: Overview of parameters monitored - Google Analytics

	Number of registered respondents	Number of registered jobs/practices/training courses	Average number of applications per user
Mobile device	39	94	2.41
Computer	38	87	2.29

Another parameter showing an objective difference between the respondents who used the website on a computer and those who used it via mobile devices is the number of jobs/practices and training courses which the respondents from both groups applied for while using the website (Table 4).

CONCLUSION

On the basis of the conducted survey it has been determined that the respondents using computers for browsing have a weaker feeling that the company responds quickly to their inquiries and lower satisfaction when using the website, and that the connections created between the company and the users are weaker in terms of loyalty. When it comes to questions belonging to individual surveyed categories, although the Communications category did not show a statistically significant difference between the respondents who used mobile devices and those who used computers, the question whether the company offered a possibility of live conversation with a company representative showed a statistically significant difference, and a higher score was achieved by the respondents who used computers. As for the Possibility of Response category, where a statistically significant difference was recorded between the two groups of respondents, the questions showing a statistically significant difference pertained to the possibility of obtaining immediate information or information without delay. In those questions a higher score was achieved by the respondents who used mobile devices. The respondents who used mobile devices also achieved a higher score in the User Satisfaction category in the question whether the online experience was exactly what they expected. In the last category pertaining to the user loyalty intention, the respondents who used mobile phones achieved a higher score in the questions whether

they would use the website to look for a job in the upcoming period, whether they would recommend the website to everyone asking for advice, and whether the observed website would be their primary choice for looking for a job/practice/training courses. On the other hand, objective indicators of the effects on users who have participated in the survey testify to the fact that higher involvement of respondents in terms of the number of pages viewed, number of pages viewed per visit, page stay time and page exit rate was achieved in respondents using computers in comparison with those using mobile devices. Based on the foregoing, it can be concluded that the use of mobile phones when browsing the Internet creates a feeling of a greater influence by the company in users, while their actions show the opposite. In this case, the feeling created in users does not match the actions taken by users. The ultimate goal of the company's website in marketers is the final action that the user takes on the website, regardless of whether it is an application, purchase, takeover, etc. In this survey, the website was used for the purpose of investigating the degree of its influence on website users, while the expected ultimate action of the users was an application for a job/practice/training course.

The differences between the respondents who used mobile devices and those who used computers during the survey are small, i.e. a very small percentage of mobile device users achieved better results, and it can therefore be concluded that the use of various devices when browsing the content on the Internet does not influence the consumers' decisions on taking the final action, i.e. purchase, application, order, etc.

REFERENCES

- Albert, T. C., Goes, P. B., & Gupta, A. (2004). *GIST: A model for design and management of content and interactivity of customer-centric web sites*: MIS Quarterly.
- Chaffey, D. (2016). Marketing Trends for 2016 - Will we be in a post-digital era? Retrieved 07.03, 2016, from <http://www.smartinsights.com/managing-digital-marketing/marketing-innovation/marketing-trends-2016/>
- Chung, H., & Zhao, X. (2004). Effects of Perceived Interactivity on Web Site Preference and Memory: Role of Personal Motivation. *Journal of Computer-Mediated Communication*, 10(1).
- Krum, C. (2010). *Mobile Marketing Finding Your Customers No Matter Where They Are*. Indiana, . USA: Pearson Education, Inc.
- Downes, E. J., & McMillan, S. J. (2000). Defining interactivity: a qualitative identification of key dimensions. *New Media and Society*, 2(2), 157-179.
- Hoffman, D. L., & Novak, T. P. (1996). Marketing in hypermedia computer-mediated environments: Conceptual Foundations. *Journal of Marketing*, 60(3), 50-68.
- Jiang, Z., Chan, J., Tan, B. C. Y., & Chua, W. S. (2010). Effects of Interactivity on Website Involvement and Purchase Intention. *Journal of the Association for Information Systems*, 11(1), 34-59.
- Johnson, G. J., Bruner, G. C., & Kumar, A. (2006). Interactivity and its facets revisited. *Journal of Advertising*, 35(4), 35-52.
- Liu, Y. P. (2003). Developing a scale to measure the interactivity of web sites. *Journal of Advertising Research*, 43, 207-216.
- Liu, Y. P., & J., S. L. (2002). What is interactivity and is it always such a good thing? Implications of definition, person and situation for the influence of interactivity on advertising effectiveness. *Journal of Advertising*, 31(4), 53-64.
- Matti, L., & Heikki, K. (2008). Mobile marketing: From marketing strategy to mobile marketing campaign implementation. *International Journal of Mobile Marketing*, 3(1), 50-61.
- McMillan, S. J. (2002). A four-part model of cyber-interactivity. *SAGE Publications*, 4(2), 271-291.
- McMillan, S. J., & Hwang, J.-S. (2002a). Measures of Perceived Interactivity: An Exploration of the Role of Direction of Communication, User Control, and Time in Shaping Perceptions of Interactivity. *Journal of advertising*, 31(3), 29-42.
- Miller, M. (2010). *The Ultimate Web Marketing Guide*: Pearson Education, Inc.
- Michael, A., & Salter, B. (2006). *Mobile marketing*: Routledge.
- Newhagen, J. E., Cordes, J. W., & Levy, M. R. (1995). Audience Scope and the Perception of Interactivity in Viewer Mail on the Internet. *Journal of Communication*, 45(3), 164-175.
- Pasqua R., & N., E. (2013). *Mobile Marketing: An Hour a Day*. Indianapolis, Indiana: John Wiley & Sons, Inc.
- Qin, G., Rau, P.-L. P., & Salvendy, G. (2010). Measuring perceived interactivity of mobile advertising. *Behaviour and Information Technology*, 29(1), 35-44.
- Scharl, A., Dickinger, A., & Murphy, J. (2005). Diffusion and success factors of mobile marketing. *Electronic Commerce Research and Applications*, 4(2), 159-173
- Shankar, V., Smith, A. K., & Rangaswamy, A. (2003). Customer satisfaction and loyalty in online and offline environments. *International Journal of Research in Marketing*, 20(2), 153-175.
- Smutkupt, P., Krairit, D., & Esichaikul, V. (2010). Mobile marketing: Implications for marketing strategies. *International Journal of Mobile Marketing*, 5(2), 126-139.
- Song, J. H., & M., Z. G. (2008). Determinants of Perceived Web Site Interactivity. *Journal of marketing*, 72, 99-133.
- VanBoskirk, S. (2011). US Interactive Marketing Forecast 2011 To 2016. Retrieved 20.12.2015, from Forrester Research, Inc http://www.bcama.com/documents/Forrester_interactive_marketing_forecast_2011_to_2016.pdf
- Vasić, Ž., M., J., & N., J. (2011). *Requirements for successful company presentation on the internet*. Paper presented at the MIT, Vrnjačka Banja.
- Wu, G. (1999). *Perceived Interactivity and Attitude toward Website*. Paper presented at the Annual Conference of American Academy of Advertising Albuquerque, New Mexico.
- Wu, G. (2006). Conceptualizing and Measuring the Perceived Interactivity of Websites. *Journal of Current Issues & Research in Advertising (CTC Press)*, 28(1), 87-104.
- Yuping, L. (2003). Developing a Scale to Measure the Interactivity of Web Sites. *Journal of advertising research*, 43(2), 207-216.
- Yuping, L., & Shrum, L. J. (2002). What Is Interactivity and Is It Always Such a Good Thing? Implications of Definition, Person, and Situation for the Influence of Interactivity on Advertising Effectiveness. *Journal of advertising*, 31(4), 53-64.

KOMPARATIVNA ANALIZA UTICAJA NA POTROŠAČE PUTEM MOBILNOG UREĐAJA I RAČUNARA

Poslovanje danas karakteriše brz razvoj tehnologije, tako da marketari traže najefikasniji način da skrenu pažnju potrošača o svom poslovanju i na taj način zauzmu mesto u njihovoj svesti. Posedovanje i korišćenje mobilnog telefona je postalo sastavni deo svakog potrošača. Ovaj rad istražuje da li postoje i kolike su razlike u stepnu uticaja na potrošače koji reklamni sadržaj posmatraju putem mobilnih telefona u odnosu na uticaj na potrošače koji isti sadržaj posmatraju putem računara, kao i da li se razlikuje mišljenje ispitanika o interaktivnosti (percipirana interaktivnost) sadržaja koji posmatraju u odnosu na stvarnu interaktivnost koja postoji.

Ključne reči: Perceptivna interaktivnost, Korisnici, Mobilni marketing.

ORGANIZATIONAL CULTURE AND ORGANIZATIONAL COMMITMENT: SERBIAN CASE

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Original Scientific Paper

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The paper presents the results of the impact of certain dimensions of organizational culture (Future Orientation, Power Distance, Human Orientation and Performance Orientation) on organizational commitment in companies in Serbia. Through a survey, responses were obtained from a total of N = 400 middle managers from 129 companies. The results show a statistically significant correlation between the observed dimensions of organizational culture and organizational commitment dimensions. Also, there is a statistically significant predictive effect of certain dimensions of organizational culture on the dimensions of organizational commitment. The biggest influences on the dimensions of organizational commitment have dimensions Future Orientation - FO and Performance Orientation - PO. On the other hand, under the most affected dimension of organizational culture is the dimension of organizational commitment Organizational identification - OCMI.

Keywords: Organizational culture, GLOBE project, Organizational commitment, Serbia.

INTRODUCTION

Organizational culture has permeated through all the activities of the organization and it has a powerful impact on them. Organizational culture affects all the aspects of a company's business. Culture is not something that an organization has; culture is what the organization is (Pacanowsky & O'Donnell-Trujillo, 1982). Organizational culture is one of the significant factors of employee satisfaction (Moynihan & Pandey, 2007). Successful managers need to have an influence on employees and then organizational culture combines the values and attitudes of employees in the company (Wehrich & Koontz, 1998). Managers need to understand the implications of diversity and the necessary skills to be successful in work and to be able to decide on a reasonable and sensitive cultural level (Javidan & House, 2001). Organizations with more satisfied workers tend to be more effective than organizations with a

small number of satisfied employees. One of the most important researches in this area (Judge et al., 2001), shows that the most affected are the factors relating to the organizational culture and personal determinants.

Of particular importance for this work are previous studies of the impact of organizational culture on organizational commitment of employees. According to (Acar, 2012) ensuring continuous and desirable work outcomes of employees lead to positive impact on organizational commitment of employees. In such circumstances, employees easier accept the organizational culture of the company. Research in the same references confirmed the existence of the positive effects of leadership and organizational culture on the organizational commitment, in the context of Turkish logistics industry.

According to (Meyer et al., 2010), organizational commitment of employees may be increased by changing the organizational culture in the direction of person-organization (culture) fit. This is particularly useful to apply in the terms of the organizational changes. Similarly, the change-oriented leadership behavior has a positive relationship with organizational commitment (Özşahin et al., 2013). According to (Ellinger et al., 2013) making organizational investments in social capital positively affect organizational commitment, job performance, and organizational citizenship behavior of employees. In addition, coworkers support has different impact on organizational commitment, all depending on organizational culture (Limpanitgul et al., 2014).

At the level of individual countries, organizational commitment has a correlation with cultural values, such as individualism / collectivism, power distance (Meyer et al., 2012). Collectivistic values have a moderating influence on the relationship between person commitments and organizational-level outcomes (Wasti & Ca, 2008). Accordingly are the results of reference (Jaramillo et al., 2005), where it is shown that the correlations between organizational commitment and job performance are stronger at collectivist compared to individualistic cultures. Also, during the process of new product development often comes to the increase of organizational commitment, as expressed in particular in collectivistic cultures (Liang et al., 2014).

The research presented in this paper aims to determine the direction and intensity of the impact of certain dimensions of organizational culture on organizational commitment in companies in Serbia. This research may have practical importance, in terms of looking at options and making recommendations for managers on how to influence on raising the level of organizational commitment of employees.

THEORY AND HYPOTHESES

Organizational Culture (GLOBE project)

In this study, the level of the individual dimensions of organizational culture in companies in Serbia is determined according to the GLOBE project (The Global Leadership and Organizational Behavior Effectiveness Research Project). The main objective of the GLOBE project is to develop national measures and organizational culture and

leadership that can be used in all cultures. This is a multi-phase multi-method project initiated by Robert House in 1993. It was involved in the project more than 170 researchers and scientists in the field of management from 62 countries from all major regions of the world (data according to House et al., 2004, since then, the number of participants has increased, but so far there is no official data on the number).

According to (House et al., 1999; Dickson et al., 2000), the dimensions of organizational culture according to the GLOBE project are based on the research by several authors: Hofstede (1980, 2001), Hofstede & Bond (1988), Kluckhohn & Strodtbeck (1961), McClelland (1961, 1985), Putnam (1993). Culture dimensions of GLOBE project show that characterization of the national culture can be complex and include practices and behavior which are in progress (state that is) and the value of a firm belief of what culture should be (state how it should be) (Waldman et al., 2006). Culture dimensions of (national and organizational) GLOBE project are: (Javidan et al., 2004; House et al., 1999)

1. **Uncertainty Avoidance** is the degree to which members of the organization or society tend to avoid the uncertainty of relying on established social norms, rituals and bureaucratic practices.
2. **Future oriented** is the extent to which individuals in organizations or society are involved in the behavior oriented towards the future, such as planning, investing in the future and disposal of individual or collective gratification.
3. **Power Distance** is the degree to which members of the organization or society expect and agree that the power should be stratified and concentrated at higher levels of organization or country.
4. **Collectivism I (Institutional Collectivism)** is the degree to which organizational and social institutional practices encourage and reward the collective contribution of resources and collective action.
5. **Humane Orientation** is the extent to which individuals in organizations or society encourage and reward individuals because they are fair, altruistic, friendly, generous, caring and kind to others.
6. **Performance Orientation** is the degree to which an organization or society encourages and rewards the members of the group to improve performance and excellence.

7. **Collectivism II (In-Group)** is a collectivism of a group, or the extent to which individuals express pride, loyalty and cohesion within the organization or family.
8. **Gender Egalitarianism** is the extent to which an organization or a company reduces gender differences while promoting gender equality.
9. **Assertiveness** is the extent to which individuals in organizations or society are assertive, and aggressive in social relations.

Organizational commitment

Organizational commitment is an active employee relationship with the organization, a relationship in which an individual is willing to give up something for the sake of the organization (Mowday et al., 1979). According to (Janićijević, 2008), organizational commitment can be seen as a certain expansion and a higher degree of job satisfaction, where employees feel a deep attachment to an organization or some of its members.

Organizational commitment is usually viewed through its dimensions. There are several models in defining the dimensions of organizational commitment (Cook & Wall, 1980; Allen & Meyer, 1990; Mowday et al., 1979). For the research in this paper, a model developed by Cook and Wall (1980) was used. This model has three dimensions:

1. Organizational identification (is applicable to the employees' sense of pride because his belonging to the organization).
2. Organizational involvement (is reflected in the desire and willingness of the employee to make additional efforts to fulfill the goals of the organization).
3. Organizational loyalty (includes a sense that the employee has an obligation to the organization and his willingness to remain in the organization even if another organization would offer him more money).

Based on the above considerations, in this paper, there are two hypotheses set:

H1: There are significant correlations between certain dimensions of organizational culture and organizational commitment dimensions.

H2: There is a statistically significant predictive effect of certain dimensions of organizational culture on the dimensions of organizational commitment.

METHOD

Survey instruments (measures)

Organizational culture is measured using the GLOBE questionnaire (House et al., 1999, 2002, 2004). This instrument measures 9 dimensions of organizational culture over 34 items. The research presented in this paper, includes four GLOBE dimensions of organizational culture: Future Orientation, Power Distance, Human Orientation and Performance Orientation. The respondents gave their answers via a seven-point Likert scale.

To measure organizational commitment an instrument developed by Cook and Wall (Cook & Wall, 1980) was used. This instrument measures 3 dimensions of organizational commitment through 9 items. Dimensions are as follows: Organizational identification, Organizational involvement and Organizational loyalty. The respondents gave their answers via a five-point Likert scale.

Participants and data collection

The respondents were middle managers, employees in companies in Serbia. Middle managers completed the questionnaires, where an interview was used to support the process of filling out the questionnaire. A total of $N = 400$ middle managers from 129 companies completed the questionnaires.

RESULTS

Descriptive statistics of individual dimensions of organizational culture and organizational commitment dimensions is shown in Table 1. The table shows the names of dimensions, a short name for each dimension, mean, standard deviation and Cronbach's alpha for each dimension. Cronbach's alpha values vary in the range of $\alpha = 0.739$ do $\alpha = 0.930$.

Coefficients of correlation between certain dimensions of organizational culture and commitment dimensions are given in Table 2. Pearson correlation was used, whereby significant correlations are marked: * $p < 0.05$; ** $p < 0.01$. All observed correlations were statistically significant, and ** $p < 0.01$.

Predictive effects of certain dimensions of organizational culture (independent variables) on the dimensions of organizational commitment

(dependent variables) were examined using results of regression analysis. Multiple Regression analysis. Table 3 shows the

Table 1 Descriptive statistics for all dimensions

Dimensions	Short name	N	Min	Max	Mean	Std. Deviation	α
Future Orientation	FO	400	1.00	7.00	3.8225	1.61530	.817
Power Distance	PD	400	1.00	7.00	4.3233	1.59971	.801
Human Orientation	HO	400	1.00	7.00	4.3556	1.59826	.930
Performance Orientation	PO	400	1.00	7.00	4.1412	1.40266	.806
Organizational identification	OCM1	400	1.00	5.00	3.7425	.96619	.793
Organizational involvement	OCM2	400	1.00	5.00	4.0942	.83222	.784
Organizational loyalty	OCM3	400	1.00	5.00	3.1558	1.15393	.739

Table 2 Pearson coefficients of correlation between certain dimensions of organizational culture and organizational commitment dimensions

	OCM1	OCM2	OCM3
FO	.467**	.300**	.293**
PD	-.370**	-.258**	-.244**
HO	.362**	.220**	.240**
PO	.468**	.277**	.288**

Table 3 Regression analysis (Predictors: dimensions of organizational culture; Dependent Variable: dimensions of organizational commitment)

Dependent	Independent				R ²	F	Sig
	FO	PD	HO	PO			
	β						
OCM1	.248	-.062	.051	.254	.276	37.610	.000
OCM2	.169	-.089	.015	.118	.109	12.115	.000
OCM3	.148	-.056	.052	.138	.109	12.086	.000

DISCUSSION

Descriptive statistics (Table 1) show that the mean values of the observed dimensions of organizational culture are close to average (4.00). Dimension Power Distance - PD has a slightly higher mean value. It is not surprising, given that Serbia is a country with high power distance (Vukonjanski et al., 2012; Nikolić et al., 2014). The result obtained for power distance in this paper can even be considered as good. The results of mean values for the dimensions of Human Orientation - HO and Performance Orientation - PO can be considered as positive, they are above average. As the weakest result the mean value for the dimension Future Orientation - FO can be considered. The value is below the average. This shows that in Serbia plans are not made to be long term ones and that the top management is mainly making short term plans and is focused on "small" victories.

As for the mean values for the dimensions of organizational commitment, it can be concluded that they are quite high, especially for the dimension Organizational involvement - OCM2. A dilemma occurs here, whether employees are really ready to invest additional effort for their company, or the situation is such that it is expected from the employees? The transition conditions that are still present in the companies in Serbia, as well as high unemployment, are leading the employees in the position that they are easily convertible in the company. So, employees accept more responsibilities and obligations, and now they even begin to consider this as normal, which is also true for employers. Dimension Organizational loyalty - OCM3 has the lowest value. This is logical if one takes into account the low level of wages and low living standard of people in Serbia. In such circumstances, it is difficult to expect a high employee loyalty toward a company. If provided by a better alternative, many people take advantage of such a chance.

All the correlations between certain dimensions of organizational culture and commitment dimensions are statistically significant (Table 2). Dimension Power Distance - PD achieved a statistically significant negative correlation, as expected. In this way hypothesis H1 is confirmed. The biggest influence on the dimensions of organizational commitment achieves the dimension Future Orientation - FO and Performance Orientation - PO. It is obvious that the employees highly value planned approach to solving problems, organized processes and procedures, fair promotion system, performance improving. Employees are aware that these are the prerequisites for long-term survival of the company in terms of competitiveness and uncertain market. Therefore, employees give their best on the job if they feel that it makes sense and their work will lead to a good result and that it will lead to a benefit for the company. Dimension Human Orientation - HO also has a positive and statistically significant impact on the dimension organizational commitment, but the correlation is somewhat lower. Similar is with the correlation of dimension Power Distance - PD, which are negative and statistically significant, but they are also slightly lower. The explanation for these results can be found by considering a fictitious extremely bad situation for the company: it can be assumed that in such circumstances, employees are more willing to accept an autocratic leader with high power distance and low guidance toward people, but the absence of a strategy, prospects and quality of work. High performance, achieved through planning the future take precedence over the human aspects of management. Employees are obviously aware of the danger of losing the competitive race.

From the three dimensions of organizational commitment, the strongest correlation with the observed dimensions of organizational culture, achieves dimension Organizational identification - OCM1. Dimension Organizational involvement - OCM2, as explained above, is in a significant part influenced by the general conditions in companies in Serbia. It is similar with the dimension Organizational loyalty - OCM3. Thus, the dimensions of organizational culture can have the greatest impact on the pride of the employee because of belonging to an organization. This aspect is the least affected by external factors.

Table 3 shows the results of the regression analysis. The organizational culture dimensions are independent variables, while dimensions of organizational commitment are dependent

variables. The results show that, of the organizational culture dimensions, statistically significant predictive effect have dimensions Future Orientation - FO and, somewhat less, dimension Performance Orientation - PO. In Table 3, can also be seen the corrected determination index R^2 . At all dependent variables (dimensions of organizational commitment) there were statistically significant value determination indexes R^2 . Accordingly, it can be concluded that there is a statistically significant predictive effect of the observed dimensions of organizational culture on the dimensions of organizational commitment. In this way the hypothesis H2 is confirmed. The highest value of R^2 exist at dimension Organizational identification - OCM1. On this basis, it is easy to perceive that all the results of regression analysis are completely consistent with the results of correlation analysis. So, all reasons given at the results of correlation analysis are valid for the results of the regression analysis.

CONCLUSION

From the dimensions of organizational culture, the lowest mean value has dimensions Future Orientation - FO. From the dimensions of organizational commitment a high average value has the dimension Organizational involvement - OCM2, while the lowest mean value has the dimension Organizational loyalty - OCM3. Managers should devote more attention to planning in advance. Similarly, managers should act to increase organizational loyalty of the employees. However, this is not easy, given that the loyalty is under the influence of external factors, such as low pay, low living standards and high unemployment. What managers can do is to do their job better, because among other things the company would be able to provide better employee benefits, but also to motivate and encourage their subordinates.

Both hypotheses set at the beginning of the paper, are confirmed. So, there are statistically significant correlations between certain dimensions of organizational culture and organizational commitment dimensions. Also, there is a statistically significant predictive effect of certain dimensions of organizational culture on the dimensions of organizational commitment. The biggest influence on the dimensions of organizational commitment have dimensions Future Orientation - FO and Performance Orientation - PO. On the other hand, the most affected dimensions of organizational culture is the

dimension of organizational commitment
Organizational identification - OCM1.

Overall, it can be concluded that organizational culture definitely has a positive impact on organizational commitment. If managers want greater employee commitment, they should work to improve the organizational culture of their company. In this way, at the same time the conditions are provided, not only for increasing the degree of organizational commitment, but also for improving a number of other organizational and business performance.

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REFERENCES

- Acar, A. Z. (2012). Organizational Culture, Leadership Styles and Organizational Commitment in Turkish Logistics Industry. *Social and Behavioral Sciences*, 58(12), 217–226.
- Allen N. J., & Meyer, J. P. (1990). The Measurement and Antecedents of Affective, Continuance and Normative Commitment to the Organization. *Journal of Occupational Psychology*, 63, 1-18.
- Cook, J., & Wall, T. (1980). New Work Attitude Measures of Trust, Organizational Commitment and Personal Need Non-Fulfillment. *Journal of Occupational Psychology*, 53, 39-52.
- Dickson, M. W., Aditya, R. N., & Chhokar, J. S. (2000). *Definition and Interpretation in Cross-Cultural Organizational Culture Research: Some Pointers From the GLOBE Research Program*. Ashkanasy, N.M.
- Wilderom, C. P. M., & Peterson, M. F. *Handbook of organizational culture and climate* Thousand Oaks, CA: Sage Publications, Inc.
- Ellinger, A.E., Musgrove, C.F., Ellinger, A.D., Bachrach, D.G., Baş A.B.E., & Wang, Y.L. (2013). Influences of organizational investments in social capital on service employee commitment and performance. *Journal of Business Research*, 66(8), 1124–1133.
- Hofstede, G., & Bond, M.H. (1988). The Confucius connection. From cultural roots to economic growth. *Organizational Dynamics*, 16, 4-21.

- Hofstede, G. (1980). *Culture's Consequences – International Differences in Work-Related Values*. Abridged Edition, Sage: Newbury Park.
- Hofstede, G. (2001). *Culture's Consequences, Comparing Values, Behaviors, Institutions, and Organizations Across Nations*. Thousand Oaks CA: Sage Publications.
- House, R. J., Hanges, P. J., Ruiz-Quintanilla, S. A., Dorfman, P. W., Falkus, S. A., & Ashkanasy, N. M. (1999). *Cultural influences on leadership and organizations: Project Globe*. In W. H. Mobley, M. J. Gessner and V. Arnold (Ed.), *Advances in Global Leadership* 2 ed. (171-233) Bingley, UK: Emerald Group Publishing Ltd.
- House, R.J., Javidan, M., Hanges, P., & Dorfman, P. (2002). Understanding Cultures and Implicit Leadership Theories Across the Globe: An Introduction to Project GLOBE. *Journal of World Business*, 37(1), 3-10.
- House, R.J., Hanges, P.J., Javidan, M., Dorfman, P.W., & Gupta. V. (2004). *Leadership, culture, and organizations: The GLOBE study of 62 societies*. Thousand Oaks, CA: Sage.
- Janićijević, N. (2008). *Organizational behavior*. Belgrade. (In Serbian): Data Status.
- Jaramillo, F., Mulki, J.P., & Marshall, G.W. (2005). A meta-analysis of the relationship between organizational commitment and salesperson job performance: 25 years of research. *Journal of Business Research*, 58(6), 705–714.
- Javidan, M., & House, R.J. (2001). Cultural Acumen for the Global Manager: Lessons from Project GLOBE. *Organizational Dynamics*, 29(4), 289-305.
- Javidan, M., House, R.J., & Dorfman, P.W. (2004). *A Nontechnical Summary of GLOBE Findings*. In R.J. House, P.J. Hanges, M. Javidan, P.W. Dorfman, and V. Gupta (Eds.), *Culture, Leadership, and Organizations: The GLOBE Study of 62 Societies* (29-48). Thousand Oaks, CA: Sage.
- Judge, T.A., Thoresen, C.J., Bono, J.E., & Patton, G.K. (2001). The Job Satisfaction - Job Performance Relationship: a Qualitative and Quantitative Review. *Psychological Bulletin*, 127, 376-407.
- Kluckhohn, F., & Strodtbeck, F.L. (1961). *Variations in value orientations*. Evanston, IL: Row, Peterson.
- Liang, B., Kale, S.H., & Cherian, J. (2014). Is the future static or dynamic? The role of culture on escalation of commitment in new product development. *Industrial Marketing Management*, 43(1), 155–163.
- Limpanitgul, T., Boonchoo, P., & Photiyarach, S. (2014). Coworker support and organisational commitment: A comparative study of Thai employees working in Thai and American airlines. *Journal of Hospitality and Tourism Management*, 21, 100–107.
- McClelland, D.C. (1961). *The achieving society*. Princeton, NJ: Van Nostrand.
- McClelland, D.C. (1985). *Human motivation*. Glenview, IL: Scott, Foresman.

- Meyer, J.P., Hecht, T.D., Gill, H., & Toplonysky, L. (2010). Person–organization (culture) fit and employee commitment under conditions of organizational change: A longitudinal study. *Journal of Vocational Behavior*, 76(3), 458–473.
- Meyer, J.P., Stanley, D.J., Jackson, T.A., McInnis, K.J., Maltin, E.R., & Sheppard, L. (2012). Affective, normative, and continuance commitment levels across cultures: A meta-analysis. *Journal of Vocational Behavior*, 80(2), 225–245.
- Mowday, R.T., Steers, R.M., & Porter, R.W. (1979). The Measurement of Organizational Commitment. *Journal of Vocational Behavior*, 14, 224–247.
- Moynihan, D.P., & Pandey, S.K. (2007). Finding workable levers over work motivation: Comparing job satisfaction, job involvement, and organizational commitment. *Administration & Society*, 39(7), 803–832.
- Nikolić, M., Vukonjanski, J., Nedeljković, M., Hadžić, O., & Terek, E. (2014). The relationship between communication satisfaction, emotional intelligence and the GLOBE organizational culture dimensions of middle managers in Serbian organizations. *Journal for East European Management Studies*, 19(4), 387–412.
- Özşahin, M., Zehir, C., Acar A.Z., & Sudak, M.K. (2013). The Effects of Leadership and Market Orientation on Organizational Commitment. *Social and Behavioral Sciences*, 99(6), 363–372.
- Pacanowsky, M., & O'Donnell-Trujillo, N. (1982). Communication and organizational culture. *The Western Journal of Speech Communication*, 46(2), 115–130.
- Putnam, R.D. (1993). *Making democracy work*. Princeton, NJ: Princeton University Press.
- Waldman, D.A., de Luque, M.S., Washburn, N., House, R.J. et.all (2006). Cultural and leadership predictors of corporate social responsibility values of top management: a GLOBE study of 15 countries. *Journal of International Business Studies*, 37, 823–837.
- Wasti, S.A., & Ca, Ö. (2008). Affective and normative commitment to organization, supervisor, and coworkers: Do collectivist values matter? *Journal of Vocational Behavior*, 73(3), 404–413.
- Vukonjanski, J., Nikolić, M., Hadžić, O., Terek, E., & Nedeljković, M. (2012). Relationship between GLOBE organizational culture dimensions, job satisfaction and leader-member exchange in Serbian organizations. *Journal for East European Management Studies*, 17(3), 333–368.
- Wehrich, H., & Koontz, H. (1998). *Management* (11th ed.), Zagreb: Mate.

ORGANIZACIONA KULTURA I ORGANIZACIONA POSVEĆENOST: SLUČAJ SRBIJE

U radu su predstavljeni rezultati istraživanja uticaja pojedinih dimenzija organizacione kulture (orijentacija ka budućnosti, distanca moći, orijentacija ka ljudima, orijentacija ka performansama) na organizacionu posvećenost, u preduzećima u Srbiji. Putem ankete, dobijeni su odgovori od ukupno N = 400 srednjih menadžera iz 129 preduzeća. Rezultati pokazuju da postoje statistički značajne korelacije između posmatranih dimenzija organizacione kulture i dimenzija organizacione posvećenosti. Takođe, postoji statistički značajno prediktivno dejstvo pojedinih dimenzija organizacione kulture na dimenzije organizacione posvećenosti. Najveći uticaj na dimenzije organizacione posvećenosti imaju dimenzije orijentacija ka budućnosti - FO i orijentacija ka performansama - PO. S druge strane, pod najvećim uticajem dimenzija organizacione kulture, nalazi se dimenzija organizacione posvećenosti organizaciona identifikacija - OCM1.

Ključne reči: Organizaciona kultura, GLOBE projekat, Organizaciona posvećenost, Srbija.

COMPARATIVE ANALYSIS OF EXPORT CAPABILITIES OF THE METALWORKING INDUSTRY IN ZLATIBOR REGION AND THE REST OF SERBIA

UDC: 669:339.564(497.11)

Original Scientific Paper

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Exporting is very important activity for companies settled in developing countries, while manufacturing industry is the most important section of the EU economy that drives its growth and propels its technological and innovation development, so it is expected that export in that sector is extremely important activity from national economy point of view. Accordingly, the topic of this survey deals with export possibilities of metalworking industry and compares Zlatibor region export capabilities to export capabilities of the rest of Serbian metalworking companies to EU. There aren't many significant distinctions in export capabilities of Zlatibor region and the rest of Serbia, and they are mainly related to knowledge of regulations. Namely, a significant number of companies is not familiar with new approach directives, as well as with procedures for conformity assessment. Recommendation is more careful choice of suppliers that satisfy necessary requirements, too.

Keywords: Export to EU market, Formal requirements for export, Differences, Barriers for export.

INTRODUCTION

Companies' survival, expansion and the consequent economic growth on the country level depend on companies export performance (Stoian, Rialp & Rialp, 2011). Accordingly, exporting is very important activity for companies settled in developing countries since it strengthens competitive capacities, provides higher profit, diversifies business risks on multiple markets, generates more funds for investment and external, higher wages and internal market development, increases domestic employment levels and, finally, leads to higher standards of living in home country (Leonidou et al., 2007 and 2010, Lee et al., 2004, Bonaccorsi, 1992, Donthu & Kim, 1993, Papadopoulos, & Martín 2010). The need for standard of living upgrade in small open

economies could be satisfied through international exchange (Baldauf, Cravens, & Wagner, 2000). Also, manufacturing industry is the most important sector of the EU economy – it drives its growth and propels its technological and innovation development (Jakopin & Bajec, 2009), so it is expected that export in that sector is extremely important activity from national economy point of view (Basile, 2001).

Accordingly, the topic of this survey deals with export possibilities of Serbian companies in metalworking industry. Since, Zlatibor region has recently increased its export toward Russian Federation for 300%, the aim of this paper is to compare Zlatibor region export capabilities to export capabilities of the rest of Serbian metalworking companies to EU. Export of

products and services on European Union market can bring great benefits to the companies and the national economy, but also set requirements to companies which are not easy to meet (Spasojević Brkic et al, 2014). Spasojević Brkic et al. (2015) notice that canton of Sarajevo and Zlatibor district are recognizable by metal complex, which intends to adjust to new conditions and challenges of international market.

Khara & Dogra (2009) point out that the exporters face many constraints on their road to success which can be classified into financial (availability and cost of finance), marketing (export marketing, export packaging and creativity), technological (related to access and quality management) and inputs (availability of skilled labor and raw materials). Kumlu (2014) adds that it is very important for the companies that are looking for better export results to pay more attention on developing intangible resources to reach desired export performance. Knudsen & Madsen (2002) propose that traditional export strategy research today transfers towards a dynamic capabilities perspectives analysis, while Basile (2001) adds that for export behavior of Italian manufacturing firms the role of innovation is crucial.

Serbian metalworking companies are involved in the following sectors: 1. Extracting metal ore, 2. Production of base metals, 3. Production of standard metal products, not including machines or devices, 4. Production of machines and devices, 5. Production of electric and optic devices, 6. Production of traffic means, 7. Production of other traffic means, 8. Other processing industry (metal industry includes only recycling of used raw materials in this section and excludes production of furniture and other similar products). Metal industry companies have been the core of Serbian industry during past decades. Since the early 1980s Serbian economy has had problems with improving quality and productivity (Đorđević et al., 2011), and today it is characterized by a large number of week companies which are in the

process of reorganization and by a trend of decrease in the average size of enterprises (Cockalo, 2011). For this reason, small and medium enterprises are increasingly becoming the examples of productivity and efficiency in a way that every day more such companies record impressive business results and a very solid profit margin. Anyway, fulfilling the requirements for export to the EU market is a difficult challenge for metal industry companies in Serbia (Spasojević Brkic et al., 2015), although it shares strong commitment towards EU integration. According to data from Užice Regional Chamber of Commerce web site, overall international trade of the Republic of Serbia, for the period from January to December 2015, was 31,6 billion dollars, which represents a 10,9 % of decrease when compared to the same period from last year. Exported goods are estimated to 13,4 billion dollars, which represents a 10 % of decrease when compared to the same period from last year, while imported goods are estimated to 18,2 billion dollars, which is 11,6 % of decrease comparing to the same period from last year. International exchange from Zlatibor region in the same period was 1.127 billion dollars, from which export was 607 billion dollars and import 520 billion dollars, while surplus amounted to 87 billion dollars and import/export ratio was 117%.

METHODS AND FINDINGS

Sample and Survey method

The survey questionnaire was developed after a review of the literature, in-depth interviews and pre-testing using knowledge of experts in the field. To conduct survey Google docs e-mail query instrument has been used. Previously, 400 domestic companies from metalworking industry were invited via e-mail to participate in the survey. 46 companies responded, from which 10 were from Zlatibor region. Mean value of number of employees in the companies in the sample is similar and between 155 and 174.

Table 1: Descriptive statistics of the sample of companies that participated

	Valid N	Mean no. of employees	Median	Minimum	Maximum	Std. Dev.	Coef. Var.
No. SRB	46	159.848	25.0	2	2700	442.22	276.65
No. ZL	10	174.500	64.5	5	1005	307.61	176.28
No. SRBo	36	155.778	22.5	2	2700	476.47	305.86

Coefficients of variation of all variables are greater for 30%, which means that data are nonhomogeneous. Hence, for comparison U* test Man-Withney is used.

Table 2: U*test Mann-Withney for companie size

	U*	z	p-level test
Company size SRB-BIH	0	0	1
Company size ZL-neZL	0	0	1
Company size SA-neSA	0	0	1
Company size ZL-SA	0	0	1

Man-Withney tests in table 2 show that there isn't a significant difference in the size of companies between the Zlatibor region and the rest of Serbia. This indicates that selected companies' sizes are evenly distributed among the regions involved in survey.

Figure 1 shows what percentage of all surveyed companies were from Zlatibor region.

When observing samples of the companies in this research, it can be seen that companies from Zlatibor region are distributed through subsectors in a different manner than companies from the rest of the Serbia (figure 2), with significant differences (table 3). Base metal production companies (2) are

similarly distributed on both fields but production of standard metal products, not including machines or devices (3) is more prevalent in Zlatibor region than in the rest of Serbia. On the other hand, production of machines and devices (4 – which is absent in Zlatibor region) is most prevalent sector in the rest of Serbia.

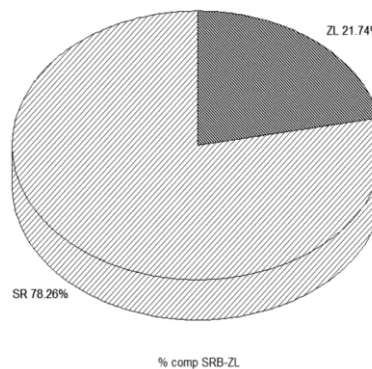


Figure 1: The percentage ratio of surveyed companies in the Zlatibor district and the rest of Serbia

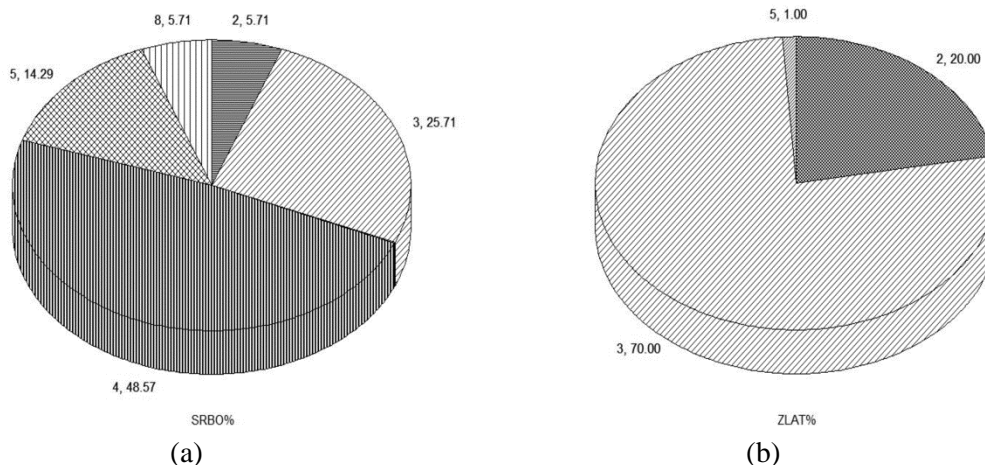


Figure 2: Subsectors distribution of a) Serbia and b) Zlatibor region

Table 3: Comparison of subsectors distribution of the companies from Zlatibor region and rest of the Serbia

SRBo		ZL	significance	p - level
p3so	<	p3z	*	0.0133
p4so	>>	p4z	**	0.008

Export capabilities of the metalworking industry in Zlatibor region and the rest of Serbia

Distribution of number of ISO 9001 certified companies is not significantly different for Zlatibor region comparing to the rest of Serbia, as shown in figure 3.

Also, about half of companies from both regions have no attention to introduce new standards in the

future, like ISO 14001, 18001, etc, as shown in figure 4.

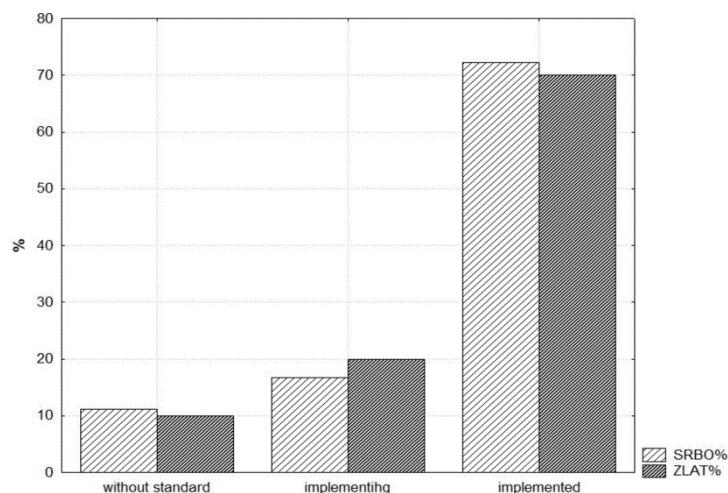


Figure 3: Comparison of number of ISO 9000 certified companies in Zlatibor region and the rest of Serbia

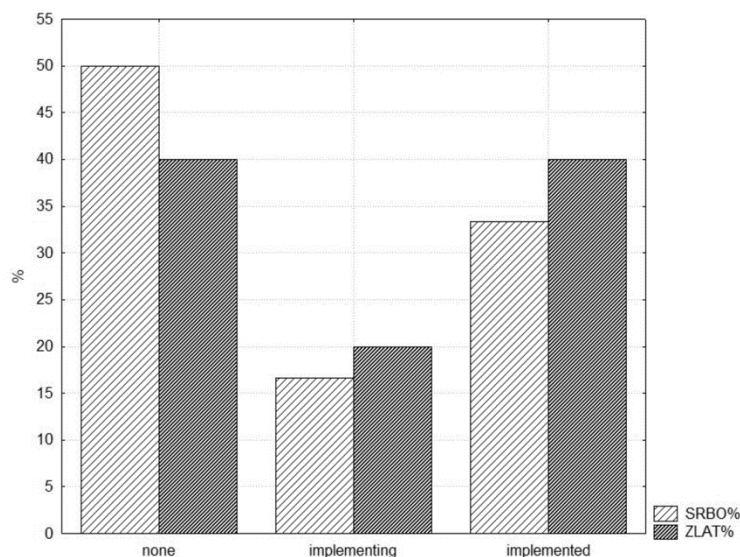


Figure 4: Certified systems according to ISO standards 14001, 18001 and other in companies from Zlatibor region and the rest of Serbia

Financial status of companies from Zlatibor region and the rest of Serbia shows that most of them belong to average group, and that there is no significant difference between two regions in this area. Investment in training courses and employees development is also similar in Zlatibor region and the rest of Serbia. In Zlatibor region companies do not invest in training of employees as much as they could, but large percentage (40%) of them invests enough (grade 4 on the scale from 1 to 5). In the rest of Serbia most of the companies invest averagely (grade 3) (36.11%), while significant

percentage (27.78%) invest as much as they can (grade 5).

Value of factors which significantly influence export of products to EU is approximately equal for Zlatibor district and for the rest of Serbia. Most significant factor is product quality, followed by price, functionality, safety and product appearance characteristics. Distribution of management orientation to export to EU is also similar for Zlatibor district and for the rest of Serbia, whereby most of the managers (70 and 64% in Zlatibor

region and Serbia, respectively) have high grade of 4 and 5 in this matter.

Regarding information gathering about EU markets, there are certain differences between two regions. Half of the companies from Zlatibor region gather information promptly and other half not so much. On the other side, in the rest of Serbia, 63.89% of the companies stays up to date with all information regarding EU market. In Zlatibor region most common number of used sources of information varies from 1 to 5, while in the rest of Serbia it is usually only one source.

Criteria for selection of countries for export are presented graphically, by the type of criterion and by the number of criterions that are used. Statistical analysis wasn't conducted, because of the small sample size from Zlatibor region. It is obvious that trend of market demands has the most important role in selection of countries for export (over 45%). The next criteria are distribution channels with only 20%. In the Zlatibor region, as well as in the rest of Serbia, companies most commonly use two criteria for selecting countries for export. Smaller percentage of companies use one criterion in the rest of Serbia, and in Zlatibor region the same percentage of companies use one, four and five criterion equally.

Possibility of products placement in certain countries in EU, among which Germany leads, followed by Slovenia, in most cases varies in the range of 10-20% to 20-40% of the production, and there isn't a significant difference between the Zlatibor region and the rest of Serbia.

Moreover, it is shown that a large number of surveyed companies did not know which directives they used - 72.22% in the rest of Serbia against 90% in the Zlatibor region. Nine companies (25%), in Serbia, without the Zlatibor region, use one New Approach Directive, and three companies (8.33%) use two directives. In the Zlatibor region, where 10% of the companies use New Approach and no one uses Old Approach, only one company gave more detailed information on the directive of the New Approach that they were using.

Most of the institutions that conduct products compliance are, in both regions, authorized/appointed/notified bodies, followed by product manufacturers or their authorized representatives. Regarding the number of institutions which asses product compliance, in Zlatibor region as well as

in the rest of Serbia, companies use one or at most two institutions, in the majority of cases (80-86%).

Documents for assessment of products compliance that are used in this process are certificates and assessment reports. There is no significant difference in type of documents used in Zlatibor region and the rest of Serbia. As number of documents increases, in Zlatibor region, companies most commonly use three documents, while all companies use between one and three documents. In the rest of Serbia most companies use two to three documents, while for some companies that number increases to four.

CE sign has 70% of the surveyed companies in the Zlatibor region and 63.89% companies from the rest of Serbia. In Serbia, without Zlatibor region, most of the suppliers (over 70%) have products that are in compliance with EU regulations. As for the surveyed companies from Zlatibor region, half of them doesn't know the answer while other half have all or some products that are in compliance with EU regulations.

Staying up to date with new regulations and with amendment and changes of the existing regulations practices more than half of companies in Serbia, without the Zlatibor region, namely 58.34%. In the case of the Zlatibor region 30% of the companies continuously monitor these changes, while 40% occasionally check for new information.

When considering the use of modules for compliance with the directives, it can be seen that the use of the module A dominates. In Serbia, without Zlatibor region, the following is module D, while within the Zlatibor region the use of modules E and F follows. In Serbia, without the Zlatibor region, most companies apply one module for compliance assessment, while in the Zlatibor region companies mostly apply 2 modules (figure 5.).

Five companies from Serbia, without Zlatibor region, which is 13.89%, use 3 – 10 additional standards, while in Zlatibor region only one company (10%) uses additional standards.

When observing difficulties in both regions to fulfil formal requirements, as most challenging, companies depicted identification of required regulations and ensuring financial means for fulfilment of formal requirements. Other factors have a uniform grade.

Most of the surveyed enterprises in the Zlatibor region as well as in the rest of Serbia believe that they should use the consulting services for

fulfilment of formal requirements for export to the EU.

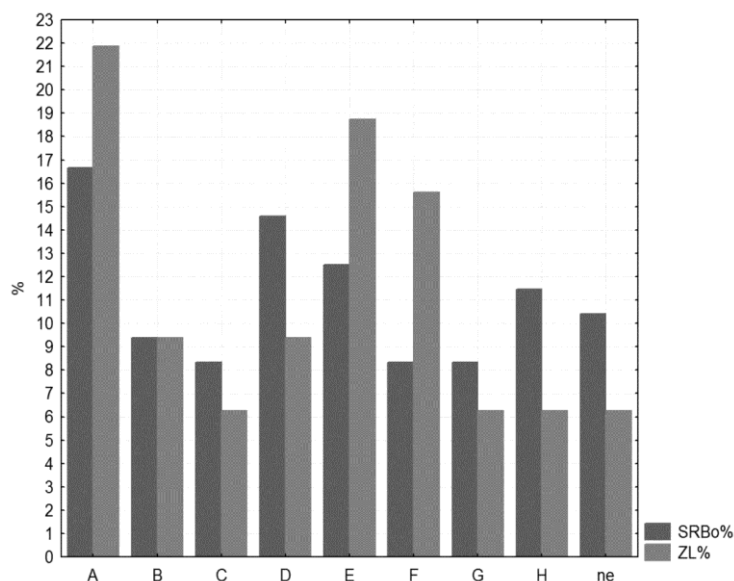


Figure 5: Application of compliance modules

In the Zlatibor region most of the surveyed companies (60%) believe that there is a sufficient number of laboratories and only 10% disagree. In the rest of Serbia 41.67% of the surveyed companies believe that there is a sufficient number of laboratories, and 36.11% disagree. In the Zlatibor region companies believe that there is a sufficient number of competent authorities (60%), while in the rest of Serbia the prevailing opinion is that this number should be higher (41.67%). In Serbia, without Zlatibor region, most of the surveyed companies (66.67%) believe that there is a sufficient number of institutions to help exporters, while in the Zlatibor region this percentage is 50%.

In the Zlatibor region, most of the surveyed companies (70%) believe that investing resources in export activities is justified. In the rest of Serbia 36.11% companies think this type of investment is justified, while 41.67% do not know the answer to this question.

As most influential barrier for export to EU, companies from both regions have indicated a lack of government support and incentives, lack of capital to finance exports and the lack of information in locating and analysing the EU market. As the most important added value from the fulfilment of formal requirements for export to EU, companies in Serbia and Zlatibor region

primarily see an increase in sales, followed by a larger number of customers and incensement of product quality.

CONCLUSIONS

Comparative analysis on the export capabilities of the Zlatibor region and the rest of Serbia, presented in this paper, indicates the following. Companies in Zlatibor region are distributed differently through sub-sectors compared to the rest of Serbia. There is a small number of significant differences between the barriers which could influence the difference in export capabilities of the Zlatibor region and the rest of Serbia. It is important to emphasize the fact that a large number of surveyed companies is not familiar with directives they use, that is, 72.22% in the rest of Serbia, against 90% in the Zlatibor region. Thus, in the Zlatibor region, where 10% of companies use New Approach, only one company gave additional information on the directive of the New Approach that they use. This indicates that the companies hire consultants or subcontract export arrangements, which definitely reduce their chances of success on foreign markets. The situation is similar with regard to suppliers of components and materials incorporated into the products to be exported - in Serbia, without the Zlatibor region, 70% of suppliers have products that are in compliance with EU legislation, while only half of the companies from Zlatibor region

have products or part of products in compliance with EU legislation. Also, companies from Zlatibor region are less effective in tracking the emergence of regulations and amending and changing of existing regulations, which is significant contributor for export capabilities. As Spasojević Brkić et al. (2011) noticed before, quality management factors are reliable and valid instruments for predicting total factor productivity, while Castellani (2002) proves that export behavior and productivity growth are closely connected, so Serbian companies, including those in Zlatibor region, according to the results of this survey, also have to pay more attention to issues connected to regulative.

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REFERENCES

- Baldauf, A., Cravens, D. W., & Wagner, U. (2000). Examining determinants of export performance in small open economies. *Journal of World Business*, 35(1), 61-79.
- Basile, R. (2001). Export behaviour of Italian manufacturing firms over the nineties: the role of innovation. *Research policy*, 30(8), 1185-1201.
- Bonaccorsi, A. (1992). On the relationship between firm size and export intensity. *Journal of international business studies*, 605-635.
- Castellani, D. (2002). Export behavior and productivity growth: Evidence from Italian manufacturing firms. *Weltwirtschaftliches Archiv*, 138(4), 605-628.
- Ćočkaló, D., Đorđević, D., Sajfert, Z., & Bogetić, S. (2011). SMEs in the Republic of Serbia: The developing capacities. *Journal of Applied Engineering Science*, 9(4), 449-456.
- Donthu, N., & Kim, S. H. (1993). Implications of firm controllable factors on export growth. *Journal of Global Marketing*, 7(1), 47-64.
- Đorđević, D., Ćočkaló, D., & Đurin, S. (2011). Serbian Enterprises and Global Competition Challenges. *Journal of Engineering Management and Competitiveness (JEMC)*, 1(1/2), 27-31.
- Jakopin, E., & Bajec, J. (2009). Challenges of industrial development of Serbia. *Panoeconomicus*, 56(4), 507-525.
- Khara, N., & Dogra, B. (2009). Examination of export constraints affecting the export performance of the Indian sports goods industry. *European Journal of International Management*, 3(3), 382-392.
- Knudsen, T., & Madsen, T. K. (2002). Export strategy: a dynamic capabilities perspective. *Scandinavian Journal of Management*, 18(4), 475-502.
- Kumlu, Ö. (2014). The effect of intangible resources and competitive strategies on the export performance of small and medium sized enterprises. *Procedia-Social and Behavioral Sciences*, 150, 24-34.
- Lee, C., & Griffith, D. A. (2004). The marketing strategy-performance relationship in an export-driven developing economy: A Korean illustration. *International Marketing Review*, 21(3), 321-334.
- Leonidou, L. C., Katsikeas, C. S., Paliawadana, D., & Spyropoulou, S. (2007). An analytical review of the factors stimulating smaller firms to export: Implications for policy-makers. *International Marketing Review*, 24(6), 735-770.
- Leonidou, L. C., Katsikeas, C. S., & Coudounaris, D. N. (2010). Five decades of business research into exporting: a bibliographic analysis. *Journal of International Management*, 16(1), 78-91.
- Papadopoulos, N., & Martín, O. M. (2010). Toward a model of the relationship between internationalization and export performance. *International Business Review*, 19(4), 388-406.
- Savić, M., Đorđević, P., Nikolić, Đ., Mihajlović, I., & Živković, Ž. (2012). Combination of knowledge in the system suppliers-MSP-customers in the transitional economy environment in Serbia. *Journal of Applied Engineering Science*, 10(4), 227-233.
- Spasojević Brkić, V., Dondur, N., Klarin, M., Komatina, M., & Curović, D. (2011). Effectiveness of quality management and total factor productivity. *African Journal of Business Management*, 5(22), 9200-9213.
- Spasojević-Brkić, V. K., Veljković, Z. A., Golubović, T., Omić, S., & Brkić, A. Đ. (2014). Bosnia and Herzegovina's metalworking industry companies barriers to export to EU market. *Journal of engineering management and competitiveness (JEMC)*, 4(2), 78-84.
- Spasojević-Brkić, V., Veljković, Z., & Golubović, T. (2015). Fulfilling the requirements for export of metal industry products from Serbia and Bosnia and Herzegovina cross-border area to EU market. *Journal of Applied Engineering Science*, 13(1), 25-36.
- Stoian, M. C., Rialp, A., & Rialp, J. (2011). Export performance under the microscope: A glance through Spanish lenses. *International Business Review*, 20(2), 117-135.

KOMPARATIVNA ANALIZA IZVOZNE SPOSOBNOSTI PREDUZEĆA METALSKOG KOMPLEKSA ZLATIBORSKOG OKRUGA I OSTATKA SRBIJE

Izvoz je vrlo značajna aktivnost za kompanije čije je sedište u zemljama u razvoju, dok je prerađivačka industrija najvažniji sektor EU ekonomije koji utiče na njen rast i pokreće njen tehnološki i inovativni razvoj, tako da je za očekivati da je izvoz ovog sektora veoma važna aktivnost sa nacionalne tačke gledišta. U skladu sa tim, tema ovog istraživanja su izvozne mogućnosti metalnog kompleksa i poređenje izvoznih sposobnosti preduzeća metalnog kompleksa Zlatiborskog okruga i ostataka Srbije na tržište EU. Značajnih razlika između barijera koje bi uticale na razlike u izvoznoj sposobnosti Zlatiborskog okruga i ostatka Srbije je malo, tačnije razlike su uglavnom u nivou poznavanja regulative. Značajan broj preduzeća nije upoznat sa direktivama novog pristupa, kao ni sa procedurama ocenjivanja usaglašenosti. Takođe, preporuka je pažljiviji izbor dobavljača koji zadovoljavaju neophodne zahteve.

Ključne reči: izvoz na tržište EU, formalni zahtevi za izvoz, razlike, izvozne barijere

THE IMPACT OF THE NUMBER OF RETAIL OUTLETS ON THE MARKET SHARE OF CONSUMER GOODS' RETAIL BRANDS

UDC: 339.188.2
Original Scientific Paper

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The paper presents the research results of effects of retail brands of consumer goods on the market share they have in Serbia. In particular, the research includes the impact of the retail format on the growth or decrease in market share. The data were obtained from market retailing research of consumer goods on the Internet and the research carried out by the GFK agency. The study used a statistical method of data processing by the method of descriptive statistics. The survey showed that the Serbian retail market is still underdeveloped, and that the strongest impact on the market share of retail chain stores of consumer goods has the size of the retail network, as well as a strong dominance of traditional trade in comparison to organized one. The retail market in Serbia has a long period of consolidation forthcoming and also taking over such a status that organized trades or TOP 10 retail chains have already had in the most developed countries. The market share of TOP 10 retail chains in Serbia is now at the level slightly bigger than 30%, while those in developed market economies have a market share moving up to 75%.

Keywords: Retail brands, Consumer goods, Market share, Serbian retail market.

INTRODUCTION

Modern trade and modern trends in trade are characterized by revolutionary changes that are made of concentration, enlarging trade, raising the level of trade globalization and technological progress in the development of trade embodied in the information revolution and the intense transformation of trade and trade enterprises. All these revolutionary changes have enabled the increased role of trade, so by efficiency and service quality trade has imposed the consumers and producers. Successful business in modern economy is determined by the ability of an enterprise to meet the demands of the market, to track changes which are more and more frequent and dynamic. Competition has become global, so modern enterprises need to appear in the market with

global strategies (Stanisavljev et al., 2012). Nowadays, it is very important for an organization to be competitive and to meet both the market and consumers' requirements (Bogetić, 2015). To ensure the value for a consumer, retailers and suppliers must, first, provide a complete, affordable, well exposed range of products that consumers want. Second, the offered range of products must be maintained in an appropriate amount in order to avoid the shortage of goods. Third, the retailer and the supplier have to transmit adequately the benefits and the value of the product to consumers. And fourth, retailers and suppliers have to continually develop and present new products in order to improve the value for the consumer. The assumption of realization of the given improving value processes for consumers are a synchronized strategic development and

manufacturing, integrated and automated supply and recruitment, as well as logistics without problems (Bogetić & Aćimović, 2009). Since there is a modern market economy, and long before that, it was hard to imagine economically developed country without trade, and because of this very fact its contribution to the economic development of the country is of great importance. Retailing is one of the oldest businesses that human civilization has known. It acts as an interface between the producer and consumer, improves the flow of goods and services and raises the efficiency of distribution in an economy. For a strong, stable and consistently growing economy, a well organized and efficient retail sector is a must (Dineshkumar & Vikkraman, 2012). Because of the importance that trade plays in the economic development of many countries, this paper will examine the Serbian retail market of consumer goods. It should be taken in mind that the retail sector is becoming a kind of "arena" in which a sharp competitive struggle for consumers is held. That struggle is becoming more difficult, given to the increasing number of new products that compete for the relatively limited sales area and in terms of limited number of consumers and their purchasing power. Entities operating the conditions for the conduct of the struggle within some kind of competitive retail arena have a leading role in marketing channels (Lovreta & Stojković, 2012). The main objective of marketing research of the market is to reduce uncertainty and insecurity in business decisions and the risk to the business by collecting, processing and interpreting data. Marketing research is a key element in the whole area of marketing and trade. Sectors for marketing in various companies usually entrust the job of research to agencies that are specialized in this part of the job.

Market research is the functional link between marketing management and an organization's ultimate customer base. As globalization increases, service firms will need to know how to utilize market research approaches that enable them to stay close to these worldwide and diverse customer segments (Javalgi et al., 2006). Lovelock reports that when researching the marketplace, service marketers should attempt to find answers to the following questions: What are the optimal ways to use marketing research information to support an international segmentation strategy for the firm's service? What do customers in each segment view as the firm's competitive advantages? How should the organization differentiate marketing efforts to

attract and retain the most optimal customer segments? What is the long-term financial value of a loyal customer in each segment? What other strategies are necessary in order for the organization to build long-term relationships in terms of satisfaction, loyalty, retention and profitability with target segments? How can service marketing research be better integrated into the organization to support improved relationship marketing strategy execution (Lovelock, 2004).

METHODOLOGY

Primary data in this study represent a research of agency GFK, and refer to the market share of the largest retail chains in Serbia and value share of retail formats in Serbia. Secondary data used in this paper are data on the number of retail outlets and formats of each retail chain that can be found on the official web sites of these chains and trade data that can be downloaded from the website of the Republic Institute for Statistics, which refer to the structure of private consumption and the rate of retail sales of consumer goods at constant and current prices.

Theory and research questions

Serbian companies have been uncompetitive in international market for a long period of time. Low productivity and insufficient investment in achieving business quality are the main reasons for poor competitiveness of domestic companies. This insufficient competitive ability has become more visible upon the appearance of the world economic crisis (Đorđević et al., 2013). The world financial crisis that emerged in 2008 and which immediately leaked over in Serbia has caused the growth trend of the market share of small shops. According to numerous studies that have been conducted on this occasion, it was found that the majority of customers, due to the great crisis that has arisen, "are afraid" to go to the big stores, because then they always spend more money than they had planned. That statement is substantiated by the fact that big markets make consumers spend more than they have initially planned. Small tactics that everyone applies, but which really works. Some of them are (Minić, 2014): *Trams (carts)* that were invented in 1938 in order to make it easier to do large purchases. Since then, they have been improved and often increased. It turned out that people averagely spend more money if they are larger and easier to handle; *Daily necessities* such as milk, eggs, bread and the similar, are located in

the far end of a shop so the consumers, looking for them would go through the rest of the store and eventually buy something else; these are just some of the tactics of large stores that lead to unplanned spending and the similar. Consumers are certainly in the center of trade; the integral management process in the store at the macro and micro level of its functioning starts and ends with customers (Lovreta et al. 2009). Today, however, consumers have opted to spend far less money on food and to do their purchases at the nearest store. From that point, the development of Serbian retail market has stopped; the retail market is in a consolidation phase and is moving towards the goal to advance from the traditional into organized retail market of consumer goods. For this to happen it is necessary that TOP 10 or the biggest retail chains in Serbia have a total market share exceeding 50%, and preferably up to 75%, as it is the case in developed countries. The trade in Serbia, as in other transition countries, is characterized by the entry of foreign trade companies, the creation of new enterprises through franchising system, the construction of large retail formats (hypermarkets, supermarkets, Cash & Carry systems) and so on (Bennison & Boutsouki, 1995). So, in the last few years, the transition process has influenced the change in the structure of retail to the fullest extent (Radosavljević & Borisavljević, 2014).

The most significant factors which are missing in developing competitiveness of Serbian companies are the following: new technologies (12.94%), employees' motivation (11.41%), education (9.93%) and financial support (9.21%). According to the interviewees, the following elements are necessary for developing competitive ability of Serbian companies: standardization of business quality (17.22%), implementation of modern management methods and techniques (17.08%), investments in development of national brands (17.08%) and buying modern technologies (13.02%) (Đorđević et al., 2011). The research we conducted by using the results of the market research agency GFK, which we were given by the company Mercator-S, helped us to establish the following research questions:

- Q1: Did the TOP 10 retail chains record a growth of the total market share of retail consumer goods in the period 2012-2015?
- Q2: Have the individual retail chains had significant changes in their market shares and whether these changes affected the

change in market share of the TOP 10 group?

- Q3: Are there companies in the field of retail sales of consumer goods in the market that are significantly different from other competitors?

Household panel

Primary research is based on the following presumption - the trade companies in Serbia are interested in the same issues popular in all countries worldwide: who buys, what do they buy, where is it purchased, when, how much, how, at what price, etc. All these questions can be answered by market research agency through a survey which is conducted in almost all developed countries; it is called The Household Panel, shown in Figure 1 (Figure 1). GFK Panel Households have 1,500 households which were selected according to geographic and socio-demographic criteria. In this way, the panel represents 2.5 million Serbian households. The participants in the Panel keep detailed records of daily purchases of consumer goods for the needs of their household, through the specific consumption diary. Thanks to the continuous and constant sample, GFK Panel households provide evidence of market trends, enlighten buying behavior and provide information on the development of retail chains, given that it covers all store formats. Today Household Panel exists in 12 countries of Central and Eastern Europe: Austria, Bulgaria, Czech Republic, Croatia, Kazakhstan, Hungary, Poland, Romania, Russia, Serbia, Slovakia and Ukraine.

The market share gained by this research represents the percentage number that indicates the share or the representation of a retailer or producer on a market.

RESULTS

Before it is determined if there are any changes in the market it is important to look at some of the key parameters of the retail market of consumer goods and conclude if structural changes have occurred in these parameters.

Turnover in retail trade

The macroeconomic indicator, which has led to a gap in turnover at current and constant prices, is inflation. In the period from 2005 to 2008, up to the crisis, the Serbian economy was booming, and

the higher rate of inflation has led to a faster growth in turnover at current prices, although the real purchasing power of citizens grew more slowly. After the crisis of 2008, the turnover at current prices held its annual growth at about the same level, but the reduced economic activity in the country led to a drop in turnover measured at constant prices. The turnover at constant and current prices in retail trade followed from 2005 to 2014 is shown in Figure 2 (Figure 2). The methodology of measuring turnover at current prices shows the total turnover, taking into account

the prices which are current, regardless of the number of sold items. The methodology of turnover measuring at constant prices does not take into account inflation and the current prices, but the turnover is viewed in relation to the compared period. The turnover at current prices can only serve you if you want to see how you position yourself in the market compared to the competition in the year you observe, and the turnover data at constant prices can show you your real situation in relation to some of the previous period.

Figure 1: Diary of Panel household
Source: GFK Guide for Panel

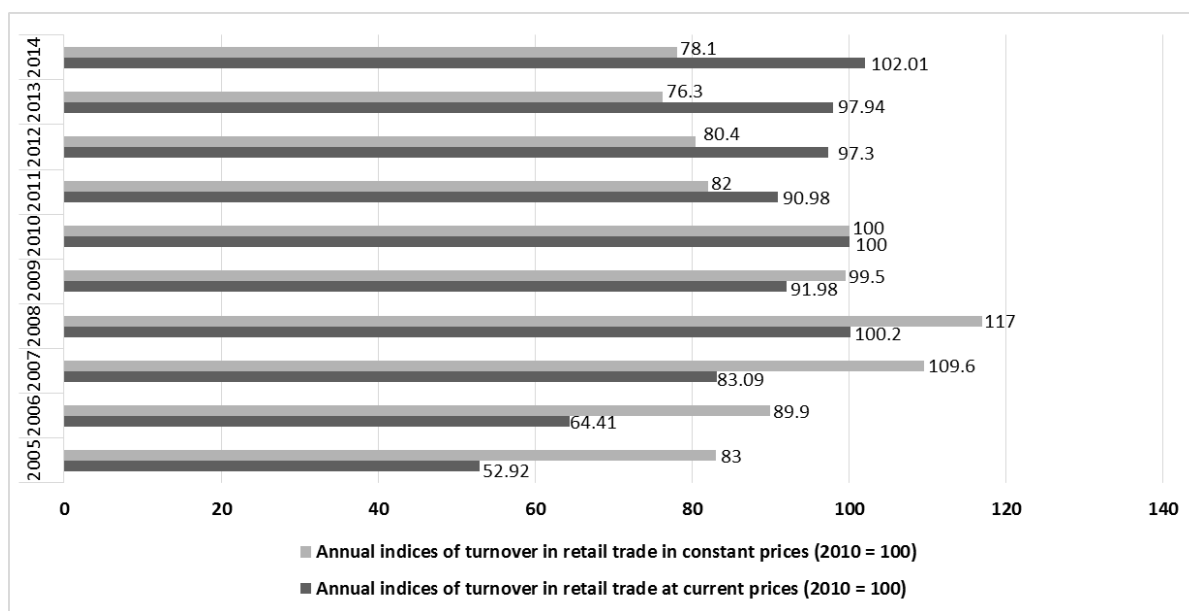


Figure 2: The turnover at constant and current prices in retail trade
Source: Statistical Office of the Republic of Serbia

Personal household consumption

Personal household consumption helps us look at how customers in a market behave and how they allocate their household budget. From this parameter, it can be concluded to what extent the observed customers are solvent capable. The higher the share of food and beverages in the structure of personal household consumption, the greater the possibility that customers of that market are less solvent capable and that the market is poor. If we look at the table of individual consumption structure of households in Serbia, which is shown in Figure 3 (Figure 3), we can conclude that in the ten-year trend of that factor can be seen the share of all categories that are always displayed on almost the same level. A slight increase in the share of these commodities rises during the formation of the global financial crisis, but already in 2014 it returned to the 2006 level and even goes underneath it. All these changes, as can be seen in Figure 3 (Figure 3), the structures of personal consumption, represent very

small changes and, as such, cannot have a significant impact on the average consumer. These small fluctuations in the share of food and beverages are not due to structural changes in the economy or the economy of Serbia, but may represent a trend that has transferred to our market from the world and perhaps from the neighboring countries.

The structure of the retail market in Serbia, according to the format of value participation

A value structure of the retail market in Serbia shows that in the entire Serbian market the most common formats are supermarkets, small shops and traditional stores, while other formats such as trade market are also significantly represented as shown in Figure 3 (Figure 3). In Figure 4 (Figure 4), the decline in the share of organized trade can be seen because in 2014, in comparison to 2012, there was the decline in participation of formats such as hypermarkets, supermarkets and Cash & Carry, on the other hand, it shows the growth of the traditional and other forms of trade.

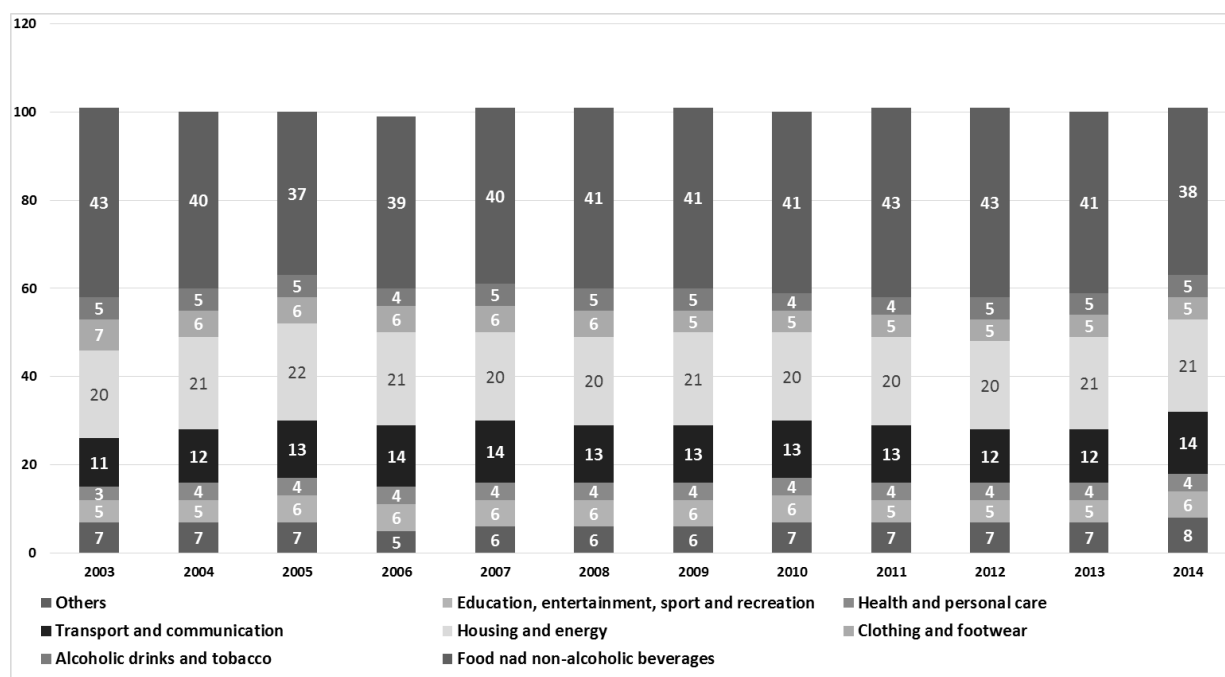


Figure 3: The structure of personal consumption by current prices

Source: GFK 2015 / Serbian Retail Monitor 2014/2015

Precisely, these three companies have the largest number of stores in the retail market and the division of its retail network in 2 or 3 brand. In this way customers become "closer" when it comes to

assortment and pricing actions. The division of the retail network on 2 or more retail brands allows companies to have a clearer marketing

communication and so inherently create space for a more precise customers.

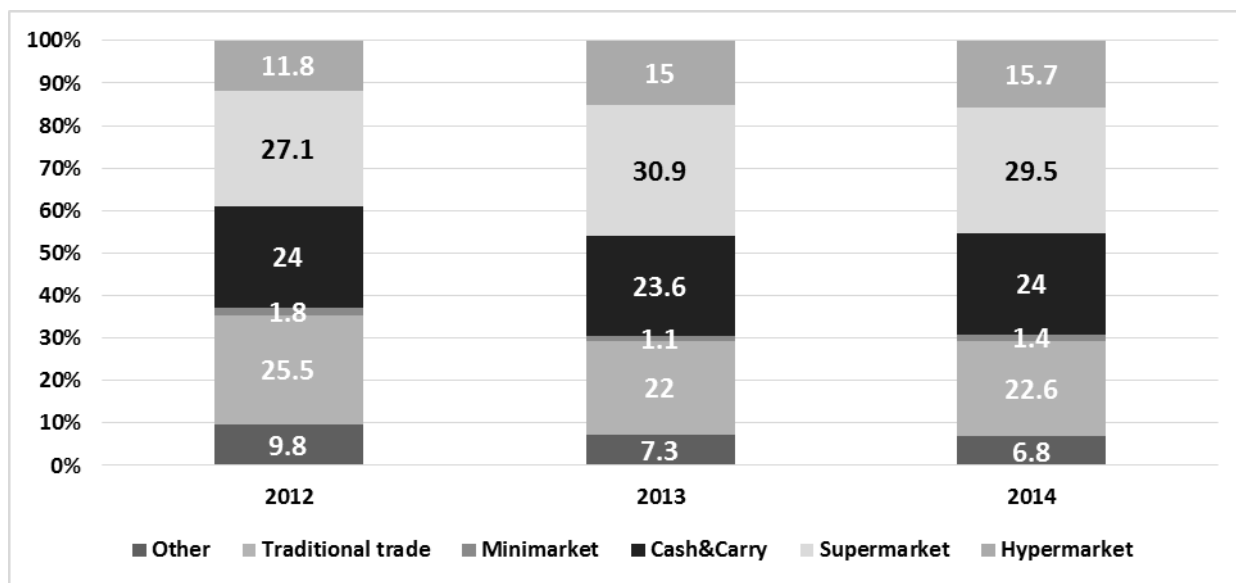


Figure 4: The participation in value of retail formats
Source: GFK Serbian Retail Monitor 2014.

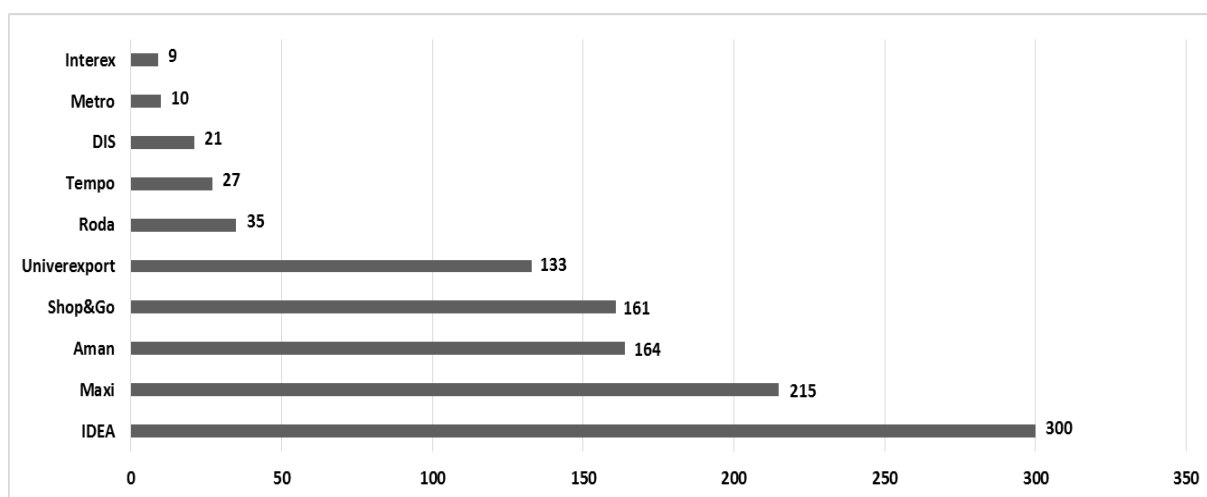


Figure 5: The number of shops according to the retail brands
Source: Mercator-S

How customers choose the shop where they will purchase

The five dimensions we use to review past research are: (1) access, (2) in-store atmosphere, (3) price and promotion, (4) cross-category product/service assortment, and (5) within-category brand/item assortment. The location of a store and the distance that the consumer must pass to get to the shop are basic criteria in their store choice decisions. Beginning with gravity models, (Huff, 1966) store choice and the optimization of retail site location attracted a lot of research attention in the eighties (Achabal et al., 1982; Donthu & Rust, 1989; Ghosh & Craig, 1983). The same was confirmed

by the survey carried out by the GFK agency. In the study called "Shopping monitor", 40% of respondents stated closeness as the main factor for the selection of a store. This fact represents the strongest factor influencing the customer's decision on the store choice. In addition, we found out that another dominating factor generally appears to be the factor of good price. These data show that there was a significant increase of those who considered this to be important in 2014/2015 in the selection of shops; but it is very important to note that this factor remained at the same level as in the period 2012/2013 when we talk about the category "major reason".

Are they loyal to the shops in which they most often purchase?

Although we could see that the strongest factor in choosing a store in the mentioned table is its closeness, it is useful to know the fact that customers are loyal to stores in which they

purchase. Shopping Monitor study conducted by GFK agency shows that more than 50% of customers say that their purchase is usually done at the same store. Particularly interesting fact is that this data has risen by 6% points for the period 2014/2013.

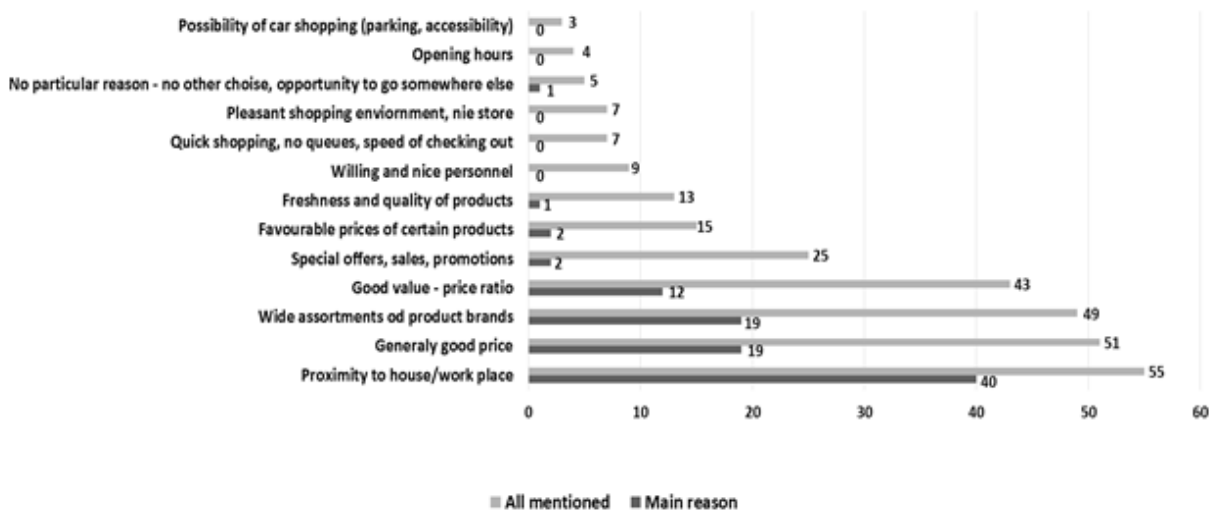


Figure 6: Reasons for choosing main retailers
Source: GFK 2015 / Serbian Shopping Monitor 2014/2015

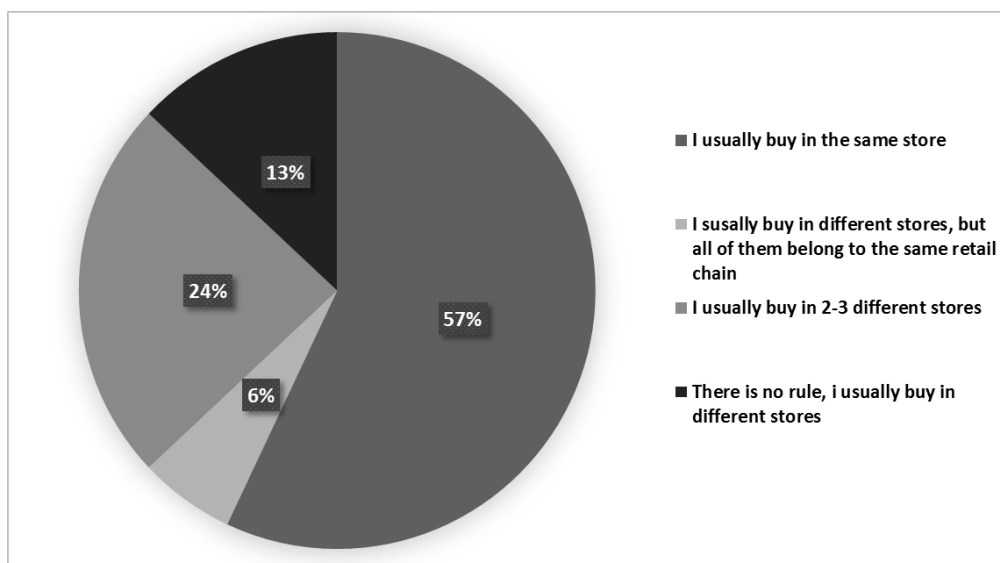


Figure 7: Loyalty when large shopping
Source: GFK 2015 / Serbian Shopping Monitor 2014/2015

Market share measured by the Panel trade method

In a survey of market share in the period 2012-2015, which was conducted according to the methodology of panel shops, which we were given by the company Mercator-S, we cannot show it completely because it represents a business secret

of the company; but we will state a few facts that will be sufficient to get some useful conclusions from it:

- TOP 10 chain stores at the end of 2012 amounted to 36% and at the end of 2015 there were only 33.7%,
- The market leader is retailer IDEA,

- Maxi brand recorded a drop in market share which was created by rebranding Mini Maxi stores in the Shop & Go brand.

DISCUSSION

The largest retail chains in Serbia have more than 1,075 stores in all formats in their portfolio, distributed throughout the country. Although all retail chains are very active in marketing and are constantly developing promotional campaigns and other marketing tools to attract customers, in this paper is stated that their market share has not significantly changed, based on the research carried out by the GFK agency. Moreover, there was a decline in 2015 in comparison to 2012, for 2.3%. From researching a market share of retail chains of consumer goods in Serbia, done by GFK agency, whose results we were given by the company Mercator-S, and because of a trade secret we are not able to reveal, it can be seen that the retailer IDEA has recorded the strongest growth in the period 2012-2015. Although we can say that this market share increase is the result of good marketing practice, it is important to note that IDEA increased its network to 100 new stores in the strongest period of growth in the last quarter of 2014. By integrating companies IDEA and Mercator-S, which happened in September 2014, there was a restructuring of the retail network of the brand IDEA and Roda. The company Mercator-S has then done redefining retail strategy and decided that the retail brand IDEA becomes a network of small shops and supermarkets, intended primarily for every day purchase, and Roda mega stores to become primarily intended for large weekend purchases. In this redefinition of marketing strategies, 101 Roda stores were taken over by the IDEA retail network, and 11 IDEA large-format stores were taken over by Roda retail network. Then the IDEA, with the earlier 190 of its stores, reached the number of 290 for one month and for just a few months became the market leader. If we take into account that the market share of the company Mercator-S cumulatively did not significantly changed in the period 2014/2015, then we can say that the integration of the two companies has mostly affected the redistribution of market share brands that have got new roles on the Serbian market. In order to completely separate communication for Maxi and Mini Maxi brands in the market, the company Delhaize Serbia decided to rebrand a large number of Mini Maxi stores into a new format, named Shop & Go. These shops today represent retail network covering the urban

areas of cities and municipalities in Serbia and is intended primarily for every day and casual shopping. Although these shops have two completely different marketing approaches to the market from the appearance of new format, it must be noted that there have not been significant changes in the market. Maxi and Shop & Go together have almost the same market share as well as former Maxi banner before the introduction of the brand Shop & Go.

Retail chain Univerexport, known for its retail network in Vojvodina, in 2015 managed to return to the level of 2012. This commercial brand in 2013 and 2014 recorded a decline in market share by 26 % compared to the level of the 2012. This decline actually represents the trend TOP 10 retail chains which is recorded in the cumulative negative result. However, in late 2014 and early 2015 the market share growth of Univerexport reached the level of the 2012. The enhanced results can certainly be related to the fact that this retail chain improved its network by acquisition of companies Angropromet and Lurdy supermarkets with about 40 new stores at the end of 2014.

CONCLUSION

As can be seen from all the above data, retail chains in Serbia have made a significant movement on the markets only because of significant change in their retail networks. Their marketing strategy consisting of a large number of promotional activities and the quality of services at the moment cannot provide the growth of market share that has been expected, precisely because from the data presented it can be seen that in the past few years only with the development of the retail network the market share grew. This is also proved by the fact that research question number 2 is confirmed (*Q2*), and it has been shown that the ("Annual indices of turnover in retail trade,") retail chain IDEA had the strongest growth of market share in the reporting period, mainly because its retail network in just one month increased by more than 100 retail stores.

This claim is of course supporting all the other above-mentioned data, which shows that the average Serbian customer usually goes to a nearby shop. The strongest impact on the market share of retail chain stores of consumer goods has the size of the retail network, and therefore there is a strong dominance of traditional trade in comparison to

organized one. The retail market in Serbia has a long period of consolidation and taking over the status that organized trade or TOP 10 retail chains have in developed countries. The market share of TOP 10 retail chains in Serbia is now at the level that is only slightly greater than 30%, while those in developed market economies have a market share moving up to 75%. The fact that goes in favor of this statement proves the research question number 1 (Q1), that indicates that the 10 largest retailers in Serbia recorded a cumulative decline in 2015 compared to 2012.

The Serbian retail market of consumer goods has 2 companies that are very distinguished in comparison to the rest of competitors. Judging by the number of retail stores, Mercator-S and Delhaize Serbia together have about 60% of all retail establishments of TOP 10 retail chains. However, judging by the survey of panel trade carried out by the GFK agency, whose results we were given by the company Mercator-S, we can say that the company Mercator-S and Delhaize Serbia have about 25% market share on the Serbian retail market of goods consumption and, as such, are the engine of development of the retail industry in Serbia. This fact confirms the research question number 3 (Q3) according to which on the retail market of consumer goods in Serbia there are companies whose market share significantly differs from the rest of the market.

REFERENCES

- Achabal, D., Gorr, W., & Mahajan, V. (1982). MULTILOCC: A multiple store location decision model. *Journal of Retailing*, 58(summer), 5-25.
- Bennison, D., & Boutsouki, C. (1995). Greek Retailing in Transition. *International Journal of Retail & Distribution Management*, 23(1), 24-31.
- Bogetić, S. (2015). *Interisani menadžment sistemi*. Beograd: Beogradska poslovna škola - Visoka škola strukovnih studija.
- Bogetić, Z., & Aćimović, S. (2009). Konceptija i alati za doba privredne recesije. *Montenegrin Journal of Economics*. 5(10), 53-63. *Montenegrin Journal of Economics*. 5(10), 53-63.
- Dineshkumar, U., & Vikkraman, P. (2012). Customers' Satisfaction towards Organized Retail Outlets in Erode City., *IOSR Journal of Business and Management (IOSRJBM)*, 3(4), 34-40.
- Donthu, N., & Rust, R. (1989). Estimating geographic customer densities using kernel density estimation. *Market Science*, 8(spring), 191-203.
- Đorđević, D., Čočkalović, D., & Đurin, S. (2011). Serbian enterprises and global competition challenges. *Journal of Engineering Management and Competitiveness (JEMC)*, 1(1/2), 27-31.
- Đorđević, D., Sajfert, D., & Gligorović, B. (2013.). Quality management concept and competitiveness of Serbian companies. *Journal Of Engineering Management and Competitiveness (JEMC)*, 3(2), 79-84.
- GFK. (2015). Internal date "Diary of Panel household" Shopping monitor 2014/2015
- GFK. (2015). Internal date "The structure of personal consumption by current prices" Shopping monitor 2014/2015
- GFK. (2015). Internal date "The participation in value of retail formats" Retail monitor 2014/2015
- GFK. (2015). Internal date "Loyalty when large shopping" Retail monitor 2014/2015
- GFK. (2015). Internal date "Reasons for choosing main retailers" Retail monitor 2014/2015
- Ghosh, A., & Craig, S. (1983). Formulating retail location strat-egy in a changing environment. *Journal of Marketing*, 47(summer), 56-66.
- Huff, D. L. (1966). A programmed solution for approximating an optimum retail location. *Land Economics*, 42(9), 293-303.
- Javalgi, R., Martin, C., & Young, R. (2006). Marketing research, market orientation and CRM. *Journal of Services Marketing*, 20(1), 12-23.
- Lovelock, C. (2004). *Services Marketing: People, Technology, Strategy*. New York: Prentice-Hall Inc., Upper Saddle River.
- Lovreta, S., & Stojković, D. (2012). *Uloga korporativne i javne politike u ostvarivanju održivog razvoja trgovine. TRADE PERSPECTIVES 2012: Trade in the Context of Sustainable Development* (pp. 37-59). Beograd: Faculty of Economics, University of Belgrade.
- Lovreta, S., Manić, E., & Stojković, D. (2009). *Model for Managing Trade Policy in Cerating Modern Market Economy*. International Conference "Economic Policy and Global Recession" (pp. 175-184). Belegrade: Faculty of Economics, University of Belgrade.
- Mercator-S. (2016). Internal data "The number of shops according to the retail brands".
- Minić, I. (2014). Kako funkcionise supermarket - iznutra? , from <http://ftw.rs/kako-funkcionise-supermarket-iznura/>
- Radosavljević, G., & Borisavljević, K. (2014). Stanje i perspektive ekonomskog razvoja grada Kragujevca *Opšti pokazatelji stanja i razvoja trgovinske mreže u Šumadiji* (pp. 205-219).
- Stanisavljev, S., Đorđević, D., & Čočkalović, D. (2012). Analysis of competitiveness of domestic enterprises on the global market., *Singidunum Journal*, 9(1), 1-8.
- Statistical Office of the Republic of Serbia. (2016). *Annual indices of turnover in retail trade*. Belgrade: Statistical Office of the Republic of Serbia

UTICAJ BROJA MALOPRODAJNIH OBJEKATA NA TRŽIŠNO UČEŠĆE MALOPRODAJNIH BRENDOVA ROBE ŠIROKE POTROŠNJE

U radu su prikazani rezultati istraživanja uticaja brendova maloprodajnih brendova robe široke potrošnje na tržišno učešće koje imaju u Srbiji. Konkretno, istraživanje obuhvata uticaj maloprodajnog formata na rast ili pad tržišnog učešća. Podaci su dobijeni istraživanjem tržišta maloprodaje robe široke potrošnje na internetu i rezultatima istraživanja koje je uradila agencije GFK. U istraživanju je korišćena metoda statističke obrade podataka putem metode deskriptivne statistike. Istraživanjem se pokazalo da srpsko tržište maloprodaje je još uvek nedovoljno razvijeno, a da najsnažniji uticaj na tržišno učešće trgovinskih lanaca maloprodaje robe široke potrošnje ima veličina maloprodajne mreže, kao i da je prisutna snažna dominacija tradicionalne trgovine u odnosu na organizovanu. Tržištu maloprodaje u Srbiji predstoji dug period konsolidacije i zauzimanje statusa kakav organizovana trgovina, odnosno TOP 10 trgovinskih lanaca ima u najrazvijenijim zemljama sveta. Tržišno učešće TOP 10 trgovinskih lanaca u Srbiji je danas na nivou koji je tek nešto veći od 30%, dok oni u razvijenim tržišnim privredama imaju tržišni udeo koji se kreće čak i do 75%.

Ključne reči: maloprodajni brendovi, roba široke potrošnje, tržišno učešće, srpsko tržište maloprodaje.

APPLICATION OF MULTI CRITERIA DECISION MAKING TO URBAN PLANNING - A REVIEW

UDC: 005.311.6:711.4

Review Paper

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Nowadays a wide range of operational and research activities in different fields of urban planning consist of decision making problems. Decision making is the main element in the analysis in regional studies and skills related to the success of the planning process. This paper has been written in the field of urban planning decision making. It provides a survey of the literature on multiple criteria decision making (MCDM) applications to urban planning problems. Articles were classified into four application areas and scopes. This research contributes to the existing literature on the urban planning and MCDM. It provides a unified source of references that could be useful for students, researchers and practitioners. The paper ends with an assessment of the literature presented, aiming to reach some conclusions, as well as indicate future trends in this line of research.

Key words: Decision making, Multi Criteria Decision Making (MCDM), Urban Planning.

INTRODUCTION

In the 1960s, the first multi-criteria decision making (MCDM) techniques emerged to alleviate difficulties in accommodating diverse opinions and handling large amounts of complex information in the decision-making process. These capabilities have encouraged planners to combine MCDM with other planning tools such as geographical information system (GIS). The methods of MCDM evolved as a response to the observed inability of people to effectively analyze multiple streams of dissimilar information. There are many different MCDM methods, and a detailed analysis of the theoretical foundations of these methods and their comparative strengths and weaknesses is presented in Belton and Steward (Belton & Steward, 2002). The common purpose of MCDM methods is to evaluate and choose among alternatives based on multiple criteria using systematic analysis that overcomes the limitations of unstructured individual or group decision making. Within MCDM, elementary methods can be used to reduce

complex problems to a singular basis for selection of a preferred alternative. Competing decision criteria may be present, but inter criteria weightings are not required. For example, an elementary goal aspiration approach may rank the dredging alternatives in relation to the total number of performance thresholds met or exceeded. While the analysis can, in most applications of elementary approaches, be executed without the help of computer software, these methods are best suited for problems with few alternatives and criteria, a condition that is rarely characteristic of urban projects. Multi-criteria decision making involves a multi-stage process of (i) defining objectives, (ii) choosing the criteria to measure the objectives, (iii) specifying alternatives, (iv) assigning weights to the criteria, and (v) applying the appropriate mathematical algorithm for ranking alternatives. MCDM allows to accommodate the need for unbiased integration of modern planning objectives for independent identification and ranking of the most suitable

planning solutions (Mosadeghi, Tomlinson, Mirfenderesk, & Warnken, 2009).

Modern planning theories encourage approaches that consider all stakeholders with a variety of discourse values to avoid political and manipulative decisions. In the last decade, application of quantitative approaches such as multi-criteria decision making techniques in urban planning procedures has increased. The use of multi criteria decision making in urban planning is the focus of this paper. The first aim of this paper is to review the decision making approaches for assessment in the context of urban management. The second aim is to identify shortcomings associated with the use of MCDM for assessing urban planning problems. In this paper, we attempted to show the important role of MCDM techniques in four areas of application for the urban planning: (1) Urban solid waste planning, (2) Urban land use planning, (3) Urban site selection, and (4) Urban water management.

URBAN SOLID WASTE PLANNING

Urban solid waste planning addresses situations which involve a variety of factors such as economic costs, legislative requirements, land use, pollution generation, resource usage and equity in the number and demographics of people effected by a plan. In making decisions about solid waste systems, the trade-offs between these factors must be considered, leading to large amounts of data and information that must be organized and analyzed. Unfortunately, many municipal solid waste planners do not have the resources needed to manage all relevant information, leading to incomplete consideration of relevant factors, or satisficing in selecting an alternative. An example application based on the search for suitable sites for the disposal of radioactive waste in the UK using the Arc/Info GIS is included by Carver (Carver, 1991). The potential use of a combined GIS-MCDM approach in the development of spatial decision support systems is considered in this research.

A specific spatial decision support system (SDSS) developed by MacDonald (1996) was created to address the multi-attribute and geographical nature of solid waste systems. The SDSS included expert systems and model management capabilities to supply, organize and analyze relevant data, and a GIS to help planners understand the spatial nature

of particular programs and how they may impact the public and the environment.

Charnpratheep et al. (Charnpratheep et al., 1997) combined fuzzy set theory and the analytic hierarchy process (AHP) into a geographical information system (GIS) for the preliminary screening of landfill sites in Thailand. The theory of linguistic variable is used to represent imprecision of spatial data and human cognition over the criteria used for the screening process. Proximity of geographic objects, slope and elevation are criteria used for this investigation. The priority weights reflecting the preferences on the screening criteria, accounting for seventeen map layers, are derived by the method of the AHP. The general method of GIS intersection based on binary logic is conducted to compare with the fuzzy min-operator intersection and the proposed convex combination model.

Bobbio (Bobbio, 2002) experienced a deliberative democracy process in an area in the Province of Torino (6829 km²), Italy, where local communities were involved in a decision concerning the siting of an incinerator and a landfill for MSW. The process lasted 17 months and ended with an agreed choice. The author worked on the third phase of the decision-making process (choosing the best alternative) considering 14 criteria for the incinerator and 13 criteria for the landfill. Vatalis and Manoliadis (Vatalis & Manoliadis 2002) overlaid GIS digital maps to find the suitable landfill sites in Western Macedonia, Greece.

Leao et al. (Leao et al., 2004) presented a model to spatially and dynamically model the demand for and allocation of facilities for urban solid waste disposal in growing urban regions. Their model consists of a loose-coupled system that integrates GIS (geographic information systems) and cellular automata (CA) in order to give it spatial and dynamic capabilities. The model is combined of three sub-systems: (1) a CA-based model to simulate spatial urban growth over the future; (2) a spread-sheet calculation for designing waste disposal options and hence evaluating demand for landfill space over time; and (3) a model developed within a GIS to evaluate the availability and suitability of land for landfill over time and then simulate allocation of landfills in the available land. The proposed model has been tested and set up with data from a real source (Porto Alegre City, Brazil), and has successfully assessed the demand for landfills and their allocation over time under a

range of scenarios of decision-making regarding waste disposal systems, urban growth patterns and land evaluation criteria.

Kontos et al. (Kontos et al.,2005) investigated the sitting of MSW landfills with a spatial multiple criteria analysis methodology in an area of 480 km² in the Island of Lemnos, Greece. The authors worked on the macro sitting level considering 11 criteria. In particular, AHP was used to perform a pair-wise comparison based on a review of relevant landfill sitting literature. Kontos et al. used the pair wise comparison matrix and criteria weights vector to calculate the suitability index estimated using the method of simple additive weighting (SAW). Kontos et al. evaluated the suitability of the study region to select an optimal landfill site using a spatial MCDM methodology.

Sener et al. (Sener et al.,2006) used GIS and MCDM to determine appropriate landfill sites. Mahini and Gholamalifard (Gholamalifard,2006) described a MCDM method, called weighted linear combination (WLC), in a GIS environment to evaluate the suitability of the outskirts of Gorgan city (Iran) as a landfill site.

AHP techniques were used by Dey and Ramcharan (Dey & Ramcharan, 2008) for the site selection of limestone quarry operations to support cement production in Barbados; by Gemitzi et al. (Gemitzi et al. ,2007), Kontos et al. (Kontos et al.,2005), and Sener et al. (Sener et al. ,2006) for ranking potential MSW landfill areas; and by Wang et al. (Wang et al.,2009b) combined with spatial information technologies for landfill site selection. The integration of GIS and AHP is a powerful tool to solve the landfill site selection problem.

AHP and TOPSIS were used by Oenuet and Soner (Oenuet&Soner,2008) for solid waste transshipment site selection in Turkey. Delgado et al. (Delgado et al. ,2008) performed a land suitability analysis for MSW sanitary landfill sitting in an area of 400 km² in the Cuitzeo Lake Basin, Mexico. The authors worked on the macro sitting level considering 11 criteria. The authors did not use AHP but a Boolean logic model. In particular, panelists were asked to discuss the importance of the criteria, and provide a qualitative ranking subsequently transformed into quantitative weights normalized to one. Sumathi et al. (Sumathi et al.,2008) studied the sitting of MSW landfills using a MCDM and overlay analysis using a GIS in an area of 293 km² in the district of

Pondicherry, India. The authors worked on the macro/micro-siting level considering 11 criteria. AHP was employed wherein a consistent weight set was extracted through the pair wise comparison by decision makers in their consideration of each factor against one another. Feedback from a team with expertise in multi disciplinary fields of local environmental management of the Pondicherry was sought in the process. Chang et al. (Chang et al.,2008) and Akbari et al. (Akbari et al.,2008) combined GIS and a convoluted MCDM process to select a landfill site. Nas et al. (Nas et al.,2008) selected an MSW landfill site for Konya, Turkey using GIS and an evaluation of several criteria. Chang et al. (Chang et al., 2008) presented a fuzzy multi-criteria decision analysis alongside with a geospatial analysis for the selection of landfill sites. It employs a two-stage analysis synergistically to form a spatial decision support system (SDSS) for waste management in a fast-growing urban region, south Texas. The purpose of GIS was to perform an initial screening process to eliminate unsuitable land followed by utilization of FMCDM method to identify the most suitable site using the information provided by the regional experts with reference to five chosen criteria. Sensitivity analysis was performed using Monte Carlo simulation where the decision weights associated with all criteria were varied to investigate their relative impacts on the rank ordering of the potential sites in the second stage.

Wang et al. (Wang et al. 2009a) developed a case study on MSW landfill sitting using spatial information technologies and AHP in an area of 16807.8 km² corresponding to the territory of Beijing, China. The authors worked on the macro sitting level considering 13 criteria. AHP was used to establish the relative importance of hierarchy elements. Decision-makers evaluated the importance of pairs of grouped elements in terms of their contribution to the higher hierarchy. Sharifi et al. (Sharifi et al.2009) integrated MCDM for a GIS-based hazardous waste landfill sitting in an area of 28,817 km² corresponding to the Kurdistan Province, western Iran. The authors worked on the macro sitting level considering 14 non exclusionary criteria which were weighted with the 9-point rating system and using the information provided by regional experts. Guiqin et al. (Guiqin et al.,2009) used spatial information technologies and AHP for landfill site selection in Beijing, China.

Geneletti (Geneletti,2010) proposed and tested an approach involving the stakeholders' opinion in an inert landfill sitting process in an area of 196 km² in the south western part of Trentino, Italy.

URBAN LAND USE PLANNING

Urban planning analysis involves the consideration of a number of factors, including natural system constraints, compatibility with existing land uses, existing land use policies, and availability of community facilities. The suitability techniques analyze the interaction between location, development actions, and environmental elements to classify the units of observation according to their suitability for a particular use (Mosadeghi et al., 2015).

These spatial MCDM techniques are capable of improving the transparency and analytic rigour of the land use decisions (Mosadeghi, et al., 2015). Mosadeghi et al. (2015) used a case study to compare the outcomes of Analytical Hierarchy Process (AHP) and Fuzzy AHP in urban land use planning for the northeast Gold Coast located in Queensland on the east coast of Australia. A genetic algorithm was used by Balling et al. (Balling et al. ,1999) to search for optimal future land-use and transportation plans for a high-growth city. Millions of plans were considered. Constraints were imposed to ensure affordable housing for future residents. Objectives included the minimization of traffic congestion, the minimization of costs, and the minimization of change from the status quo. The genetic algorithm provides planners and decision makers with a set of optimal plans known as the Pareto set. The value of each plan in the Pareto set depends on the relative importance that decision makers place on the various objectives.

Chen et al. (Chen et al.,2010) presented a GIS-based MCDM model for land suitability evaluation. A methodology was developed to perform simulations where the weights associated with all criteria used for suitability modelling were varied one-at-a-time (OAT) to investigate their relative impacts on the final evaluation results. A tool which incorporates the OAT method with the Analytical Hierarchy Process (AHP) within the ArcGIS environment was implemented. A case study of irrigated cropland suitability assessment addressing the application of the new GIS-based AHP-SA tool is described.

Arciniegas et al. (Arciniegas et al.,2011) focused on the use of map-based multi-criteria analysis to develop a negotiation support tool for land use allocation. Spatial multi-criteria analysis is used to make explicit trade-offs between objectives and to provide guidance and feedback on the land use changes negotiated by the participants. The approach is tested during a negotiation session as part of the land use planning process of the Bodegraven polder, a peat meadow area in the Netherlands.

Mosadeghi et al. (Mosadeghi et al.,2015) compared the results of two quantitative techniques (analytical hierarchy procedure (AHP) and Fuzzy AHP in defining the extent of land-use zones at a large scale urban planning scenario.

URBAN SITE SELECTION

One of the most common GIS based strategies that were designed to facilitate decision making in site selection is MCDM. The Analytic Hierarchy Process (AHP) method, originally developed by Saaty (Saaty,1980), is a flexible and easily implemented MCDM technique and its use was largely explored in the literature with many examples in locating facilities (Dey & Ramcharan, 2008; Kontos, et al., 2005; Wang, et al., 2009b). Hansen (Hansen, 2005) presents a GIS based MCDM to identify the best sites for the construction of new wind farms. Zambon et al. (Zambon et al.,2005) describe a GIS based MCDM method for evaluating alternative places for the location of thermoelectric power plants in Sao Paulo state (Brazil). Gemitzi et al. (Gemitzi et al.2007) have used a groundwater vulnerability index including a five discrete groundwater vulnerability classes in order to assess alternative choices for hazardous landfill sites. Integrating land suitability analysis in urban greenery was further investigated by Zucca et al. (Zucca et al.,2008). They investigated a site selection process for setting up a local park. Radiarta, et al. (Radiarta, et al.,2008) demonstrated the use of GIS to model site selection for scallop culture in Funka Bay based on a certain important criteria and showed acceptable results. Nobre et al. (Nobre et al.,2009) described a geo spatial multi criteria methodology, based on geographic information systems technology, for identification of the best location to deploy a wave energy farm.

URBAN WATER MANAGEMENT

Urban water management is a demanding decision-making environment where optimal planning presupposes a synthesis of heterogeneous information of high spatial resolution to ensure site-specific implementation.

Makropoulos et al. (Makropoulos et al., 2003) developed a prototype spatial decision support system (SDSS) supporting strategic planning, providing examples from a particular application in water demand management (WDM). The results support the case of using SDSS based on approximate reasoning to complement engineering expertise for urban water management applications tailored to user characteristics and site-specific constraints.

Integrated sustainability assessment is part of a new paradigm for urban water decision making. Multi-criteria decision making (MCDM) is an integrative framework used in urban water sustainability assessment, which has a particular focus on utilising stakeholder participation (Lai et al., 2008).

Five Multi-criterion Decision Making (MCDM) methods, namely, ELECTRE-2, PROMETHEE-2, Analytic Hierarchy Process (AHP), Compromise Programming (CP) and EXPROM-2 are employed by Raju and Pillai (Raju & Pillai, 1999) to select the best reservoir configuration for the case study of Chaliyar river basin, Kerala, India. Spearman rank correlation coefficient is used to assess the correlation between the ranks obtained by the above MCDM methods.

A fuzzy compromise approach to decision analysis is described within the context of water resource systems planning under uncertainty by Bender and Simonovic (Bender & Simonovic, 2000). The approach allows various sources of uncertainty and is intended to provide a flexible form of group decision support. The example compares the ELECTRE method with the fuzzy compromise approach. The comparison is intended to demonstrate the benefits of adopting a multi-criteria decision analysis technique which presents subjectivity within its proper context while maintaining an intuitive and transparent technique for ranking alternatives.

Nayak and Panda (Nayak & Panda, 2001) used multi-criteria (multi-objective) technique in

solving some complex problems related to water resource management in India. Five objectives were considered in the study. The benefit of combining these objective functions with the decision support tool is that the management of land and water resources can be made more effectively. Based on this concept, a methodology was developed through this study, for the water managers and decision-makers, to obtain a compromising solution in terms of area allocated under different crops and the magnitude of farming system variables in a canal command area. This study was undertaken in the Mahanadi Delta of India. Multi-objective techniques such as Sequential Linear Fuzzy Programming and Goal Programming were used for their simplicity in computation and flexibility in application.

Simon and Bruggemann (Simon & Bruggemann, 2004) demonstrated the evaluation of water management strategies in the cities of Berlin and Potsdam (Germany) with respect to their ecological effects. Two decision support systems were compared, namely PROMETHEE, which is designed to obtain a clear decision (linear ranking), and Hasse Diagram Technique (HDT), normally providing more than one favourable solution.

Abrishamchi and Ebrahimian (Abrishamchi & Ebrahimian 2005) attempted to put into practice the multi-criteria decision making technique of compromise programming for a real urban water management case study in the city of Zahidan in Iran. To satisfy future water demands, a long-distance water transmission project is being implemented. Compromise programming is applied to aiding decision makers in selecting the best possible alternatives for distribution of both available and the transmitted water in the city. Malmqvist and Palmquist (Malmqvist & Palmquist, 2005) developed a decision support tool to facilitate the selection of combinations of water saving strategies and technologies and to support the delivery of integrated, sustainable water management for new developments. The technology selection is driven by a GA algorithm allowing efficient exploration of the decision space. Quantitative and qualitative sustainability criteria and indicators are used to compare between alternative composite water management strategies while preserving the multi-objective nature of the problem. The tool has been successfully tested on a case study site in the UK, and the results are presented and discussed.

Morais and Almeida (Morais & Almeida 2007) described the application of multi-criteria decision aid for choosing the priority city to receive a water supply system, using the ELECTRE methodology. Makropoulos and Argyrou (Makropoulos & Argyrou 2007) developed a spatial decision-support tool based on soft computing that assists the optimal siting of wastewater treatment technologies within the context of new urban developments, through the creation of suitability maps. The tool was based on multi-criteria decision analysis and fuzzy logic, allowing the inclusion of both uncertainty and of the decision-makers' attitude towards risk in the decision-making process. The research described the attributes influencing the siting of wastewater treatment infrastructure and presents a method for using these to generate composite siting suitability maps for a given development site and propose specific locations maximizing the combined suitability index. Extensive sensitivity analysis has been undertaken and the results discussed. The proposed system architecture integrated three widely used software platforms (ArcView GIS, Matlab and MS Excel) into a flexible and user-friendly decision-support tool that can easily be adapted to different spatial decision environments.

CONCLUSIONS

This study aimed to review papers that used the MCDM techniques and approaches for urban planning in 4 different areas of application which were published before 2016. This study attempted to categorize these papers into 4 application areas and scopes: (1) Urban solid waste planning, (2) Urban land use planning, (3) Urban site selection, and (4) Urban water management. The results obtained from this review show that MCDM approaches and techniques are appropriate for the urban planning problems. Each approach and technique may have some drawbacks and advantages, and it cannot be claimed that a particular approach or technique is more appropriate than the others. Various DMs generally disagree on the approach and technique, which is the most valid and suitable. The selection of an approach and technique is mostly dependent upon the preferences of DM and the analyst. The methods must be taken into consideration in terms of validity, suitability, and user-friendliness. In addition, it should be realized that employing different approaches and techniques will most likely lead to different recommendations, and it is noteworthy that there may be errors in any

approach or technique. The contributions of the study results to the existing literature on the urban planning and MCDM issues were addressed and the results were provided to academic scholars and leaders of organizations and industries in the field of service quality evaluation, enabling them to improve their planning processes by identifying relevant urban planning attributes and assessing their impact on the urban planning.

This particular paper has some limitations and recommendations for future studies. First of all, this study categorized 4 application areas and scopes. It is recommended for future studies to review papers in different sub-areas of urban planning categories. Another limitation is that the data were collected from journals, and the documents do not include textbooks, doctoral and master's dissertations and theses, and unpublished papers on MCDM issues. As a result, in a future study, data can be collected from these sources, and the obtained results can be compared to the results obtained and reported in this study. The next limitation is that all of the papers were extracted from journals in English; then, the scholarly journals published in other languages were not included in this review. However, the researchers believed that this paper comprehensively reviewed and included most of the papers, which were published in international journals. This paper carefully selected and summarised the available papers of several publishers in Web of Science, Scopus, and Google Scholar. Though, a number of relevant outlets might have remained beyond the scope of the current study. Therefore, future studies could review the papers that were not used in the current review. As another limitation, the paper presents the review of numerous publications, which describe the use of MCDM recently-developed methods in journals. However, this review does not cover recent methods that have been published in books.

REFERENCES

- Abrishamchi, A., Ebrahimian, A., Tajrishi, M., & Mario, M. A. (2005). Case study: application of multicriteria decision making to urban water supply. *Journal of Water Resources Planning and Management*, 131(4), 326-335.
- Akbari, V., Rajabi, M., Chavoshi, S., & Shams, R. (2008). Landfill Site Selection by Combining GIS and Fuzzy Multi-Criteria Decision Analysis, Case Study: Bandar Abbas, Iran. *World Applied Sciences*, 3(1), 39-47.

- Arciniegas, G., Janssen, R., & Omtzigt, N. (2011). Map-based multicriteria analysis to support interactive land use allocation. *International Journal of Geographical Information Science*, 25(12), 1931-1947.
- Balling, R. J., Taber, J. T., Brown, M. R., & Day, K. (1999). Multiobjective urban planning using genetic algorithm. *Journal of Urban Planning and Development*, 125(2), 86-99.
- Belton, V., & Stewart, T. (2002). *Multiple criteria decision analysis: an integrated approach*: Springer Science & Business Media.
- Bender, M. J., & Simonovic, S. P. (2000). A fuzzy compromise approach to water resource systems planning under uncertainty. *Fuzzy sets and systems*, 115(1), 35-44.
- Bobbio, L. (2002). Smaltimento dei rifiuti e democrazia deliberativa.
- Carver, S. J. (1991). Integrating multi-criteria evaluation with geographical information systems. *International Journal of Geographical Information System*, 5(3), 321-339.
- Chang, N.-B., Parvathinathan, G., & Breeden, J. B. (2008). Combining GIS with fuzzy multicriteria decision-making for landfill siting in a fast-growing urban region. *Journal of Environmental Management*, 87(1), 139-153.
- Chang, N. B., Parvathinathan, G., & Breeden, J. B. (2008). Combining GIS with fuzzy multicriteria decision-making for landfill siting in a fast-growing urban region. *Journal of Environmental Management*, 87(1), 139-153.
- Charnpratheep, K., Zhou, Q., & Garner, B. (1997). Preliminary landfill site screening using fuzzy geographical information systems. *Waste management & research*, 15(2), 197-215.
- Chen, Y., Yu, J., & Khan, S. (2010). Spatial sensitivity analysis of multi-criteria weights in GIS-based land suitability evaluation. *Environmental Modelling & Software*, 25(12), 1582-1591.
- Delgado, O. B., Mendoza, M., Granados, E. L., & Geneletti, D. (2008). Analysis of land suitability for the siting of inter-municipal landfills in the Cuitzeo Lake Basin, Mexico. *Waste Management*, 28(7), 1137-1146.
- Dey, P. K., & Ramcharan, E. K. (2008). Analytic hierarchy process helps select site for limestone quarry expansion in Barbados. *Journal of Environmental Management*, 88(4), 1384-1395.
- Gemitzi, A., Tsihrintzis, V., Voudrias, E., Petalas, C., & Stravodimos, G. (2007). Combining geographic information system, multicriteria evaluation techniques and fuzzy logic in siting MSW landfills. *Environmental Geology*, 51(5), 797-811.
- Geneletti, D. (2010). Combining stakeholder analysis and spatial multicriteria evaluation to select and rank inert landfill sites. *Waste Management*, 30(2), 328-337.
- Hansen, H. S. (2005). *GIS-based multi-criteria analysis of wind farm development*. Paper presented at the Proceedings of the 10th Scandinavian Research Conference on Geographical Information Science.
- Kontos, T. D., Komilis, D. P., & Halvadakis, C. P. (2005). Siting MSW landfills with a spatial multiple criteria analysis methodology. *Waste Management*, 25(8), 818-832.
- Lai, E., Lundie, S., & Ashbolt, N. (2008). Review of multi-criteria decision aid for integrated sustainability assessment of urban water systems. *Urban water journal*, 5(4), 315-327.
- Leao, S., Bishop, I., & Evans, D. (2004). Spatial-temporal model for demand and allocation of waste landfills in growing urban regions. *Computers, Environment and Urban Systems*, 28(4), 353-385.
- MacDonald, M. L. (1996). A multi-attribute spatial decision support system for solid waste planning. *Computers, Environment and Urban Systems*, 20(1), 1-17.
- Mahini, A. S., & Gholamalifard, M. (2006). Siting MSW landfills with a weighted linear combination methodology in a GIS environment. *International Journal of Environmental Science and Technology*, 3(4), 435-445.
- Makropoulos, C., Argyrou, E., Memon, F., & Butler, D. (2007). A suitability evaluation tool for siting wastewater treatment facilities in new urban developments. *Urban water journal*, 4(2), 61-78.
- Makropoulos, C., Butler, D., & Maksimovic, C. (2003). Fuzzy logic spatial decision support system for urban water management. *Journal of Water Resources Planning and Management*, 129(1), 69-77.
- Malmqvist, P.-A., & Palmquist, H. (2005). Decision support tools for urban water and wastewater systems- focussing on hazardous flows assessment. *Water Science & Technology*, 51(8), 41-49.
- Morais, D. C., & Almeida, A. T. (2007). Water supply system decision making using multicriteria analysis. *Water SA*, 32(2), 229-236.
- Mosadeghi, R., Tomlinson, R., Mirfenderesk, H., & Warnken, J. (2009). Coastal management issues in Queensland and application of the multi-criteria decision making techniques. *Journal of coastal research*, 1252-1256.
- Mosadeghi, R., Warnken, J., Tomlinson, R., & Mirfenderesk, H. (2015). Comparison of Fuzzy-AHP and AHP in a spatial multi-criteria decision making model for urban land-use planning. *Computers, Environment and Urban Systems*, 49, 54-65.
- Nayak, R., & Panda, R. (2001). Integrated management of a canal command in a river delta using multi-objective techniques. *Water resources management*, 15(6), 383-401.
- Nobre, A., Pacheco, M., Jorge, R., Lopes, M. F. P., & Gato, L. M. C. (2009). Geo-spatial multi-criteria analysis for wave energy conversion system deployment. *Renewable Energy*, 34(1), 97-111.

- Radiarta, I. N., Saitoh, S. I., & Miyazono, A. (2008). GIS-based multi-criteria evaluation models for identifying suitable sites for Japanese scallop (*Mizuhopecten yessoensis*) aquaculture in Funka Bay, southwestern Hokkaido, Japan. *Aquaculture*, 284(1-4), 127-135.
- Raju, K. S., & Pillai, C. (1999). Multicriterion decision making in river basin planning and development. *European Journal of Operational Research*, 112(2), 249-257.
- Saaty, T. L. (1980). *The Analytic Hierarchy Process*. New York: McGraw-Hill.
- Sener, B., Suzen, M. L., & Doyuran, V. (2006). Landfill site selection by using geographic information systems. *Environmental Geology*, 49(3), 376-388.
- Sharifi, M., Hadidi, M., Vessali, E., Mosstafakhani, P., Taheri, K., Shahoie, S., et al. (2009). Integrating multi-criteria decision analysis for a GIS-based hazardous waste landfill siting in Kurdistan Province, western Iran. *Waste Management*, 29(10), 2740-2758.
- Simon, U., Bruggemann, R., & Pudenz, S. (2004). Aspects of decision support in water management – example Berlin and Potsdam (Germany) – spatially differentiated evaluation. *Water Research*, 38(7), 1809-1816.
- Sumathi, V. R., Natesan, U., & Sarkar, C. (2008). GIS-based approach for optimized siting of municipal solid waste landfill. *Waste Management*, 28(11), 2146-2160.
- Vatalis, K., & Manoliadis, O. (2002). A two-level multicriteria DSS for landfill site selection using GIS: case study in western Macedonia, Greece. *Journal of Geographic Information and Decision Analysis*, 6(1), 49-56.
- Wang, G., Qin, L., Li, G., & Chen, L. (2009a). Landfill site selection using spatial information technologies and AHP: A case study in Beijing. *China. Journal of Environmental Management*, 90(8), 2414-2421.
- Wang, G., Qin, L., Li, G., & Chen, L. (2009b). Landfill site selection using spatial information technologies and AHP: A case study in Beijing, China. *Journal of Environmental Management*, 90(8), 2414-2421.
- Zambon, K. L., Carneiro, A. A. F. M., Silva, A. N. R. S., & Negri, J. C. (2005). *Análise de decisão multicritério na localização de usinas termoeletricas usando SIG*.
- Zucca, A., Sharifi, A. M., & Fabbri, A. G. (2008). Application of spatial multi-criteria analysis to site selection for a local park: A case study in the Bergamo Province, Italy. *Journal of Environmental Management*, 88(4), 752-769.

PRIMENA VIŠEKRITERIJUMSKOG ODLUČIVANJA NA URBANIZAM - PREGLED

Danas širok spektar operativnih i istraživačkih aktivnosti u različitim oblastima urbanističkog planiranja sadrži probleme odlučivanja. Odlučivanje je glavni element u analizi u regionalnim studijama i razvoju veština vezanih za uspeh procesa planiranja. Ovaj rad se odnosi na oblasti odlučivanja u urbanizmu i daje pregled literature o primeni višekriterijumskog odlučivanja na urbanističke probleme. Članci su razvrstani u četiri područja primene i okvira. Ovo istraživanje doprinosi postojećoj literaturi o planiranju u urbanizmu i višekriterijumskom odlučivanju. Takođe predstavlja jedinstven izvor referenci koje bi mogle biti korisne za studente, istraživače i praktičare. Rad se završava sa procenom predstavljene literature, sa ciljem da se postignu neki zaključci, kao i ukaže na buduće trendove u ovoj oblasti istraživanja.

Cljučne reči: Odlučivanje, Višekriterijumsko odlučivanje, Urbano planiranje.

THE ANALYSIS OF PUBLIC RELATIONS ROLE IN IMPROVING CORPORATE SOCIAL RESPONSIBILITY

UDC: 659.4:005.35

Preliminary Communication

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The main objective of modern business is achievement of business excellence and world-class of products and services. Companies which actively and continuously apply modern management methods and techniques, especially in marketing, have significantly better chance to strengthen their competitive capability on global market and to assume stable market position with perspective for further market development. Modern business philosophy implies that organization has to be responsible for its actions and steps towards all stakeholders in the environment. Attaining of business excellence goals of an organization presupposes built corporate social responsibility. The research results presented in this paper were used to analyze the possibilities of using modern methods and techniques of public relations in business organizations and improve corporate social responsibility on the market of Bosnia and Herzegovina.

Keywords: Corporate social responsibility, Public relations, Organization, Quality, Bosnia and Herzegovina.

INTRODUCTION

Achieving competitive ability in terms of the global market is a very complex process which requires the coordination of all business functions in the company as well as an investment of exceptional financial and marketing efforts. Competitive ability is difficult to gain but easy to lose in the offensive environment of global competition, (Đorđević et al., 2012). Regarding the specific aspects which affect performance in international frameworks, we can particularly stand out:

- Productivity,
- Quality and
- Innovations, (Bešić & Đorđević, 2014).

The struggle for competitive advantage is the struggle for business productivity. The success of the company is associated with the established concept of quality, enabling achievement of competitive advantage based on improving business productivity. Quality becomes the primary development objective, which is realized through the achievement of operational excellence and reaching world-class products and services, while the holders of quality improvement operations are employed in the organization. Employees are those who create quality in the organization, by improving the productivity of their knowledge and work.

From the traditional understanding of the organization, where all business functions have equal importance, companies must turn to

proactive thinking, which involves understanding and creating changes, as well as giving importance to those business functions that enable the company to create, maintain and improve the competitive position in the global market. Functions that have strategic importance for the company's operations are: research and development, quality and marketing. The function of research and development is a fundamental driver of business development. Continuous improvement of business processes is established by the implementation of quality management concept. Marketing enables the formation of market position and directs business activity of an enterprise in regard to the perceived needs and expressed demands of consumers. The function of marketing is integrative, because it relates not only these three, but all the other functions in the enterprise in order to achieve a stable market position of the company.

Business operations within the terms of the global economy are changing. Today, business organizations have become aware of the fact that they affect the society. This finding has far-reaching consequences. Implementing the principles of corporate ethics also has a global character. Public interest is the primary interest of the organization, which must be integrated into the business policy of the organization while the business policy of the organization has to be fully implemented in the business. Modern organizations should be directed towards sustainability, which involves meeting the demands of consumers and aims of the enterprise, taking into consideration the future.

Successful business in the global market implies product differentiation, quality and effective marketing communication.

ASPECTS OF IMPROVING THE CONTEMPORARY ORGANIZATION BUSINESS

Contemporary economy is determined by the new competitive circumstances. On the global market new competitors have appeared, competing both with price and quality, lowering the price of the product.

Competitive relations are nowadays very complex. In the last twenty years competitive relationships have become more complex - the number of competitors on the global market has increased, the competition is being transferred from the level of

product to the level of innovations, competition takes place between large and small as well as medium-sized enterprises, etc.

New competitors have appeared on the global market primarily from newly industrialized countries. These new competitive conditions identified by the increased role of companies from newly industrialized countries demand redefining marketing strategy which is aimed at the global market. New economic conditions require new approaches in the study of organizational management, as well as new approaches to business practice.

Kotler as well as Caslione considered (Kotler & Caslione, 2009) that the global economy is characterized by the appearance of hyper competition. Hyper competition happens when technology and service offer are that much new that the standards and rules become fluid causing competitive advances that are impossible to stop. It is characterized by intense competition and rapid shifts in which competitors have to quickly build new strengths and surpass their rivals.

Competitiveness is the ability of companies to compete with other companies - competitors in the market (Bešić and Đorđević, 2014). Competitive advantage is the particular position of business organization when its service offer is seen by consumers as providing greater value compared to that of its competitors.

Porter believes that competitive advantage basically arises from the value that the company is able to create for its customers and which exceeds the cost of its creation. Value is what buyers are willing to pay, while exceptional value derives from the offer of lower prices than those of competitors for the equal benefit, or the unique benefits that largely neutralize higher price.

Porter believes that the five powers which define the shape of the strategy are:

1. Rivalry among existing competitors,
2. Threat of entry of new competitors into the market,
3. The growing importance and power of buyers,
4. Risk of substitution of products and services,
5. Bargaining power of suppliers, (Porter, 2008).

Integrated quality concept is one of the most important factors for achieving a stable market position in the modern business. The concept of quality management is primarily a commercial

concept, which is based on the improvement of all business activities, ranging from market research, product development and production, logistics, market communication and evaluation of effects of business.

According to the Basic and Djordjevic (Bešić & Đorđević, 2007), it is particularly important that the organizational structure is propulsive for information both at a hierarchical vertical, and at horizontal level. Contemporary organizations require productive project teams, where there is no leader - each team member must possess leadership qualities as well as entrepreneurial skills. Strong leadership personalities of the twentieth century have been replaced by powerful teams of individuals who are willing to through teamwork respond to all challenges of the future. Creativity, innovation and the advancement of knowledge are the fundamentals of successful project teams.

Traditional organization, founded on establishment of a solid command line, focused on activities, is impervious for information and faces only the production process, which is outdated. It changes into a new organization that is focused on processes, with direct access to customers, an organization that is propulsive regarding information, which is run by leadership teams, based on multitasking and outsourcing.

Economic behavior of companies includes such behavior based on the effective achievement of business goals. This primarily involves the exercise of enterprise, and maximizes the business results with a minimum of necessary investments (Bešić & Đorđević, 2014).

In the information society, knowledge becomes the fundamental resource of economy. Knowledge is becoming the decisive factor of production. Companies will not be able to compete and be successful if they are not transformed into organizations based on teamwork and focusing on processes. Knowledge society must necessarily be the professional organization of society, and the main task of management is to make knowledge productive.

Drucker (Drucker, 2003) argues that the knowledge society should at its core contain the concept of an educated individual. It will have to be a universal model, because the knowledge society is - a society of diverse knowledge and

global in its nature. In the knowledge society there is no queen of knowledge. All skills are equally valuable and they equally lead to the truth.

In order to achieve market success it is necessary for the company to possess a competitive advantage in the form of lower costs and product differentiation, with a long-term strategy of providing products and services of high quality with continuous innovation. Companies must invest more significant efforts to meet the requirements, better educated and more informed consumers and users. The task of the modern organization is to improve the knowledge of their employees.

Corporations are becoming more aware of their own intellectual capital - whether they are patents, process knowledge, technology, management skills, marketing and market information, information on competitors, the concepts of new products, research on customers and suppliers, competitive analytical patents, licenses, rights, ideas to improve processes and procedures, their management requires constant supervision. And not only should modern organization create knowledge, it must also increase the value.

MODERN ORGANIZATION AND APPLICATION OF PRINCIPLES OF SOCIAL RESPONSIBILITY

In order to achieve business excellence, we need to continuously improve our business. Improving the business assumes the character of continuous improvement of the quality of operations, (Ćočkalo et al, 2015).

In that sense, the basic aspects of the quality of operations are: marketing aspect, business aspect and social aspect, (Heleta, 1995). Market aspect of improving the quality of operations is related to satisfaction of consumer needs, suitability of use, market positioning and the achievement of competitive advantage. Commercial aspect of improving the quality of operations refers to the improvement of the quality of internal economy organization - an increase in efficiency, reduction of costs, increase of labor productivity and knowledge, increase of profit. *The social aspect* of improving the quality of an organization implies improvement of the welfare of society by improving the quality of life:

- protection of human health,

- safety and health protection of workers,
- protection and consumer safety,
- protection and improvement of the environment,
- conserving natural resources,
- safety of all in the society,
- Business coordinated according to regulations, (Bešić & Đorđević, 2007).

The social aspect of quality management combines business and market quality aspect, enabling the realization of synergy in relation to the competitive position of the company. Successful management of the company, which is expected to result the achievement, maintenance and improvement of competitive position on the market, assumes the implementation of the principles of social responsibility in the organizational structure of an enterprise.

Contemporary business philosophy assumes that an enterprise has to be responsible for its actions and deeds towards all stakeholders in the environment - both in the macro environment, but also in the company. In that sense, the company is obliged to meet all the demands of consumers, companies, partners, employees and shareholders. This business philosophy is referred to as Total Quality Management - TQM (abbr. for English Total Quality Management). Total quality management is a business philosophy that is created as a logical and historical response of entrepreneurs to the requirements set by modern society. This is a continuous improvement of the entire business of the organization, which includes the integration of technological, market, economic, organizational and ethical business goals. This concept implies: meeting the needs of consumers, the development of business quality, safety of the employees, environmental protection, education of employees and the creation of a corporate culture of the organization. The ultimate goal of applying the concept of TQM is to improve the quality of life. Seen in this way, the entire system is based on the individual, who has to become a “responsible individual” who contributes to the increase of productivity by his actions, and therefore the general well-being.

Improvement of corporate social responsibility is closely related to the development of methods and techniques of marketing, especially marketing communications. Developed marketing communication influences the improvement of

corporate image while social initiatives within the scope of corporate social responsibility directly affects the image of the company in public, divided by target segments.

According to Kotler et al. (Kotler et al., 2014), since the effects of marketing are felt outside the company, overcoming consumers, as well as to reflect on the society as a whole, marketing must take into account the ethical, legal and social context in relation to the environment and their total operation.

Application of the concept of corporate social responsibility in the domestic enterprises should facilitate the establishment of conditions for successful market performance and the achievement of competitiveness of domestic enterprises. The main driver of these activities has to be knowledge. It is particularly important to promote knowledge management in the field of modern management methods and techniques.

APPLICATION OF METHODS AND TECHNIQUES OF PUBLIC RELATIONS IN THE DEVELOPMENT OF CORPORATE SOCIAL RESPONSIBILITY

The largest number of domestic enterprises is insufficiently competitive on the global market. Similarly, this is the case with companies from countries in transition. The chronic lack of capital in the countries in transition, lack of new technologies, along with poor educational level of employees in enterprises dominated by domestic capital, result in a poor competitive ability. Companies that are struggling to survive due to a lack of capital on the finance markets in countries in transition neither have time, nor financial resources to seriously dedicate themselves to the application of modern management knowledge. Even those enterprises that partially adopted some modern methods and techniques of management, such as management system quality and integrated management systems, due to the lack of financial resources face problems with further development.

It is believed that the initiators of inappropriate quality business decisions are: unrecognized liability and unrecognized importance of the problem and the decision-making process, ignoring the nature of business decisions and insufficient awareness of the usefulness (Yates, 2009).

On the other hand, managers of companies from countries in transition are aware of the need for application of modern management methods and techniques that are based on knowledge. Domestic leaders are particularly aware of the need for applying the system of management quality, as well as other management standards.

The result of the research engaged with the analysis of application of modern management methods and techniques in domestic enterprises, indicated that the most important methods and techniques of management that should be applied are as follows: governance databases (18.4%), the quality management system (17.6%) , corporate social responsibility (17.6%), relationship marketing (16.8%) and benchmarking (12.6%), (Bešić et al., 2013).

The main problems that arise in the process of organizational management in the countries in transition are as follows: failure to adopt the logic of modern management, lack of understanding of the integral approach to the process of organizational management, marketing misconception, inadequate treatment of investments in marketing, issues of organizational structure, insufficient speed of adoption of new trends, methods and techniques in management. Domestic enterprises are still at the stage of initial acceptance of modern principles and techniques of management, not all, but only those who have successfully completed the process of transformation, (Bešić & Đorđević, 2007).

The research results which were used to analyze the possibilities of using modern methods and techniques of public relations in business organizations on the market of Bosnia and Herzegovina aimed at improving corporate social responsibility (completed in 2015 on the territory of Bosnia and Herzegovina, the pattern projected on the 50 units - executives of companies), precisely indicate this fact (Dervida-Lekanić 2015).

The analyzed leaders find that segment marketing communication within the marketing mix, especially public relations have a highly important impact on the general public, which includes not only customers, but also the entire environment with all stakeholders. The primary function of public relations is to maintain two-way communication with the environment, and this means not only disclosure and press releases, but also monitoring the reaction, that is public opinion polls and opinions primarily of the target population.

Joint coordination of all segments of the company is planned joint operations which complements each other and strive towards achieving the goal.

Based on a survey of attitudes of experts in the field of public relations (PR) one can distinguish the main obstacles in the implementation of public relations in local companies: shown in the figure 1.

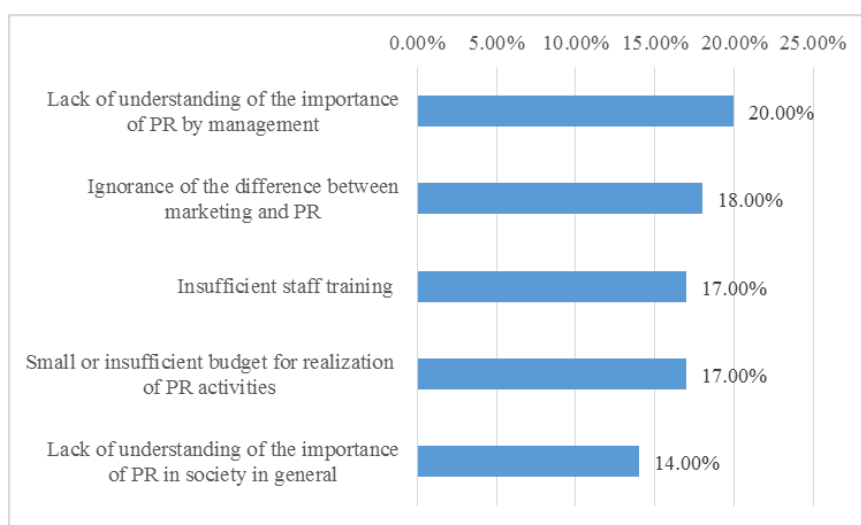


Figure 1: Main obstacles in the implementation of public relations in local companies:

The basic elements for business improvement and development of competitive ability of the company we can stand out in the figure 2.

As the most important incentive to companies to accept CSR we can stand out the following order:

1. Tax incentives in the business - 27%,
2. Education - 24%,
3. Legal regularity - 24%,
4. Better business environment - 12%,
5. Organizing economic situation - 9%.

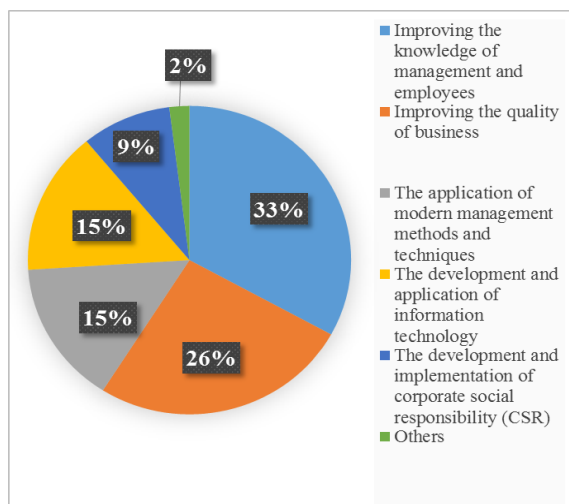


Figure 2: The basic elements for business improvement and development of competitive ability

Model for improving domestic marketing communications of companies on the market of Bosnia and Herzegovina based on the application of the concept of public relations, includes the following elements:

1. Meeting the requirements of the target public,
2. The main obstacles in the implementation of public relations in the domestic enterprises,
3. Elements for business improvement and development of competitive position,
4. The most important incentive for companies accepting CSR,
5. Increase Business Productivity,
6. PR in the function of satisfying target audiences and
7. Continuous business improvement.

As a starting point for defining business objectives, companies must take into account the requirements of users and other target audiences in the region. This means that the initial activities must be directed at achieving, maintaining and developing fulfillment of the requirements of the target public.

Without satisfying its customers it is impossible to fully realize the business goals, which means that the management has to represent not only the interests of the company but also the interests of the society in which it operates. Therefore, it is necessary to complete the market analysis to spot the target audience and their needs and based on this plan strategic activities in order to meet their demands and needs.

Domestic enterprises need to internationalize the business process based on the application of international experience, international standards and internationally accepted business practices. Application of modern methods and techniques of marketing communications, where public relations are certainly the most important, we need to create the conditions for enterprises to become more competitive in the market, taking into account the need for socially responsible business.

The best way for the proper functioning and management of the enterprise is a legal framework that is one of the preconditions for the implementation of CSR in the company's business strategy. Legislation and incentives in the business should be done by the example of countries that have passed this phase of development. For the promotion of responsible business an important role should be played by public relations for the benefit of the company and the community. Businesses gain greater community support and also a better competitive position in the market. The benefit of the community is a better environment for living and less socio-economic problems. The goal of public relations is the identification and harmonization of company goals with the goals of the communities in which they operate, which is achieved only through the process of communication.

CONCLUSIONS

Management of modern business organization in the global economy requires innovation, flexibility and knowledge. Outdated models of organization management are replaced with new, more sophisticated models, which are adapted to modern market conditions. The essence of the struggle for competitiveness lies in accepting changes. Knowledge is the key driver of continuous growth in business productivity.

Domestic enterprises have to ground the process of internationalization of business on the application

of international experience, international standards and internationally accepted business practices. Quality starts with management.

Businesses are the major factor in the development of corporate social responsibility. Since the concept is by definition voluntary, the companies are to decide whether to engage in socially responsible activities and the choice of the means of implementation. The completed survey showed that public relations are equally important for both large and small and medium-sized enterprises and are not intended only to build the reputation and the reputation of large companies. Changes in awareness and business practices will affect the development of the profession. Consumers and communities will become increasingly important, and this will influence the communication and increasingly emphasized two-way exchange of information. The exchange of information between companies and the environment creates a greater connection between the company and the community, which directly influences the development of corporate social responsibility, and further competitive advantage.

In Bosnia and Herzegovina there is an enormous number of social problems, which implies much greater state involvement and that of the enterprises. The state should influence the creation of an environment that will be supportive environment for businesses to operate in a socially acceptable manner. At the same time raising awareness and knowledge of sustainable development is one of the important factors of social responsibility which should start with education of children in kindergartens, which represents education of the whole society.

REFERENCES

- Bešić, C., & Đorđević, D. (2007). *Benchmarking* (in Serbian). Čačak: Technical faculty.
- Bešić, C., & Đorđević, D. (2014). *Knowledge management* (in Serbian). Čačak: Faculty of technical science.
- Bešić, C., Krnjević-Mišković, Z., & Đorđević, D., (2013). *The role of knowledge in the development process of competitive ability of domestic companies on the global market*. Paper presented on III International Conference LEMiMA, Belgrade.
- Ćočkalo, D., Đorđević, D., Bešić, C., & Bogetić S. (2015). Undergraduate business students attitudes towards CSR and competitiveness of Serbian economy. *Journal of engineering management and competitiveness (JEMC)*, 5(1), 12-20.
- Đervida-Lekanić, R. (2015). *Analysis of the impact of public relations on the development of corporate social responsibility* (in Bosnian). Banja Luka: UPS.
- Đorđević, D., Ćočkalo, D., Bogetić, S., & Bešić, C. (2012). *Razvoj poslovne izvrsnosti i konkurentnost domaćih preduzeća*, Paper presented on International conference JUSK 2012. JUSK, Belgrade.
- Drucker, P. (2003). *Moj pogled na menadžment* (in Serbian). Novi Sad: Adižes.
- Heleta, M. (1995). *With Quality to World* (in Serbian). Belgrade: Magenta Z.I.
- Kotler, P., & Caslione, J. (2009). *Chaotics* (in Croatian). Zagreb: Mate.
- Kotler, P., & Keller, K.L., & Martinović, M. (2014). *Marketing management* (in Croatian). Zagreb: Mate.
- Porter, M. (2008). The five competitive forces that shape strategy. *Harvard Business Review*, 79-93
- Yates, F. J. (2009). *Decision Management, How to Assure Better Decisions in Your Company* (in Croatian). Zagreb: Mate.

ANALIZA ULOGE ODNOSA SA JAVNOŠĆU U POBOLJŠANJU DRUŠTVENE ODGOVORNOSTI PREDUZEĆA

Osnovni cilj savremenog poslovanja je postizanje poslovne izvrsnosti i dostizanje svetske klase proizvoda i usluga. Preduzeća koja aktivno i kontinualno primenjuju savremene metode i tehnike menadžmenta, posebno marketinga, imaju znatno bolju šansu da ojačaju svoju konkurentsku sposobnost na globalnom tržištu i da zauzmu stabilnu tržišnu poziciju sa perspektivom za dalji tržišni rast. Savremena poslovna filozofija podrazumeva da organizacija mora da bude odgovorno za svoje akcije i postupke i to prema svim akterima u okruženju. Postizanje ciljeva poslovno izvrsnosti organizacije pretpostavlja izgrađenu korporativnu društvenu odgovornost. Rezultati istraživanja prikazani u ovom radu su korišćeni za analizu mogućnosti korišćenja savremenih metoda i tehnika odnosa s javnošću u poslovnim organizacijama i unapređenje društveno odgovornog poslovanja na tržištu Bosne i Hercegovine.

Ključne reči: Društvena odgovornost preduzeća, Odnosi s javnošću, Organizacija, Kvalitet, Bosna i Hercegovina.

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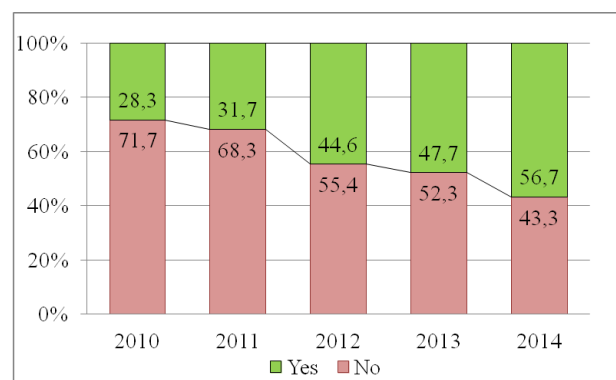


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Antoncic, B., & Hisrich, R. D. (2001). Intrapreneurship: Construct refinement and cross-cultural validation. *Journal of Business Venturing*, 16(5), 495-527.

Antoncic, B., Cardon, M. S., & Hisrich, R. D. (2004). Internationalizing corporate entrepreneurship: The impact on global HR management. In Katz, J. A., & Shepherd D. A. (Eds.), *Corporate Entrepreneurship: Advances in Entrepreneurship, Firm Emergence and Growth*, Vol. 7. Oxford, UK: Elsevier, JAI, 173-197.

Ćočkalo, D., Bogetić, S., Đorđević, D., & Bešić, C. (2015). Attitudes of Undergraduate Business Students' in Serbia Towards CSR and Competitiveness. In V. Majstorović (Ed.), *Proceedings of The 8th International Working Conference Total Quality Management - Advanced and Intelligent Approaches* (pp. 321-328). Belgrade, Serbia: Mechanical Engineering Faculty.

Đorđević, D., Ćočkalo, D., Čeha, M., & Gligorović, B. (2014, 9-10th October 2014). *Corporate Social Responsibility and Sustainable Development*. Paper presented at the IV International Conference "Ecology of Urban Areas 2014", Zrenjanin, Serbia.

Hisrich, R. D., Peters, M. P., & Shepherd, D. A. (2008). *Entrepreneurship*. 7th ed. Boston, MA: McGraw-Hill.

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