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**MARKET ANALYSIS OF THE  
TELECOMMUNICATIONS MARKET – THE  
CASE OF CROATIA**

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***Abstract***

*The structure of the telecommunications market is an extremely important factor in the development of each country. Generally, it can be said that the structure of the market is moving from a monopoly, which initially defined the Croatian market, through liberalization into an oligopolistic market, and then finally into a market of monopolistic competition. The mobile networks industry is characteristically a natural monopoly since only a limited number of companies can remain within the market equilibrium, regardless of the size of the market. The aim of this research is to determine the characteristics and specifics of the telecommunication market in Croatia. Furthermore, by conducting an in-depth analysis of the telecommunication services in Croatia, conclusions will be drawn about the current market competitors, the marketing aspect as well as the legal regulations within this field.*

***Keywords: telecommunications industry, competition, regulation***

## **1. INTRODUCTION**

The structure of the telecommunications market is an extremely important factor in the development of each country. Specifically, by increasing the competition within the market, the government allows for the prices of services to decrease, making them more accessible to a broader population. It is due to telecommunications that the use of information in trading, as well as trading information, has become the paradigm of the new economy.

The aim of this research is to determine the characteristics and specifics of the telecommunication market in Croatia.

The aims of this paper are to analyze the market situation in the telecommunication services market in the Republic of Croatia, to determine the main competitors and their market shares, the concessionaires, the managing structure and their ownership shares within the market in Croatia and to determine what kind of protection is received by consumers.

The research questions that need to be addressed in this paper are the following:

1. What are the main competitors in the telecommunication services market in Croatia and what are their market shares?
2. Are there strategic alliances within this sector?
3. Are telecommunication companies in Croatia foreign or domestic?
4. What kind of consumer protection is present with regard to the oligopolistic market?

The data necessary for this research will be collected from secondary sources by browsing the Internet and Internet databases as well as the expert literature, by analyzing strategic documents, statistical data, and by conducting a primary research of the top three telecommunications operators (HT, VIPnet and Tele2).

### **1.1. Literature review**

The Republic of Croatia belongs to the circle of transitional countries and since its independence it has commenced with the build-out of the quality information system which represents quality basis for the general economical development (Brekalo, 2008, p. 343). The telecommunications market makes a very complex and lively business environment within which business processes that ensure the efficient realization of telecommunication services need to be ensured. The business processes used in the telecommunications network for the realization of services are very complex, which is the result of a very complex business environment. In order to successfully manage such processes, a management network to ensure the necessary activities for the realization of the service is needed (Markulin, Musa, 2015, p. 670). Various telecommunication service providers operate on the telecommunications market. Operators offer users a variety of voice, image, data, and video transfer services. The rapid

advancement of telecommunications technology has led to the creation of a large number of different services (Kavran, Grgurević, Milinović, 2012, p. 64). In condition of complex and competitive telecommunication market time reaction of Telecommunication Operator in case of implementation new telecommunication service is very important (Musa, Markulin, 212, p. 549).

The telecommunications industry in developed countries, but also in transition economies, is one of the most important branches of the economy. Today, it is generally understood as a motor of development, and its role in the dynamics of development is even more highlighted (Sabolić, 2007, p. 21). Telecommunications are of strategic interest in all states and thus in the Republic of Croatia the obligation was determined for all owners to give priority to the transmission of messages relating to the security or defense of the state or to a large scale danger for human lives and property (Brekalo, 2008, p. 344). The telecommunications industry was considered a natural monopoly because it was believed that there was room for only one telecommunications operator in the market. Monopolies have been considered to be a public service that guaranteed service to everyone and because of the importance of the so-called network industries (gas, electricity, water, telecommunications), the states considered that it was important to consolidate them within one company due to the strategic and economic reasons (Mastelić, Grubišić, 2013, p. 418). Until July of 1999. there was monopoly in the Croatian market of telecommunications. However, the competition to T-Mobile has been introduced in the 1999. and due to this fact the quality of telecommunication services has been increased, the prices have been lowered and at the same time the fiscal revenue to the state budget has been growing because the number of users has been significantly bigger, especially in the area of mobile telecommunications and Internet services (Brekalo, 2008, p. 343).

The technological revolution, through computers and digital technology in the 80s and 90s of the 20th century, has radically changed the telecommunications sector, creating opportunities for new operators (competitors) to enter the market because the governments realized that the monopoly constrains the development of new markets and services (Mastelić, Grubišić, 2013, p. 418). Very important innovations in the world of telecommunications appeared in the second part of the 1990's together with a general wave of liberalization all around the world, showing on the one hand that inventions existed before, but suggesting on the other hand that competition probably accelerated their adoption and diffusion (Flacher, Jennequinb, 2008, p. 1). In its original form, telecommunications presented a distance communication. Today, in the forefront stands out the telecommunications industry which, besides the communications devices, covers a broad spectrum of consumer electronics and thus provides a broad infrastructure for every modern company in the global market competition. Telecommunications revolution and modern technology have enabled the creation of the global economic network of the 21st century, changing the way people live and work (Klaić, Turek, 2002, p. 101). Therefore, today's telecommunications networks connect virtually all the countries of the world with huge transmission capacities. To the development of the

opportunities for global information transfer with the outstanding development of telecommunications technology has also contributed the persistent construction of telecommunications networks around the world (Sabolić, 2007, p. 21). At the present stage of development of telecommunication and wireless communications technologies improving the quality of telecom services is most nagging problem. Telecom services is constantly being improved by increasing the speed of data transmission, greater mobility of users, expanding the range of services, improving the utilization of radio frequency spectrum and the degree of network equipment intellectuality and subscriber gadgets (Rzayev, 2015, p. 193). Modern times present the “time of inflation” of products and services. In the case of highly developed and middle-developed countries (including Croatia), there is a ruthless struggle for each user. In such conditions it is necessary to respond to every request of the user (Bosilj, Vukšić, Ivančan, 2006, p. 18).

Telecommunications have contributed to the underlying effect of globalization and thus become the “leading force that at the same time creates a huge global economy and makes its parts less or more powerful” and therefore has a major impact on national security issues (Klaić, Turek, 2002, p. 101). Assessing the performances of the possible regulation policies thus appears very important in order to guarantee the development of the sector in the near future but also in the long term. This is all the more important since telecommunications development generates important positive externalities on the whole economy and society. Competition liberalization (and already the perspective of liberalization) induces a higher performance measured through the increase of productivity, the decrease in price and the improvement of the quality of services (Flacher, Jennequinb, 2008, p. 1). Thanks to telecommunications, the use of information in trading as well as the information trading has become the paradigm of the new economy. Therefore, the development of telecommunications and information systems is one of the prerequisites for the country’s overall economic progress. However, world-wide, but also in the narrower environments, there is a multidimensional problem of “digital divide” between the rich and the poor. There is not only a gap between different countries, but also within the country there is a gap between different regions, i.e. between different categories of the population (Sabolić, 2007, p. 21). Telecommunication market is becoming more and more complex. Increasing number of new services, increasing number of customers who requests more services at once, migration from one kind of service to another (e.g migration from PSTN service to VoIP), migration of customers from one Operator to another, different requests of Agency for Telecommunication etc. are some of reasons why telecommunication market is complex and dynamic. Dynamic of new processes introduction and changes in existing processes is very large. It is very important that processes can support all possible situations during the service provisioning, customer migration or service migration (Musa, Markulin, 212, p. 549). As far as market dynamics is concerned, it can be concluded with certainty that at this time there is no more dynamic activity than mobile communications. Evidence for such a claim represents an incredible increase in the number of mobile communications users over the past years. After determining the services that are of strategic importance to the UMTS (Universal Mobile Telecommunications Service)

operator management, it is necessary to provide to the user a certain service in the best quality way. Today more than one hundred UMTS networks are used in the world and because of the strong competitive market conditions, it is necessary to ensure business excellence to the customers (Bosilj, Vukšić, Ivančan, 2006, p. 18).

The great saturation of the telecommunications market is the cause of the increasingly marked competition among telecommunications companies. This competition every day includes more and more Internet access providers, such as cable and wireless network operators. Telecommunications companies have to redefine their role in the market and develop new business models to create new sources of revenue, overcome current problems and gain competitive advantage. Possible solution lies in the transformation of telecommunications companies into business entities characterized by a strong customer orientation and high levels of innovation. In such a scenario, it will no longer be the most important to optimally utilize the transmission capacities and network infrastructure, but to efficiently automate and coordinate the relationship between each individual user and network operator from one side, and the network provider and digitized content provider on the other side of the value chain (Podobnik, 2007, p. 1). Every user of telecommunication services is using services depending on their needs. In order for operators to place their services better on the market or to discover potential new users, it is possible to apply the process of segmentation. Earlier, the telecommunications operators were developing the network and did not take into account the needs of individual users, and the market was viewed as a whole. Today, operators offer a variety of tariffs and tariff models to cover all the users' groups and increase the efficiency of their business. With the process of segmentation of the telecommunications market, the telecommunications operators divide the market into segments. There are different criteria that can be used in the segmentation. Each of the criteria helps the operators to connect more easily the users with a particular service or with a number of different services (Kavran, Grgurević, Milinović, 2012, p. 64). Telecommunications companies, driven by increasing competition in the telecommunications market, are seeking new solutions and services to increase the productivity and reduce the costs. One of the proposed solutions is the introduction of the concept of the service orientation that represents the model in which the system logic is divided into smaller, separate parts of logic. These smaller parts can be independently distributed over the network (Ljubi, 2007, p. 1).

Development of the new generation telecommunications network as well as increased user expectations force the operators to offer new services faster in order to remain competitive on the market. Therefore they need to find new, more efficient ways to develop and deliver the services faster. In the light of major changes in the telecommunications market, telecommunications companies must focus on creating an adaptable service infrastructure, thus reducing costs, giving incentives to the innovations and creating new services, and reducing customer dissatisfaction by constantly exceeding their requirements to increase service quality (Ljubi, 2007, p. 1).

## 1.2. Model and Data

The primary research required for this examination was conducted by a method of in-depth interviews of experts using a standardized interview. Using a predefined set of questions three people belonging to the field of telecommunications were interviewed (one of the regional sales managers for Tele2, one of the regional managers for VIPnet and one of the sector directors of the T-HT). Complete information on interviewed persons can be obtained only on request, but with the respect of the right to their anonymity for the general public.

In Table 1 are showed questions and shortened responses of the interviewed managers.

Table 1

The Results of In-Depth Interviews

Question	Similarities in statements	Differences in statements
<i>How do you assess the rivalry in the telecommunications market in Croatia?</i>	The average rating of the rivalry levels present on the telecommunications market is 4, or in other words a strong rivalry. Operators monitor each other and a situation such as the one with the Revolution promotion presented by Tele2, when VIPnet and HT decided not to take any action until they realized that more and more users were leaving for the competition, could not happen again. Tele2 continues even today to be a “challenger” on the Croatian market by constantly attacking competition with its sales campaigns because both VIPnet and HT have their own low-tariff networks (Bonbon and Tomato) which are used to “fight off” Tele2.	
<i>Will certain strategic changes, in your opinion, occur within large telecommunication operators? And if so, what would be the direction of these changes?</i>	Interviewees from VIPnet and HT agree that there may be strategic changes in the telecommunications market in the near future given the trend of globalization, the day-to-day progress of technology and the expansion of the operators.	Interviewee from Tele2 claims that in the near future, during the next year, there will be no changes. He claims that Tele2 will remain the cheapest, followed by VIPnet. HT will remain in the last place due to its high service prices connected to the quality of the provided signal.

<p><i>Are you influenced by the OTT (Over the Top) players? If so, how do they affect your business?</i></p>	<p>OTT players have a significant influence on telecommunications operators in terms of reducing the amount of traditional mobile telecommunications services, while simultaneously increasing the amount of data packages and selling more expensive, “smart” devices that use services such as Skype, Facebook, Whatsapp, etc. This has contributed to the shift in the telecommunications service market because all operators reduced within their tariff packages the amount of conversation and text messages, while increasing data packages. In the near future, by the end of this year, the tariff options should consist of increasingly more data packages and a decreasing quantity of conversation and SMS packages.</p>	
<p><i>What are the key factors for your success?</i></p>	<p>As a key success factor, VIPnet emphasizes the quality, reliability and customer relationship, while HT points out the quality of products and services, as well as customer relations, a complete portfolio, convergence, quality and size of sales channels, financial stability and the investment in infrastructure and new technologies.</p>	<p>Interviewee from Tele2 points out that the key factor of Tele2’s success is actually a low business segment. Tele2 is more based on private users than on business ones since the current share of private users is 95%, while the share of business users is only 5%. Their strategic goal is to increase the share of business users to 10%, and to reduce the share of private users to 90%. Tele2 is therefore aimed at private users, young people and those who need basic services.</p>
<p><i>How does the State, by granting concessions, affect your business?</i></p>	<p>Since the State has charged the “entry fee” to all three operators, there is no incentive to introduce a new operator in order to “destroy” the existing ones, mostly due to the fact that the State from each of them, per concession, receives an annual amount. Therefore, no new operators will be entering the existing market in the near future. Each operator wishes for the State to reduce the concession fees, and since a different concession fee is charged for calls, data packages and SMS, data packages are being increasingly used due to their lower cost if compared to the higher fees for calls and SMS.</p>	

<p><i>Which entities in the consumer protection sector affect your business?</i></p>	<p>HAKOM influences the most the operator's business segment (up to 90%). As far as consumer protection organizations are concerned, they have almost no impact on the actions of the operators, although complaints are often received from such associations. HAKOM is in fact the main and only genuine protection mechanism for consumers and operators alike, as operators may sue each other as well, and it is HAKOM's function to determine whether this action is in accordance with the law or not.</p>	
<p><i>How do you assess the strategic position of your company in Croatia with regard to its position in other EU countries where you operate?</i></p>	<p>Interviewee from HT argues that their strategic position is good since HT is the market leader in all segments. The regulatory environment largely determines the expansion to other countries in the region.</p> <p>VIPnet is at the very top within Croatia together with HT, as it is in Germany with Deutsche Telekom. It is the first private mobile operator and leader in innovation within the telecommunications market in Croatia.</p>	<p>Interviewee from Tele2 states that Tele2 was established in Sweden where it holds the position of a market leader while within the Croatian telecommunications market it retains the position of a "challenger". The goal of Tele2 is to reach the second place in Croatia with regard to private users, but not business ones since VIPnet is preferred by business users.</p>
<p><i>What did it mean for your company to enter the Croatian market?</i></p>		<p>Interviewee from VIPnet states that the entering of the Croatian market meant creating competition in mobile telephony, a new market choice for consumers, innovations, and a better price/quality ratio. Interviewee from HT states that HT has long been present on the Croatian market, and the introduction of new technologies, especially in ICT, has further ensured their leadership position. Interviewee from Tele2 states that the entry of Tele2 into the Croatian market was significant for the company since they entered a new market. For them, coming to the Croatian market was an entry point to a different part of Europe. Starting from Croatia Tele2 expanded to the Austrian and German market. Even the customer service for the German and Austrian markets is located in Croatia due to a less expensive workforce.</p>

<p><i>Are there a lot of newcomers in your market? If so, how do they affect your business?</i></p>	<p>All three interviewees agree that there are no newcomers in the telecommunications market, but only low-tariff networks in already existing companies (Bonbon and Simpa in HT and Tomato in VIP).</p>	
<p><i>How do you assess the demand trends in the telecommunications market? How will this affect the price movements?</i></p>	<p>Interviewees from VIPnet and HT believe that in view of the increased sales of telecommunications products and services, the demand for “smart” phones could increase in the future. The use of minutes of calls in the fixed and mobile networks is decreasing and that there is an increasing demand for larger amounts of data traffic within mobile communications, as well as higher capacities within fixed data services. The current market trends are the following: convergence, unlimited packages and a synergy with ICT and cloud services and solutions.</p>	<p>Interviewee from Tele2 believes that demand depends on the seasons and that all operators have some ups and downs throughout the year. There is no real growth because Croatia is a country with a small population so that users only switch from one operator to another. He believes that in the next two years there may be an increase in prices since Croatia has the cheapest prices of telecommunications services in the European Union.</p>
<p><i>Given the current situation in the telecommunications market, what would be the best way to grow and develop telecommunications companies?</i></p>		<p>Interviewee from VIPnet claims that the ratio of cost/ quality, the quality service and the operator reliability would be the best way to stimulate growth and development of telecommunications companies. Interviewee from HT thinks that the best way would be turning towards convergent services and solutions, including Cloud and ICT. Interviewee from Tele2 argues that all operators are now targeting a variety of data services in order to increase the number of users since exclusively offering call services and SMS can no longer attract users.</p>

<p><i>What is your comment on the current market situation and future trends in the telecommunications market?</i></p>	<p>It is highly likely that only three existing operators will remain on the market due to the high costs of entering the market. In the future, regulations should not restrict investments and the price levels should not fall if users expect the further development of the infrastructure, and therefore services. The subsidies for mobile devices, especially smart phones, with regard to their price increase, have their limitations. Future telecommunication will be based on 5G networks and high speed Internet. The development of devices will in fact occur every few months, so the biggest challenge for all operators will be to follow these development trends and data packages allowing in such a way for the users to profit as well.</p>	
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*Source: authors's own researche*

## 2. DISCUSSION

The structure of the telecommunications market was considered a natural monopoly in almost all transition countries, including the Republic of Croatia. By liberalizing the market, the monopoly market turns into an oligopolistic one and then into a monopolistic competition. An immovable telecommunications market is located between an oligopolistic one and a perfect competition, while a mobile telecommunications market is still oligopolistic. However, by privatizing the state telecom a so-called “quasi-liberalized market” was formed, where an “independent regulator” protects the interests of a privatized telecommunications operator, with a monopoly on fixed telephony services, all of this allowed by the state itself. The “semi-liberalized” market allows for the ability to control the entry of any new entities that are not verified by existing operators. In that way the dominant operators want to secure themselves from potentially dangerous companies with developed telecommunications sectors (Klaić, Turek, 2002, p.109).

Within the Croatian telecommunications market a notion of a dominant position within the market appears where the participants act relatively arbitrarily, with one operator having over 40% market share (HAKOM, 2015), as shown in the Figure 1. Prior to the liberalization process, Croatia was technologically more advanced than the other transition countries, ranked as an average European Union country according to the density of users of the fixed communications network. The mobile communications networks in Croatia are the “crown” of electronic communications. Not only is Croatia not lagging behind the European Union, but according to key indicators of telecommunication services, it is one of those countries that are above the European average, ranging from the coverage

of the Internet access signal, high speeds of data transmission as well as usage habits. More and more citizens use “smart” phones to access the Internet, so Croatia has a huge revenue growth in that segment, but it also records an even greater growth in data traffic (ICT Business, 2015).

T-Mobile Croatia is the first mobile network in Croatia allowing it to hold a monopolistic position on the market. A few years later, VIPnet entered the Croatian telecommunications market, which resulted in a 50% price reduction, and the improvement of service quality. A few years later the Swedish Tele2 entered the market, and with its lower prices influenced the existing market operators (VIPnet and HT) to adjust their prices as well. Today, when there are three operators present on the market, HT is specifically selected by those who have friends and relatives on that network, VIPnet is selected by those who seek a specific quality of technical support and professionalism, while Tele2 is selected primarily for the prices.

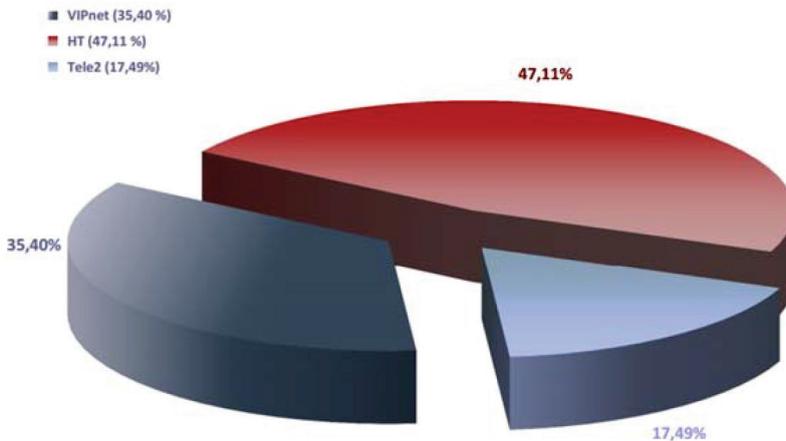


Figure 1 The share of mobile communication network operators with regard to the number of users, December 2015.

Source: [https://www.hakom.hr/UserDocsImages/2016/e\\_trziste/GOD%20HRV%202015\\_Tr%C5%BEi%C5%A1ni%20udio%20prema%20broju%20korisnika\\_pokretna.pdf](https://www.hakom.hr/UserDocsImages/2016/e_trziste/GOD%20HRV%202015_Tr%C5%BEi%C5%A1ni%20udio%20prema%20broju%20korisnika_pokretna.pdf)

By analyzing and exploring the available literature, it has not been established that there are strategic alliances in this sector. However the two largest operators of fixed networks purchased the smaller operators. No two large operators can merge on the telecommunications market because HAKOM does not allow it. Nevertheless large operators can buy smaller operators like VIPnet’s acquisition of B.net and Amis Telekom, and HT’s acquisition of Iskon, together with the acquisition of the rights to manage Optima Telekom. After Vipnet takes over Metronet and the merging of H1 Telekom and Optima Telekom, under HT management, the current market will have two large telecommunications

operators with all segments of the business - fixed telephony, mobile telephony and ICT solutions and services. Within the mobile telephony sector there is also Tele2, which fails to significantly compete with HT and VIPnet, even though for a while they were expected to enter the fixed telephony sector by buying one of the smaller operators. Since Tele2 did not enter the fixed telephony sector, while VIPnet acquires Metronet together with the merger of H1 Telekom with Optima Telekom, a strong duopoly will define the fixed telephony sector, while the mobile telephony, with its three operators will remain an oligopoly. Therefore the market will continue to be pressured by the mutual competition of these three operators (ICT Business, 2016).

All three telecommunications operators are mostly foreign-owned. Deutsche Telekom AG predominantly owns **HT**. The majority owner of the Croatian Telekom d.d. (HT) is Deutsche Telekom Europe B.V. with a share of 51%. Deutsche Telekom Europe B.V. is owned in its entirety by the Deutsche Telekom Europe Holding B.V. which in turn is owned in its entirety by the Deutsche Telekom Europe Holding GmbH. Deutsche Telekom Europe Holding GmbH is entirely owned by Deutsche Telekom AG. The Croatian Homeland War Veterans Fund owns 7% while the Croatian Government's Center for Restructuring and Sales holds 2.9% of the shares. The remaining 39.1% of shares are in the hands of private and institutional investors such as the Raiffeisen Mandatory Pension Funds as one of the largest shareholder. **VIPnet d.o.o.**, as the first private mobile operator in Croatia, is part of the Telekom Austria Group and a strategic partner of Vodafone, the leading European mobile operator. Telekom Austria, which is a 100% owner of VIPnet in Croatia, is a highly positioned and one of the largest telecommunications company in Austria and abroad. **Tele2** is a telecommunications company that deals with GSM mobile communications. The parent company was founded in 1993; it operates in 11 countries and has more than 24 million users. The company started its operations in Sweden in 1993 and in Croatia in 2005. In Croatia in 2015 there are 823,480 users of their services. The company "Tele2" was founded by the Swedish company "Tele2 Sverige Aktiebolag" and is entirely owned by Swedish entities.

There are many institutions involved in consumer protection, regardless of the oligopolistic market. In addition to market inspections and consumer associations, the biggest agency for the protection of consumers is HAKOM (Croatian Regulatory Agency for Network Operations). In order to ensure consumer protection within the telecommunications market, it is essential to ensure transparency, to find an effective way to address out-of-court disputes and to accelerate the process of changing the operators for the end-user. The research conducted by the 2015 European Commission has shown that most consumers believe that mobile phone operators and telecommunications companies do not respect their rights as consumers, which is a significant drop in confidence levels compared to previous years. Also, almost two-thirds of consumers do not know what their consumer rights are when signing a contract on "the street" or outside of the telecommunications center, which they later want to cancel (Lider media, 2015). That is why the companies, with the support of competent institutions, need to interact more proactively with consumers and

be more transparent in their business practices. Consumers, on the other hand, need to inform themselves more about their rights, the services offered by the telecommunications operators, as well as about the corresponding institutions and consumer associations that can provide them with advice and support. The Telekom Association protests HAKOM for not complying with the legal obligation to provide end-users of electronic communications services with an independent cost estimate resulting from the price of public communications services, a type of tariff calculator, even though it would make it extremely easy for the users to select a new operator and tariff.

### 3. CONCLUSIONS

One of the most significant specifics of the telecommunications market is the oligopolistic market and the liberalization process. Through the process of liberalization from the natural market monopoly an oligopolistic market develops where a small number of sellers of a particular service are active, characterized by a high degree of interdependence in the activities of all of the participants. Also, another specificity of the telecommunications market is the emergence of a dominant position on the market, i.e. the position enjoyed by the leading company, enabling it to downgrade or prevent the development of an effective competition in the relevant market, allowing it to mostly behave independently of its competitors, consumers and users.

By analyzing the revenues of the telecommunication services market by segments, it is noted that the revenues from the telephony services in the mobile public network are absolutely dominating, followed by the revenues from telephony services in a fixed public network. The mobile phones are the industry's largest growth sector, and in many countries, both developed and developing, the number of mobile subscribers has already exceeded the number of fixed lines. However, in the mobile telecommunications industry, the number of operators is traditionally limited by constraints stemming from a limited electromagnetic spectrum. By observing the entire market at a macro level, it would be beneficial to encourage competitiveness that would lower the prices of telecommunications services, and hence the aforementioned dissemination of information, which would bring the offered services closer to the developed countries of the world. Many considered the telecommunications market a safe investment, but the significant decline that followed in 2011-2012 fuelled pessimism. The growth of the Internet and television sectors can hardly compensate the decline in growth present in the telephone service sector, and therefore the stagnation of the market represents the most optimistic option at the moment.

The primary research indicated that there is a strong rivalry between operators within the telecommunications market, with operators constantly keeping track of each other regarding promotional campaigns so as not to lose existing users to another operators due to a more favorable offer. For this very reason, but also because of price changes that took place in March 2016, there

should be no major strategic changes occurring in the near future. The only possible changes relate to the offered packages by reducing the amount of minutes and SMS messages, and increasing the amount of data traffic in view of the increased trend of using social networks, Skype, Whatsapp, etc.

The quality of services and products, reliability, customer relations, financial stability, investments in the infrastructure and new technologies are all being pointed out as key factors for the success of telecommunications services. The State at the moment does not have a significant impact on the telecommunications operators' business since the operators had to pay the "entry fee" needed to become part of the telecommunications market. Today, the State would not benefit by allowing the entry of a new operator because such a decision would "destroy" the existing operators from whom it is already profiting through the annual concession payments. Thus, the telecommunications market for mobile networks will surely in the foreseeable future remain an oligopolistic market. HAKOM has the biggest influence on telecommunications operators' business by monitoring the activities of the operators, addressing customer complaints and regulating the relations between operators. The best way for the telecommunication operators to grow and develop is to optimize the price/quality ratio, but also to meet the needs of the user by increasing data traffic within tariff packages.

## REFERENCES

*Book with an author*

SABOLIĆ, D. (2007). *Tržišna snaga u telekomunikacijama*, Kigen d.o.o. Zagreb

*Journal paper*

Bosilj Vukšić, V., Ivančan, T. (2006). Primjena koncepta Six Sigma u kreiranju usluga mobilnih mreža treće generacije. *Tehnički vjesnik, Vol.13 No.3*, pp. 13-19.

Brekalo, M., et. al. (2008). Telecommunications as a Segment of the Information System in the Republic of Croatia Financial and Legal Aspects. MPRA Paper, No. 10932, pp. 343-350.

Flacher, D., Jennequinb, H. (2008). Is telecommunications regulation efficient? An international perspective. *Telecommunications Policy, Vol. 32, No. 5*, pp. 364-377.

Klaić, A., Turek, F. (2002). Nacionalna sigurnost i telekomunikacije. *Međunarodne studije, časopis za međunarodne odnose, vanjsku politiku i diplomaciju, Vol. 2, No. 4*, pp. 97-112.

Mastelić B., Grubišić, D. (2013). Povezanost liberalizacije nepokretnog telekomunikacijskog tržišta, konkurentnosti operatora i kvalitete usluge. *Ekonomski misao i praksa, No.2*, pp. 417-442.

Rzayev, R.R., et. al. (2015). Estimation of the telecommunication services quality on the base of the fuzzy modeling method. *Information Technologies, Vol. 21, No. 3*, pp. 193-200.

*Paper published in conference proceedings*

Kavran, Z., Grgurević, I., Milinović, T. (2012). Student behavior in the mobile telecommunication market. In *Proceedings of the 20th Telecommunications Forum - TELFOR 2012*, pp. 64-72.

Markulin, D., Musa, K. (2015). Uloga kvalitetnog dizajna poslovnih procesa u složenom okruženju telekomunikacijskog tržišta. In *Proceedings of the MIPRO 2015/CTI*, pp. 669-674.

Musa, K., Markulin, D. (2012). Proposal for business process modelling and development in condition of complex telecommunication market. In *Proceedings of the Mipro 2012*, pp. 549-553.

*Internet resource*

BRAND MANAGER (2013). *Stanje na tržištu telekomunikacija u Hrvatskoj*, <http://brandmanager.com.hr/stanje-na-trzistu-telekomunikacija-u-hrvatskoj/>, [accessed 15.09.2016].

HAKOM. (2015). *Udio operatora pokretnih komunikacijskih mreža obzirom na broj korisnika*, [https://www.hakom.hr/UserDocsImages/2016/e\\_trziste/GOD%20HRV%202015\\_Tržišni%20udio%20prema%20broju%20korisnika\\_pokretna.pdf](https://www.hakom.hr/UserDocsImages/2016/e_trziste/GOD%20HRV%202015_Tržišni%20udio%20prema%20broju%20korisnika_pokretna.pdf), [accessed 15.09.2016].

ICT Business. (2015). *Ulaganja i konsolidacija obilježavaju telekom tržište*, <http://www.ictbusiness.info/telekomunikacije/lucic-ulaganja-i-konsolidacija-obiljezavaju-telekom-trziste>, [accessed 12.09.2016].

ICT Business. (2016). *KOMENTAR: Optima, H1 Telekom i HT-sinerģija na nov način*, <http://www.ictbusiness.info/kolumne/komentar-optima-h1-telekom-i-ht-sinerģija-na-nov-nacin>, [accessed 12.09.2016].

Lider media. (2016). *Kakva su prava potrošača telekomunikacijskih usluga u Hrvatskoj?*, <https://lider.media/aktualno/biznis-i-politika/hrvatska/kakva-su-prava-potrosaca-telekomunikacijskih-usluga-u-hrvatskoj/>, [accessed 15.09.2016].

Ljubi, I. (2007). Primjena agenata u telekomunikacijskim sustavima s arhitekturom orijentiranom usluzi, *Zavod za telekomunikacije, Fakultet elektrotehnike i računarstva, Sveučilište u Zagrebu*, [https://www.fer.unizg.hr/\\_download/repository/kvalifikacijski-ljubi.pdf](https://www.fer.unizg.hr/_download/repository/kvalifikacijski-ljubi.pdf) [accessed 15.09.2016].

Podobnik, V. (2007). Agentsko elektroničko tržište telekomunikacijskih usluga u novoj generaciji mreže, *Fakultet elektrotehnike i računarstva Sveučilšta u Zagrebu*, [http://www.fer.unizg.hr/\\_download/repository/Kvalifikacijski\\_doktorski\\_ispit\\_-\\_Vedran\\_Podobnik.pdf](http://www.fer.unizg.hr/_download/repository/Kvalifikacijski_doktorski_ispit_-_Vedran_Podobnik.pdf) [accessed 15.09.2016].