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THE RELATIONSHIP BETWEEN ONLINE RATING, HOTEL STAR CATEGORY AND ROOM PRICING POWER

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Abstract

In the digital way of doing business we see a substantial rise of online customer feedback and customer information sharing communities. The role and importance of social media has considerably increased in the past several years and businesses can no longer overlook its impact. For companies, the acceptance of such sources are not only tangential rather they are becoming central in how they approach their operations. Numerous web based platforms that include social networking, online communities and review sites are critical reference points for companies while deciding how to structure and price their products and services. The tourism and hospitality industry is no exception to this phenomenon, as a matter of fact, it is at the very forefront of this new trend that we are observing. Some of these sites are more popular than others, such as TripAdvisor, Booking.com, Travelocity or Expedia but all of them affect how service providers conduct their business, specifically in the area of pricing. The aim of this paper is to examine and quantify the relationship between customer online rating, hotel category and room pricing power in hotel industry. Findings

suggest that there is a statistically significant relationship between hotel star category, online rating and service provider's room pricing power. Moreover, results indicate a strong correlation between TripAdvisor and Booking.com online customer reviews, suggesting that contrary to popular beliefs, TripAdvisor is as reliable as Booking.com.

Keywords: *electronic word-of-mouth, pricing power, hotel star category, online rating*

1. INTRODUCTION

The main motivation of this research is to examine how hotel star rating, online reviews and room pricing power are related to each other. There was a need to conduct this research since we have noticed a lack of proper analysis with the aforementioned focus and some of the fundamental relations including whether there are any benefits of investing in hotel star rating in order of attaining better room prices. One research that attempted to examine some of these relations was done by Ilieva and Ivanov (2014) and we have decided to extend the understanding of these relations with our research and the focus on hotels from Dubrovnik-Neretva County.

The whole area of real-time sales communications and availability of new online reviewing opportunities for customers is seriously affecting the business practice of all hotels that are using Internet as their sales channel. Therefore, the authors believe, that the topic as such deserves additional and appropriate attention. Customers progressively rely on substitute sources of evidence such as "online word of mouth". Researchers have proven that customer produced service or product information on the Internet draws more attention than seller information among customers (Bickart and Schindler 2001). In comparison to product reviews provided by service or product providers, customer feedback is by definition, more customer oriented. Customers portray the product in terms of alternative usage situations and assess it from the user's perspective (Chen and Xie 2008). Even though customer evaluations are subjective in nature, such assessments are repeatedly considered more reliable and trustworthy by customers than conventional sources of information (Bickart and Schindler 2001).

2. ELECTRONIC WORD-OF-MOUTH

Electronic word-of-mouth is defined as a positive or negative statement made online by potential, actual or former customers regarding goods and services (Hennig-Thurau et al., 2004). There are other terms that are closely related to electronic word-of-mouth such as online customer community or user-generated content. The underlining characteristics for all of them are that they became a major source of information for travel consumers: individuals are

increasingly utilizing information from these websites to make travel-related decisions and to shape perceptions and images about destinations and travel offerings (Fotis, Buhalis, and Rossides, 2012; Cox et al., 2009). Cheung, Lee and Rabjohn (2008) described the term:

[...] electronic word-of-mouth can also be considered as the extension of traditional interpersonal communication into the new generation of cyberspace(2008, p.231).

The most famous and well known online customer feedback communities that deal with hotel recommendations are TripAdvisor, Expedia, and Booking.com (Gal-Oz, Grinshpoun and Gudes, 2010). However, Stebbins (2015) argues that TripAdvisor is not a reliable source since anyone can post and rate any company regardless whether they experienced their services or not since they do not need to verify their status when it comes to actual service consumption. That increases the risk of competitors posting negative comments and negatively rating a company that they are competing against, or we may have a unfair practice where individuals positively comment and rank the service provider even though he or she did not experience the service.

Stebbins (2015) suggests that Expedia and Booking.com are more reliable online feedback platforms compared to TripAdvisor, because of utilization of security policies that only allow actual/verified customers to comment and rank.

Due to services being intangible and perishable, potential customers are relying more and more on electronic word-of-mouth [eWOM] to get an insight in value of services (Park and Lee, 2009). Yoo and Gretzel(2011) show the importance of electronic word-of-mouth in bookings through their survey which shows that more than 74% of travelers take in the consideration online comments when planning a trip. Also, Zhu (2010) revealed in his study that electronic word-of-mouth is significantly influencing customers purchasing decisions. Moreover, there are authors that claim that customers are more influenced by early negative reviews (Sparks and Browning, 2011).

When researching word-of-mouth, Mahajan described two metrics: *volume* and *valence* of reviews (Mahajan et al., 1984). Volume tends to be described as amount of customer to customer communication and valence as rating values towards products (Neelamegham and Chintagunta, 1999; Liu, 2006). Valence shows the quality of goods and services based on customers' preferences (Duan et al., 2008). Valence has a substantial impact on customers' purchasing decision because they perceive word-of-mouth as trustworthy information (Grewal et al., 2003). The more reviews there are, the overall rating will be a better indicator of quality (Chen et al., 2004).

Electronic word-of-mouth is particularly important for hotels since they offer experience goods instead of search goods (Ye et al., 2009). Former researchers claim that customers are more influenced by word-of-mouth

regarding experience goods (Park and Lee, 2009; Senecal and Nantel, 2004; Weather et al., 2007). Chevalier and Mayzlin claim any publicity is not necessarily good publicity. They proved that very low ratings affect customers' purchasing decision more than high ratings (Chevalier and Mayzlin, 2006).

To support this theory, the impact of hotel average rating on booking was investigated. Findings suggest that hotels with higher average rating have more bookings than those who have low average rating (Ye et al., 2011). However, the research conducted was limited in scope (sample) so the results may not be generalized.

3. ROOM PRICE AND NEW CHANNELS OF SALES

According to Völckner and Hoffmann (2007) *cue utilization theory* in tourism suggests that consumers infer information from product-related attributes at first and when faced with uncertainty consumers will more likely rely on information cues related to quality. Moreover, informational effect of price suggests that higher price implies higher quality that should make purchasing more likely to happen (Völckner and Hoffmann, 2007). However, signaling theory suggests that when the customer is faced with choice between two vendors, she will choose an inferior one. Qi and Qiang (2013) suggest that in order to avoid such an outcome superior companies need to send the right *signal* to their customers. Furthermore, the suggestion is that the right *signal* can be a good reputation which leads to brand recognition and customer loyalty. Vermeulen and Seegers (2009) support this suggestion particularly in the hotel industry, as the guests of hotels with strong brand recognition are less affected by negative word-of-mouth.

Consumer purchase behavior involves consumer's attitudes, preferences, intentions, and decisions regarding the consumer's behavior in the marketplace when purchasing a product or service (Velumani, 2014). Dubois and Laurent (1994) emphasize emotional responses while using a product which shape purchasing behavior. When customers feel happiness, excitement or fun they will not mind high prices of products. Since staying at the hotel is perceived as a hedonistic experience that can cause feelings of happiness, excitement and fun, where guests are less likely to engage in decision making based on price. However, higher price is related to higher risk as well. To reduce the risk, guests will rely on electronic word-of-mouth to check whether price ensures a quality (Wang et al. 2013). A study conducted by Anderson argues that:

[...] if a hotel increases its review scores by 1 point on a 5-point scale (e.g., from 3.3 to 4.3), the hotel can increase its price by 11.2 percent and still maintain the same occupancy or market share. By matching ReviewPRO's Global Review Index™ with STR's hotel sales and revenue data, a regression analysis finds that a 1-percent increase in a hotel's online reputation

score leads up to a 0.89-percent increase in price as measured by the hotel's average daily rate (ADR). Similarly, this 1-percent increase in reputation also leads to an occupancy increase of up to 0.54 percent. Finally, this 1-percent reputation improvement leads up to a 1.42-percent increase in revenue per available room (RevPAR) (2012, p. 5).

On the other hand, these finding can go both ways, meaning that low ranked hotels have to decrease their prices in order to maintain the same occupancy rate (Anderson, 2012).

4. PRICING POWER

Diana-Jens and Ruibal (2015) deem that price is one of the most significant variables in the business marketing strategy, since even a slight price change can have a critical impact on the hotel's bottom line. Therefore, revenue managers and revenue management in general must consider prices and inventory very diligently in order to optimize revenues through the correct distribution channel.

Today's business environment, and hotel industry in particular, is described as highly competitive. With the introduction of customers as an active factor of opinion and buying decision making process, corporate price policies are under further pressure bynot being able to exercise their traditional price strategies and approaches. The company's ability to raise the price of a product without affecting its demand is traditionally defined as pricing power (D'Aveni, 2010). It is expected that with the increased transparency in pricing strategies, companies with low pricing power will primarily depend on outside factors, such as aggressive competitors and customers (Cooper, 2011) which may significantly weaken their ability to attain their business objectives. Rare events can increase demand in hotels noticeably, such as World Cups, the Olympics, religious or political conventions or the like. Consequently, during those events, hotels can increase their prices significantly without disturbing occupancy level. However, there is an emergence of competitors traditional and non-traditional, that pose a threat to pricing power in hotels (Karmin, 2015).

5. HOTEL STAR RATING

According to Qi and Qiang (2013), star rating has similar effect on pricing as electronic word-of-mouth because it is an indicator of quality and a measurement of level of facilities and service standards. However, star rating is different from brand recognition and reputation. Hotels with higher star ranking are usually higher priced and guests have to review the tradeoff between benefits and costs. Besides, there are hotels with lower star ratings that have a good

reputation and brand recognition. Furthermore, Qi and Qiang suggest that since guests have less information about hotels with lower star ratings, electronic word-of-mouth is more influential. Also, customers expect hotels with high star ranking to have higher quality so they will not necessarily need to review other's feedback (Qi and Qiang, 2013).

Hotel star rating systems are meant to provide an accurate and objective assessment of accommodations according to established criteria and guidelines yet Grossman (2004) argues that one must be very careful with star rating systems and its weight on decision making since different websites offer different star ratings, even for the very same hotel. In his study, he revealed that nine different websites gave diverse information about star rating of the same hotel. According to this author, most ratings systems are poorly or completely unregulated, rendering them almost completely worthless. The study further suggests that different set of rules and measures for determining hotel star rating are becoming less reliable. In the research done by Agarwal (2012), it was evident that five different countries have vastly different star rating systems and therefore these are becoming less dependable as a critical guideline of purchasing decision made by customers. There are efforts, such as Hotrec's ('Hotrec, hotels restaurants' 2015) representing the hotel, restaurant and cafe industry in Europe, to try and create a system of hotel star rating that should truly be a standardized methodology across European countries. The initiative hopes to reduce the star rating confusion and offer more transparency in how hotels are presented to customers. With all its potential problems, hotel star rating still represents a major factor for both customers and service providers and major investments in star category upgrades are considered important.

6. METHODOLOGY

The aim of this study was to explore the interaction between hotel star ratings, online WOM (specifically, average scores of online customer reviews), and pricing in the hotel industry. Publicly available data about all hotels operating in Dubrovnik – Neretva County was obtained through the official website of the Croatian Ministry of Tourism. For the purpose of this research, only three, four and five star hotels were included. Out of 69 hotels in total, seven hotels had to be excluded from the analysis as the required data was unavailable. Since room price is classified information, publicly available room price was examined, by looking at average prices of hotels in November of 2015 for the period from 11th to 18th of June 2016. The price of the hotel includes 2 beds/room and a breakfast. That specific information was obtained through the *Kayak.com* webpage. That time period was chosen as it is neither high season or low season and the assumption was that it can stand as a good estimate of average price.

Online customer reviews/ratings were collected from *TripAdvisor.com* [TAC] and *Booking.com* [BC]. Both sites provide the data on the average review score for hotels, yet different types of ratings are used. TAC offers the opportunity to rate hotels on a scale from 1 (terrible) to 5 (excellent). Booking.com rates hotels on a scale from 1 to 10, assuming 1 is the worst and 10 is the best grade. As both sets of ratings were crafted in a manner for semantical distance between consecutive levels to be kept roughly constant primarily treated as continuous variables. Data was collected by comparing reviews from the past against room pricing in the future. The implicit assumption in this analysis was that the hotels are not significantly modifying their product in the off-season, giving them reason to raise prices. Big off-season upgrades might give hotels a reason, not reflected in their current reviews, to upgrade prices.

Additional assumption was that the hotels were pursuing revenue maximization strategies (ADR and/or RevPar) as opposed to occupancy building strategies where hotels were not engaging in aggressive pursuit of price penetration strategy to increase occupancy that would cause their online prices to be somewhat disconnected from their online ratings.

7. RESULTS

Out of 62 hotels for which the data was collected, 30 were three star hotels (48,4%), 17 four-star hotels (27,4%) and 15 five star hotels (24,2%). In terms of size of hotels, three star hotels examined ranged from smallest three room hotel to the largest three-star hotel with 338 rooms available, four star hotels included a range from smaller 8 room hotels to largest 385 rooms hotel, and five star hotels included a range from smaller 12 room hotels to largest 480 rooms hotel.

In terms of numbers of reviews on TAC, the number of reviews for three star hotels ranged from minimum of two reviews per hotel to the maximum of 710 reviews, for four star hotels minimum number was 52 reviews per hotel and maximum 1643 per hotel, and for five star hotels minimum was 234 reviews per hotel and maximum 2078 reviews per hotel. In terms of numbers of reviews on BC, number of reviews for three star hotels ranged from minimum of six reviews per hotel to the maximum of 1535 reviews, for four star hotels minimum number was 33 reviews per hotel and maximum 1189 per hotel, and for five star hotels minimum was 70 reviews per hotel and maximum 1582 reviews per hotel. For the purpose of data analysis conducted here, the average score review score for hotels retrieved from TAC and BC was used.

As noted, the reliability of *TripAdvisor.com* ratings tend to be questioned, as the site does not control whether the reviewer actually experienced the service, whereas *Booking.com* scores are perceived as more reliable precisely as such control is embedded in the review system. Spearman's rank-order correlation was run to determine the relationship between grades hotels received on these two sites.

There was a strong, positive correlation between the grades on various sites, which was statistically significant ($r_s(60) = .717, p < .001$). Given the strong correlation, composite variable for ‘eWOM rating’ was calculated. Given the nature of the data, and the important distinction to be observed in this variable, though this is not without controversy, median split was applied to generate one categorical variable, grouping the ratings into a higher and lower category. An additional problem with the data initially retrieved regarded the unequal sample sizes in terms of hotel star rating category; the results of Levene’s test were indicative that the homogeneity of variances assumption was not violated ($F=1.49, p=.21$). Star rating was expected to have an effect on pricing, and the two-way analysis of variance was conducted to check whether that effect is equal at all levels of the online rating variable. As expected, there was a significant main effect for star rating on pricing ($F(2,47) = 12.475, p < .001$), such that the pricing was significantly higher in five star hotels ($M=186.34, SD=16.36$), than in four star hotels ($M=135.82, SD=11.48$), or three star hotels ($M=91.15, SD=10.70$).

Table 1.

Star Rating Pairwise Comparisons

(I) Star rating	(J) Star rating	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval for Difference ^b	
					Lower Bound	Upper Bound
3*	4*	-44,671*	15,691	,007	-76,237	-13,105
	5*	-95,194*	19,547	,000	-134,517	-55,870
4*	3*	44,671*	15,691	,007	13,105	76,237
	5*	-50,523*	19,986	,015	-90,729	-10,317
5*	3*	95,194*	19,547	,000	55,870	134,517
	4*	50,523*	19,986	,015	10,317	90,729
Based on estimated marginal means, dependent variable: Publicly available ADR in USD 11.-18.06.2016.						
*. The mean difference is significant at the ,05 level.						
b. Adjustment for multiple comparisons: LSD.						

Source: authors' research

Arguably, a more interesting result obtained is that there was a statistically significant interaction between the effects of star rating and the effect of customer online rating with regard to pricing data, $F(2, 47)= 4.641, p=.014, \eta^2=.165$.

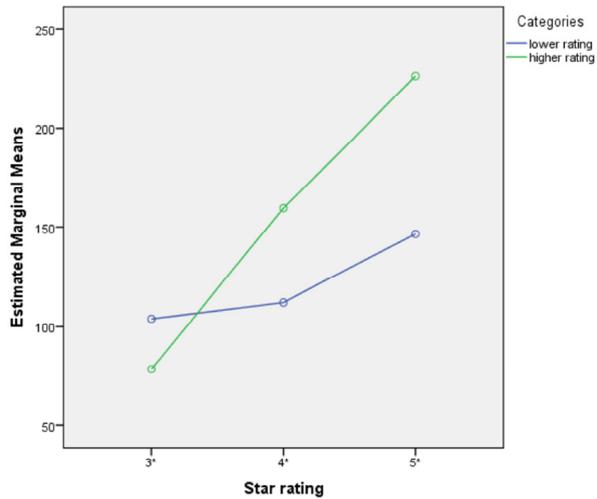


Figure 1 Estimated Marginal Means of Publicly Available ADR (in USD)

Source: authors' research

Table 2

Tests of Between-Subjects Effects

Dependent Variable: Publicly available ADR in USD 11.-18.06.2016.						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	133652,442 ^a	5	26730,488	14,753	,000	,611
Intercept	602308,662	1	602308,662	332,432	,000	,876
Star rating	45203,311	2	22601,655	12,475	,000	,347
Ratings cat	9139,245	1	9139,245	5,044	,029	,097
Star rating * Ratings cat	16818,286	2	8409,143	4,641	,014	,165
Error	85155,671	47	1811,823			
Total	1269683,000	53				
Corrected Total	218808,113	52				
a. R Squared = ,611 (Adjusted R Squared = ,569)						

Source: authors' research

Intriguingly, for three star hotels, hotels with lower ratings were higher priced, but the difference in pricing for hotels with higher and lower online ratings for the three star hotels was not significant.

Table 3

Star rating* - Online rating

Dependent Variable: Publicly available ADR in USD 11.-18.06.2016.					
Star rating	Categories	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
3*	lower rating	103,895	9,765	84,250	123,540
	higher rating	78,400	19,036	40,105	116,695
4*	lower rating	112,000	19,036	73,705	150,295
	higher rating	159,636	12,834	133,818	185,455
5*	lower rating	146,500	30,098	85,950	207,050
	higher rating	226,182	12,834	200,363	252,000

Source: authors' research

There is a statistically significant difference in pricing for hotels with higher and lower online ratings for the four star hotels ($F(1, 47) = 4.305, p = .04, \eta^2 = .09$), and for five star hotels, $F(1, 47) = 5.93, p < .02, \eta^2 = .11$, with hotels with higher ratings in both categories being more expensive.

8. CONCLUSION

The intention of this research was to explore the relationship between star rating, online reviews and room pricing power. Lately we are witnessing the debate on continuous quality improvements with regard to hotel services offered, where star rating is viewed as one of the key factors in how quality is measured and perceived. The decision of investing in hotel star rating in order to attain better room prices is ultimately based on the cost-benefit analysis of each individual hotel with evidence showing that such investments are worth making yet some overall conclusions are still elusive in hotel star rating relation with customer's perception of the actual service being delivered.

As anticipated, star rating had a significant main effect on pricing, such that the pricing was significantly higher in five star hotels than in four star hotels or three star hotels. This result may not and should not be a surprise but in this paper this was just a starting point with an additional construct being introduced, customer's feedback. With online reviews as the third element included in the model, results reveal that hotel's higher star rating implies higher online review and, ultimately, hotel's higher online reviews are positively related to higher pricing power. We may attribute this to the customer's post purchase behavior as related to upscale purchases versus less upscale purchases where down-market customers are more critical in their reviews. The argument is that buyers of cheaper products, knowing that they are buying a cheaper or less expensive version of the product/service, are more likely to be looking for faults with the product/service than those who buy a costlier version. The concept may work the other way around as well, i.e. customers using upscale product/service could idealize the fact that they stayed in a 5-star hotel.

Another suggestion may be that even though customers were satisfied with services they received in 3-star hotels, they would still be unwilling to give the highest rating possible due to unconsciously comparing it with 5-star hotels. The question here is whether cognitive dissonance can be applied to hotel rooms since the counter argument may be that this is a neutral or irrelevant point because down-market customers may lack exposure to other, better, upscale hotels and therefore this should not affect their review within the market segment that they are usually consuming. This represents a potential area of future research where guests would share their hotel or star rating preference or star rating experience exposure. Additionally, this study did not take into consideration the origin or country of residence of online reviewers. This represents another potential topic since people from different countries do not have uniform opinions or ideas as to what 3-star or 5-star hotels should provide. Potentially, one can survey people from all around the world to see what they consider a 3-star hotel looks like and do the same for 5-star hotels where it might be discovered that the conception of 5-star service is more uniform than that of 3-star service.

Additional interesting outcome that is worth commenting is that within the cluster of hotels that are categorized as 4-star and 5-star hotels we saw a statistically significant difference in pricing for hotels with higher and lower online ratings, with hotels having higher ratings in both categories being more expensive. This leads to a conclusion that those hotels that receive more favorable customer reviews have a higher pricing power even within their own cluster and consequently they have the ability to increase the room price. This finding is in line with research conducted by Anderson (2012). The aforementioned notion was not replicated with 3-star hotels. In the 3-star hotels cluster, hotels with lower ratings were those higher priced. The explanation may be that those who were booking 3-star hotels were predominantly price-driven and that reviews were not reflecting the actual service received.

One of the research results also indicates a positive correlation between two major online travel review web sites, TripAdvisor and Booking.com, which initially was not anticipated. As mentioned, TripAdvisor is not perceived as a reliable source of data due to lack of customer review validation procedure. However, these results suggest that TripAdvisor is as reliable as Booking.com (that has customer review validation procedure). This result is highly important for those who plan their trips via TripAdvisor and search for more information regarding hotels on that website.

Another limitation of the study was that authors did not have access to business mix models that hotels are employing and where distribution of group and individual guest arrivals were visible, nor were the hotel occupancy levels available. This situation might have affected the results of the research. Hypothetically, the online price of hotels highly booked with groups would probably reflect a price skimming strategy and not truly reflect the value suggested by the online review ratings. In contrast, hotels with no group business and the same online rating, would probably set prices lower than hotels with group arrivals.

Future research may include analysis of 3-star hotels not being reported as good by linking it to hotel ownership, i.e. the study could explore and compare government and privately owned, independent and chain, domestic and foreign hotels, to investigate whether these factors would determine and influence rankings and pricing. Overall, authors believe that there are numerous pathways that still need to be explored within this area. Additional answers and better understanding of these concepts would help industry experts and academic community alike.

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ODNOS IZMEĐU ONLINE OCJENE, KATEGORIJE HOTELA I POTENCIJALA ZA ODREĐIVANJE CIJENA SOBA

Sažetak

U vrijeme digitalizacije poslovanja svjedočimo porastu i važnosti povratne informacije klijenata i zajednica u kojima klijenti razmjenjuju informacije. Uloga društvenih medija značajno je porasla u posljednjih nekoliko godina, te poslovne tvrtke ne mogu više zanemarivati njihov utjecaj. Takvi izvori nisu više samo usputni, već u središtu pažnje tvrtki u razmatranju poslovnog pristupa. Brojne internetske platforme koje uključuju društveno umrežavanje, online zajednice i stranice koje objavljuju recenzije postale su kritične referentne točke tvrtkama pril odlučivanju o strukturi i cijeni proizvoda i usluga. Turistička i ugostiteljska industrija nije iznimka, već je predvodnik ovog novog trenda. Neke od ovih stranica popularnije su od drugih, poput: TripAdvisor, Booking.com, Travelocity ili Expedia, ali sve utječu na način na koji pružatelji usluga vode svoj posao, posebice prilikom određivanja cijena. Cilj ovog rada je istražiti i odrediti odnos između online ocjene klijenta, kategorije hotela i potencijala za određivanje cijena u hotelskoj industriji. Rezultati istraživanja upućuju na postojanje statistički značajne povezanosti između kategorije hotela, online ocjene i potencijala za određivanje cijena. Osim toga, rezultati pokazuju značajnu povezanost između TripAdvisor i Booking.com online recenzije klijenata, što pokazuje da je, usprkos uvriježenom mišljenju, TripAdvisor jednako pouzdan kao i Booking.com.

Ključne riječi: elektronska usmena predaja, potencijal za određivanje cijene, kategorija hotela, online ocjena.

JEL klasifikacija: M14, M31, J24, L86