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SOCIO-ECONOMIC CHARACTERISTICS OF FORESTRY COMPANIES IN THE REPUBLIC OF SERBIA

SOCIO-EKONOMSKE KARAKTERISTIKE ŠUMARSKIH PODUZEĆA U REPUBLICI SRBIJI

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SUMMARY

Considering that companies in the sector of forestry and the related sector of wood processing exist in a dynamic and changing economic environment, the ability of fast adaptability to the emerging changes is a prerequisite for efficient and effective business. In that sense, a wholesome review of internal factors, as well as the external ones, is important for creating business strategies and achieving a better market and competitive positioning. In order to provide insight into the socio-economic characteristics and the market environment in which they operate, 32 companies from the field of forestry and wood processing in the central Serbia have been analysed. The goal of this research was to gain insight into the opinions and attitudes of the respondents from companies towards particular aspects of the market. The purpose of this research was to acknowledge and understand the market environment in which the analysed companies operate, and to define the recommendations for future management. The object of this research were companies in the field of forestry and wood processing, the opinions and reviews on raw material purchase, product placement, attitudes towards purchase procedures and so on.

KEY WORDS: forestry; companies; socio-economic characteristics; SWOT, A'WOT

INTRODUCTION
UVOD

Despite the increasing importance of the ecological functions of forests, wood remains the primary forest product (Danilović, Gačić, 2014). The use of wood and non-wood forest products for commercial and non-commercial purposes has a long tradition in Serbia (Keča *et al.*, 2015), although it accounts for only 0.2% of Serbia's GDP. Wood processing accounts for 0.3%, furniture industry for 0.4% and paper and cellulose industry for 0.5% of Serbia's GDP (2017). Apart from furniture, sawn timber represents the most important timber product of wood processing industry (Tillman, 2013; Wieruszewski *et al.*, 2017).

In line with the transition processes, particular economic and political reforms have had impact on the forestry sector as well. One of the changes is reflected in the development of small and medium companies (Ranković *et al.*, 2011). It is estimated that sawmills account for 63% of the total number of wood processing companies in Serbia (PKS, 2017). Based on data from 2020, 3,734 companies based on forest resources have been operating in Serbia, employing 52,041 workers (RAS, 2020, Nedeljković *et al.*, 2021).

The total area of forests in Serbia is 2,252,400 ha, which is 29.1% of the total area of the territory of Serbia (the data does not include the territory of Kosovo and Metohija) (Banković *et al.*, 2009). The contribution of the wood pro-

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cessing sector to Serbia's GDP is lower than its potential. In addition, the export of products with low added value is particularly emphasized, in addition, utilization of production capacities is weak. Taking into account that the work of forest companies is limited by regulations and dynamics in forest cultivation and exploitation, it can be said that the production of wood assortments is seasonal and often cannot supply the increased demand in certain parts of the year (Posavec, Beljan 2013). Due to obsolete and low production, as well as the lack of capacity and underdeveloped production at higher stages of processing, the total income generated in the wood processing sector, given the potential of raw materials, is relatively low (Pirc *et al.*, 2010).

Wood products, which are a result of primary processing, are intended for further processing, and such products are purchased to satisfy the needs of the production process (Blythe, 2006). The market of wood forest products can be defined as a B2B (business to business) market (Leban *et al.*, 2019), where companies purchase raw materials with the intention of their further sale or the production of other products (Salai, Božidarević, 2001; Milisavljević *et al.,* 2004; Hillebrand *et al.*, 2011; Kotler, Pfoertsch, 2006; Gligorijević 2007; Kotler *et al.*, 2007; Hutt *et al.*, 2012; Lamb *et al.*, 2013). Such market is characterized by "derived demand" where the demand for raw materials is conditioned by the requirements and needs of final consumption (Kotler *et al.*, 2006; Kotler *et al.*, 2007; Kotler, Keler, 2008; Gligorijević, 2011; Lamb *et al.*, 2013; Aleksić, 2015; Jokić, Jevtić, 2017).

The **goal** of this research was to gain insight into the opinions and attitudes of the respondents from companies towards particular aspects of the market. In this way, the macroeconomic environment and the influence of internal and external factors on the operations of the analyzed companies were recognized. The **purpose** of this research was to acknowledge and understand the market environment in which the analysed companies operate, and to define recommendations for future management. The **object** of this research were companies in the field of forestry and wood processing, the opinions and reviews on raw material purchase, product placement, attitudes towards purchase procedures and so on. Apart from that, another object of this research were attitudes towards market opportunities in Serbia, as well as the strengths, weaknesses, opportunities and threats in business. The research was conducted during 2019/2020 and included 32 companies in the field of forestry and wood processing from central Serbia.

The criteria for the selection of companies were to: belong to the private sector; belong to the category of small and medium companies (based on the number of employees); purchase raw materials (more than 50%) from state forests; purchase beech and/or oak and/or poplar. These criteria were chosen because such companies are dominant in the analyzed area and well represent the sample in entrepreneurship based on forest resources.

MATERIALS AND METHODS
MATERIJALI I METODE

Along with descriptive statistics and the classic inference methods such as analysis, synthesis, induction and deduction, SWOT and AHP analysis were used. For the purposes of this research a survey was created, consisting of facts, intentions and opinions of the respondents (Hanić *et al.*, 2010). In combination with a structured interview, a survey for authorized personnel of the analysed companies was conducted. The first part of the survey included basic information about the company, such as: type of ownership, location of the company, the number of employees, gender, education and age structure of the employees. Furthermore, it included questions of whether raw materials are supplied only from "Srbijašume" public enterprise and/or from other sources, what are the final products placed on the market, and on which markets they are placed (national, regional and/or international). On the other hand, the method of distribution on both the domestic and international markets of export-oriented companies was examined, with an indication of the countries in which the products are placed. The last question in the first part of the survey targeted the problems in business that the companies encounter. The second part of the survey focused on the respondents' opinions and attitudes towards particular market characteristics of the companies. For that purpose the Likert scale was used (Havelka *et al.,* 1998; Malhotra, 2007; Aker, 2008), ranging from mark 1 to 10, where 1 represented complete dissatisfaction, and 10 represented exceptional satisfaction concerning the given question. The questions were oriented towards the assessment of satisfaction in terms of quantity, quality and price of raw materials they purchase, the complexity of the purchase procedure, but also in terms of the product placement on the domestic and international markets. In the next step, the respondents assessed the competition, market activities conducted by the companies to promote themselves and the satisfaction with the current market share of the company. The third part of the survey included goals of the companies. In accordance with that, with marks 1-5 the respondents expressed their attitude towards the companies' orientation to increasing market share, sales growth, customer and employee satisfaction, the development of the municipality through employment of local population and so on. Prior to the final survey, a pilot survey was conducted in which particular questions, where necessary, were improved, and the corrected form of the survey was then used in further research.

Descriptive statistics was calculated for the observed variables – the number and percentage for categorical variables, and the mean, standard deviation, minimum and maximum for numeric variables. For each characteristic from the scales – company goals, strengths, weaknesses, opportunities and threats, in addition to the number and percentage for marks

1-5 – the median was calculated as a measure of central tendency and mod (the most frequent mark). For each scale Cronbach's coefficient alpha was calculated as the measure of internal consistency and unique mark of scale reliability (Eisinga *et al.*, 2013). If the coefficient's value is greater than 0.7, it is defined as "accepted", and above 0.8 as "good" (Malhotra *et al.*, 2006; Ivy, 2008; Grubor, 2012). Also, for each scale the median mark by the respondents was calculated.

In the next step a SWOT matrix including the following elements was created: strengths and weaknesses (internal factors), and opportunities and threats (external factors) (Kotler *et al.*, 2007). SWOT analysis is a tool used in strategic planning and management in organizations (Helms, Nixon, 2010; Kajanus *et al.,* 2012). The concept of the SWOT analysis is based on recognition and usage of one's own strengths and opportunities from the surroundings, as well as one's own weaknesses, external threats and the reactions to them (Lovreta, 2004; Milisavljević *et al.*, 2004; Schmithüsen *et al.*, 2006). In each part of the SWOT matrix, optional answers were offered, to which the respondents gave a mark of 1-5. In case that the respondent did not recognize some optional strengths, weaknesses, opportunities and threats in the company's business, no mark was given. Also, for each of the four elements blanks were left so that the respondent could individually write the internal and external elements of the SWOT matrix. Since the SWOT analysis does not enable measurements and estimations, the research was integrated with the Analytical Hierarchy Process (AHP) (Saaty 1988; Stojčetović *et al.,* 2016; Abdel-Basset *et al.*, 2018; Ahmed *et al.,* 2019), which represents one of the most common tools in multi-criteria decision-making (Vaidya *et al.,* 2006; Bayram, Üçüncü, 2016).

AHP is a technique for dissolving a complex problem into a hierarchy (Ramlan *et al.,* 2016). On the first level in the hierarchy is the goal, while the criteria, sub-criteria and alternatives are on the next level. AHP is in principle flexible because it offers a solution for relatively complex problems with many criteria and alternatives to relatively easily find relationships between influencing factors recognize their explicit or relative importance and determine the dominance of one factor over another (Atthirawong, McCarthy, 2002). Based on the formulated hierarchy model of the problem, the decision-maker compares the elements in pairs on every level of the hierarchy in relation to the elements on the higher level. This way, the weighting coefficients of all elements are obtained, which is the basis for the evaluation of alternatives. For the decision-maker, the weighting coefficient represent the measure of relative importance of elements (Forman, Gass, 2001; Russo, Camanho, 2015; Karthikeyan *et al.*, 2016; Taherdoost, 2017). By integrating the AHP model in the already formulated matrix with five dominant characteristics regarding strengths, weaknesses, opportunities and threats, a detailed evaluation of every element within the matrix could be achieved (Elwakil, 2016; Taherdoost, 2017; Goepel, 2018). In this way, it was possible to identify the factors according to which it is necessary to direct actions, with the aim of overcoming the internal weaknesses of the company or acting preventively towards the identified dangers.

All the tables below represent the results of the research, based on the collected surveys.

RESULTS AND DISCUSSION
REZULTATI I DISKUSIJA

Descriptive statistics (number and percentage) of ownership, type of respondents, location of the company, number of employees and season workers are shown in Table 1.

Out of the analysed companies, 96.9% are privately owned. Companies are mostly situated outside of the cities, which is justified by the intention that the location of the company and processing industry is near the raw material base. The majority of the companies (40.6%) employ 51-250 employees, and only a small percent of them employ season workers (3.1%). Companies from the field of wood processing mostly belong to the category of small and medium enterprises, which are mostly oriented towards the production of sawn timber (Marčeta *et al.*, 2018). Small and medium enterprises in forestry and wood processing are an important factor in rural areas (Šporčić, 2018; FAO/UNECE, 2020; Mijoč *et al.*, 2021), especially due to the fact that they create employment opportunities for the local population (Jelić, Jovanović, 2018), which is why they represent the link between forestry and the wood industry (Ranković *et al.*, 2012).

The average number of employees is 112 (Table 2). The average percentage of women is 23.3% and men 76.7%, which indicates the predominance of the male population in the

Table 1 Statistics of individual company characteristics
Tablica 1. Statistika pojedinih obilježja tvrtki

	Ownership / *Vlasništvo*		Type of respondents / *Tip ispitanika*				Location of the enterprise / *Lokacija tvrtke*		Number of employees / *Broj zaposlenih*				Season workers / *Sezonski radnici*	
	Public / *Državno*	Private / *Privatno*	Director / *Direktor*	Manager / *Poslovođa*	Owner / *Vlasnik*	Employed / *Zaposlen*	City / *Grad*	Other settlement / *Ostala naselja*	1–10	11–50	51–250	> 250	Yes / *Da*	No / *Ne*
%	3.1	96.9	37.5	3.1	31.2	28.1	34.4	65.6	15.6	37.5	40.6	6.2	3.1	96.9

Table 2 Socio characteristics of the analyzed companies
Tablica 2. Sociološke karakteristike analiziranih tvrtki

Characteristic / *Karakteristika*	Average / *Prosjek*	St. deviatinon / *St. devijacija*	Minimum / *Minimum*	Maximum / *Maksimum*
Number of employees / *Broj zaposlenih*	112.1	298.4	4	1711
Percentage of women / *Postotak žena*	23.3%	18.1%	/	70.6%
Percentage of men / *Postotak muškaraca*	76.7%	18.1%	29.4%	100%
Degree of education / *Stupanj obrazovanja*				
Primary school / *Osnovna škola*	31.8%	27.4%	/	100%
High school / *Srednja škola*	60.3%	26.1%	/	100%
High school / *Visoka škola*	3.6%	4.5%	/	21.7%
Faculty / *Fakultet*	4.3%	6.2%	/	23.6%

analysed companies. Women mostly work in administrative and commercial positions, while they are much less directly part of the production process. Regarding the educational structure, on average 31.8% of employees had the educational degree of primary school, 60.3% high school, 3.6% college and 4.3.% university. The unfavourable educational structure is reflected through the more intensive use of manual work and production with characteristics of primary processing. When it comes to the employees with higher level of education, they mostly occupy leading and managerial positions. It was determined that 96.9% of companies purchase raw materials only from "Srbijašume" public enterprise, and 56.2% from "Srbijašume" public enterprise and other sources, such as from private individuals, import, "Vojvodinašume" public enterprise and the Faculty of Forestry (educational facilities).

A similar percentage the respondents rated the importance of increasing market share. Thus, 31.2% of respondents see it as an extremely important goal of the company, 28.1% as important, and 31.2% as neither unimportant nor important (Table 3). The importance of market share is certainly a significant component, especially when companies compete with similar products and target customer groups. The results for market share are similar to the results for profit. Therefore, 28.1% of the respondents believe the profit to be an important goal of the company, 31.2% believe it to be important and 34.4% think it is neither unimportant nor important. These results certainly express the view that profit represents the primary, but not the only motive for business of the analysed companies.

Regarding the development of the municipality through employment of the local population, 34.4% of the respondents consider this goal to be important, and 28.1% have a neutral attitude. These relationships indicate a partially developed awareness of the need for the development of local environment, through the individual contribution of each company (job creation), which indirectly affects the improvement of the population standards in these areas. In addition, 43.8% of the respondents consider sales growth to be an important goal, and 3.4% have a neutral position on the matter. The majority of the companies are oriented towards growth and development, and thus on the improvement of sales, while other companies tend to maintain the current level of sales and clients. The reason may be the lack of capacity with which companies could meet the demands of increased production and demand.

Customer satisfaction was evaluated by 50% of the respondents as an extremely important goal, and by 43.8% as important. This indicates that good business relations, in the form of customer satisfaction, are a prerequisite for good

Table 3 Company goals
Tablica 3. Ciljevi poduzeća

Company goals / *Ciljevi tvrtke*	Mark / *Ocjena* *					Median / *Medijana*	Mod / *Mod*
	1	2	3	4	5		
Increasing the market share of the company / *Povećanje tržišnog djela tvrtke*	/	9.4	31.2	28.1	31.2	4	3, 5
Profit / *Profit*	/	6.2	34.4	31.2	28.1	4	3
Development of the municipality through employment of the local population / *Razvoj općine kroz zapošljavanje lokalnog stanovništva*	6.2	18.8	28.1	34.4	12.5	3	4
Sales growth / *Rast prodaje*	/	/	34.4	43.8	21.9	4	4
Customer satisfaction / *Zadovoljstvo kupaca*	/	/	6.2	43.8	50.0	4.5	5
Employee satisfaction / *Zadovoljstvo zaposlenih*	/	6.2	18.8	21.9	53.7	5	5
Preserving the environment through socially responsible business / *Očuvanje okoliša kroz društveno odgovorno poslovanje*	/	3.1	18.8	28.1	50.0	4.5	5
Increasing production efficiency / *Povećanje učinkovitosti proizvodnje*	/	3.1	12.5	40.6	43.8	4	5

*1 – completely unimportant, 2 – unimportant, 3 – neither unimportant nor important, 4 – important, 5 – extremely important / *1 – potpuno nebitno, 2 – nebitno, 3 – ni nebitno ni bitno, 4 – bitno, 5 – vrlo bitno*

Table 4 Statistics of raw material purchase and production
Tablica 4. Statistika nabave sirovine i proizvodnje

TYPE OF TREE FOR PURCHASE / VRSTA DRVA ZA NABAVU	%*	PRODUCT / *PROIZVOD*	%**	PRODUCT / *PROIZVOD*	%**	PRODUCT / *PROIZVOD*	%**
Beech / *Bukva*	78.1	Furnir / *Veneer*	3.1	Crates / *Gajbe*	9.4	Panels / *Paneli*	3.1
Poplar / *Topola*	18.8	Rough lumber / *Oblice*	3.1	Chipboard / *Iverica*	6.2	Briquette / *Briket*	9.4
Oak / *Hrast*	18.8	Poles / *Stubovi*	6.2	Glued-laminated timber / *Lijepljene ploče*	3.1	Square edged timber / *Okrajčena građa*	9.4
Conifers / *Četinjače*	21.9	Pallets / *Palete*	9.4	Firewood / *Ogrjev*	3.1	Parquet elements / *Elementi za parket*	37.5
Black locust / *Bagrem*	6.2	Stripe / *Friza*	6.2	Board / *Daska*	25.0	Parquet / *Parket*	3.1
		Chip wood / *Sjeckano drvo*	3.1	Furniture / *Namještaj*	28.1	Pellet / *Pelet*	34.4

*The percentage represents the share of the analyzed companies in the purchase of certain tree species / *Postotak predstavlja udio analiziranih poduzeća u otkupu određenih vrsta stabala.*

**The percentages represent the share of the analyzed companies in the production of certain products / *Postotak predstavlja udio analiziranih poduzeća u proizvodnji određenih proizvoda.*

business and represent one of the most effective tools of promotion. As with the customer satisfaction evaluation, the largest percentage of respondents consider employee satisfaction (53.7%) and environmental protection through socially responsible business (50%) to be extremely important company goals. This emphasizes the development of the socio-ecological dimension in business and modern business concepts that companies have implemented in their business activities.

In addition, 43.8% of the respondents believe that increasing production efficiency is an extremely important goal, and 40.6% consider it important, which indicates the possibility of achieving business goals through the improvement of organizational processes. Cronbach coefficient alpha was 0.8, which indicates a good reliability of the company goals scale. The average mark by all respondents was 3.99, and standard deviation was 0.56. The lowest average mark was 2.6, and the highest 5.

As the main, commercially important wood products, beams, slabs and planks, i.e. sawn timber stand out (Owusu *et al.*, 2018), which, to a certain extent, coincides with the results of this research, where, in addition to sawn timber, parquet elements are also very important for the business portfolio of analysed companies.

The reason why share of different products are higher than 100% is because one company participates in several analyzed options. Regarding the representation in the forest fund, beech is purchased in the largest percentage (78.1%), followed by conifers (21.9%), and then poplar and oak (18.8% each). As for the company's products, the largest share occupies the production of parquet elements (37.5% of companies) and pellets (34.4%), followed by furniture (28.1%) and boards (25%) (Table 4). Taking into account the wide range of forestry goods and services, wood is still considered to be the main product due to its high economic and market value (Posavec, 2006; Sabadi, 2007; Danilović, Gačić, 2014; Posavec *et al.*, 2018; Mijoč *et al.*, 2021).

Fifty percent (50%) of companies sell their products on the domestic market, and 87.5% on the domestic and international market. Most of the companies that export wood place their products on the market in the countries of the European Union (75% of the exporting companies). Within the European Union, the countries in which it is mostly exported to are: Slovenia and Italy (42.9%), Germany (17.9%), Romania (14.3%), France, Greece, Croatia, Bulgaria (10.7%), and Belgium (7.1%). It is least exported to Spain, Denmark, Poland, England and Hungary (3.6%). Twelve companies (42.9%) export outside the European Union, mostly to Macedonia (39.3%), Bosnia and Herzegovina (14.3%) and Montenegro (7.1%). The other countries include South Korea (7.1%), Albania, Turkey, China, USA, Canada (3.6%). All this indicates a developed export orien-

Table 5 Descriptive statistics on the manner of placement on the domestic / foreign market and business problems
Tablica 5. Deskriptivna statistika načina plasmana na domaćem/međunarodnom tržištu i problema u poslovanju

Way of placement on the domestic market / *Način plasmana na domaćem tržištu*		Way of placement on the international market* / *Način plasmana na međunarodnom tržištu**		Business problems / *Problemi u poslovanju*	
Other processors / *Drugi prerađivači*	37.5%	Other processors / *Drugi prerađivači*	57.1%	Clients / *Klijenti*	3.1%
Own retail facilities / *Vlastiti maloprodajni objekti*	12.5%	Own retail facilities / *Vlastiti maloprodajni objekti*	3.6%	Market / *Tržište*	25.0%
Furniture salons / *Saloni namještaja*	9.4%	Furniture salons / *Saloni namještaja*	7.1%	Payment / *Naplata*	31.2%
Wholesale / *Veleprodaja*	46.9%	Wholesale / *Veleprodaja*	57.1%	Other / *Ostalo*	15.6%

* The percentage was calculated based on 28 companies that export their products
* *Postotak je izračunat u odnosu na 28 poduzeća koja izvoze svoje proizvode*

tation of the analysed companies and a strong diversification of the markets they supply with their products.

In terms of product placement on the domestic market, most companies distribute products through wholesalers (46.9%), followed by other processors (37.5%). Of the 28 companies that export, most of them (57.1%) sell their products to other processors or, in the same percentage, to wholesalers (Table 5). These two types of placement are recognized as dominant in terms of distribution, especially bearing in mind that, to a large extent, these are semi-finished products intended for further production processes.

The most frequently encountered problems in business are billing (31.2%) and the market (25%), while 15.6% cite raw materials as a problem. In addition, one of the problems faced by companies are illiquid market and difficult possibilities for collecting receivables. The quantitative limitation in the purchase of raw materials certainly affects the scope of production as well, and, indirectly, the satisfaction of market demand. Also, personnel resources and limited opportunities for investments in modernizing production facilities and processes are among problems in the analysed companies' business.

Opinions and attitudes towards companies' business – *Mišljenja i stavovi o poslovanju poduzeća*

In this chapter the results related to the opinions and attitudes of the respondents regarding certain segments of business significant for the timber products market are presented.

Most of the respondents (43.8%) were very satisfied with the quantity and quality of raw materials they purchase from "Srbijašume" PE, and Nonić *et al.* (2018) obtained similar results. As for the raw material purchase procedure, 37.5% of respondents are very satisfied with the procedure, while 25% have a neutral attitude. The level of satisfaction with the procedure of placing products on the domestic and international markets is similar, 25% of respondents are very satisfied, and 28.1% are satisfied with the procedure. Moreover, 37.5% of respondents are very satisfied, and 34.4% of them are satisfied with the company's market share (Table 6). All this indicates a market climate that is, when it comes to forest products, balanced and functional in terms of raw material purchase (in quantitative and qualitative terms) and placement (in bureaucratic and administrative terms).

The degree of respondents' satisfaction with the fact that the state defines the price of raw materials is relatively evenly distributed across all categories, 25% of them are very dissatisfied with it, and 21.9% are very satisfied. Price formation on the state level creates two different aspects towards this matter. On the one hand, it ensures safety regarding the level of prices in a given period, while, on the other hand, this type of price formation is manifested through slow adaptation to dynamic market conditions. Practically, prices are formed based on the supply, demand and expenses from the moment of felling and wood production to the place of delivery (Keča *et al.*, 2015). The largest percentage of respondents (53.1%) rated the competition for the purchase of raw materials as very strong, and 68.8% pointed out product placement. This indicates that a rela-

Table 6 Assessment of satisfaction levels and different aspects of business
Tablica 6. Ocjena razine zadovoljstva i različitih načina poslovanja

Business aspect of the company / Aspekt poslovanja tvrtke	Mark / *Ocjena** 1	2	3	4	5	Median / *Medijana*	Mod / *Mod*
Satisfaction / *Zadovoljstvo*			(%)				
Quantity of raw material from PE "Srbijašume"/ Količina sirovine iz *JP „Srbijašume"*	9.4	18.8	15.6	12.5	43.8	4	5
Quality of raw materials from PE "Srbijašume" / *Kvaliteta sirovine iz JP „Srbijašume"*	9.4	15.6	9.4	43.8	21.9	4	4
Price of raw materials / Cijena sirovine	21.9	21.9	15.6	18.8	21.9	3	1, 2, 5
Procedure for purchasing of raw materials / Procedura otkupa sirovine	/	12.5	25.0	18.8	37.5	4	5
Procedure for placing of raw materials on the domestic market / *Procedura plasmana sirovine na domaće tržište*	/	9.4	28.1	28.1	25.0	4	3, 4
Procedure for placing of raw materials on the foreign market / *Procedura plasmana sirovine na strano tržište*	6.2	/	18.8	28.1	25.0	4	4
Market share of the company / *Udio tvrtke na tržištu*	0	15.6	12.5	34.4	37.5	4	5
Formation of the price of raw materials by the state / *Formiranje cijene sirovine od strane države*	25.0	18.8	12.5	12.5	21.9	3	5
Competition for the supply of raw materials / *Konkurencija za nabavu sirovine*	12.5	9.4	3.1	18.8	53.1	4	5
Competition between wood processing companies / *Konkurencija između tvrtki za preradu drva*	6.2	6.2	6.2	12.5	68.8	5	5
Marketing activities in companies / *Marketinške aktivnosti tvrtke*	18.8	15.6	6.2	12.5	43.8	4	5

*1 – completely unimportant, 2 – unimportant, 3 – neither unimportant nor important, 4 – important, 5 – extremely important / *1 – potpuno nebitno, 2 – nebitno, 3 – ni nebitno ni bitno, 4 – bitno, 5 – vrlo bitno*

Table 7 Descriptive statistics of business strengths of the analyzed companies
Tablica 7. Deskriptivna statistika snaga u poslovanju analiziranih tvrtki

STRENGTH / *SNAGE*	Mark / *Ocjena**					Median / *Medijana*	Mod / *Mod*
	1	2	3	4	5		
Qualified and professional workforce (%) / *Kvalificirana i stručna radna snaga (%)*	9.4	6.2	28.1	12.5	43.8	4	5
Price competitiveness (%) / *Cjenovna konkurentnost (%)*	3.1	3.1	28.1	37.5	28.1	4	4
Quality of raw material (%) / *Kvaliteta sirovinske baze (%)*	3.1	/	25.0	31.2	40.6	4	5
Fast and efficient placement process (%) / *Brz i učinkovit proces plasmana (%)*	/	9.4	6.2	40.6	43.8	4	5
Good business cooperation with customers (%) / *Dobra poslovna suradnja sa kupcima (%)*	/	/	6.2	18.8	75.0	5	5
Tradition and many years of work experience (%) / *Tradicija i dugogodišnje iskustvo u radu (%)*	3.1	/	15.6	25.0	56.2	5	5
Proximity to the raw material base (%) / *Blizina sirovinske baze (%)*	/	9.4	15.6	25.0	50.0	4.5	5
Relationship between price and product quality (%) / *Odnos cijena i kvalitete proizvoda (%)*	/	12.5	15.6	37.5	34.4	4	4
Deadlines and efficient delivery (%) / *Poštivanje rokova i učinkovita isporuka (%)*	3.1	/	3.1	37.5	56.2	5	5

*1 – completely unimportant, 2 – unimportant, 3 – neither unimportant nor important, 4 – important, 5 – extremely important / *1 – potpuno nebitno, 2 – nebitno, 3 – ni nebitno ni bitno, 4 – bitno, 5 – vrlo bitno*

tively large number of companies compete for a limited offer, primarily from the sources of "Srbijašume" PE. Besides, a higher concentration of companies in a certain area, as well as illegal flows of forestry products through the grey economy, create preconditions for (unfair) competition. Considering that the majority of the analysed companies have their own website or use social networks for promotional purposes, the marketing activities of the companies (43.8%) were evaluated as very strong.

SWOT and A'WOT analyses – *SWOT i A'WOT analiza*

In order to gain insight into the internal characteristics of the companies, the respondents evaluated certain categories as strengths (Table 7).

As extremely important strengths, the largest percentage of respondents rated: good business cooperation with customers (75%), tradition and many years of work experience (56.2%) and proximity to the raw material base (50%). Relationship between price and product quality was assessed by 37.5% of respondents as important and by 34.4% as an extremely important strength. 56.2% of respondents consider meeting deadlines and efficient delivery to be extremely important and 37.5% of them consider it an important strength in their business (Table 7). Cronbach coefficient alpha was 0.73, which indicates a good reliability of the company strengths scale. The mean value of average marks by all respondents was 4.15, and standard deviation was 0.55. The lowest average mark was 2.9, and the highest 5.

A significant component in determining companies' weaknesses is the identification of one's own weaknesses and the creation of a business strategy that will help overcome them.

The weaknesses that the respondents evaluated with the highest marks were: high business expenses and restrictions in the supply of raw materials (40.6%). The following were recognized as important weaknesses: lack of qualified and professional workforce, high business expenses and dependence on raw material suppliers (31.2%). The respondents were indifferent towards the obsolescence of equipment and machinery (43.8%) and weakening of the competitive position on the market (40.6%) (Table 8). Cronbach coefficient alpha was 0.77, which indicates a good reliability of the company weaknesses scale. The average mark of all companies was 3.18, and standard deviation was 0.78. The lowest average mark was 1, and the highest 4.7.

Table 8 Descriptive statistics of business weaknesses of the analyzed companies
Tablica 8. Deskriptivna statistika slabosti u poslovanju analiziranih tvrtki

WEAKNESSES / *SLABOSTI*	Mark / *Ocjena**					Median / *Medijana*	Mod / *Mod*
	1	2	3	4	5		
Organization of work in the company (%) / *Organizacija rada u tvrtki (%)*	15.6	15.6	34.4	15.6	18.8	3	3
Insufficient capacity utilization (%) / *Nedovoljna iskorištenost kapaciteta (%)*	12.5	25.0	31.2	21.9	9.4	3	3
Obsolescence of equipment and machinery (%) / *Zastarjelost opreme i strojeva (%)*	15.6	9.4	43.8	21.9	9.4	3	3
Lack of qualified and professional workforce (%) / *Nedostatak kvalificirane i stručne radne snage (%)*	21.9	9.4	9.4	31.2	28.1	4	4
Narrow product range (%) / *Preuzak proizvodni asortiman (%)*	25.0	25.0	31.2	15.6	3.1	2.5	3
High business expenses (%) / *Visoki troškovi poslovanja (%)*	9.4	9.4	9.4	31.2	40.6	4	5
Restriction in the supply of raw materials (%) / *Ograničenost u opskrbi sirovinom (%)*	6.2	18.8	21.9	12.5	40.6	4	5
Dependence on raw material suppliers (%) / *Ovisnost o dobavljačima sirovine (%)*	6.2	12.5	15.6	31.2	34.4	4	5
Weakening of competitive position in the market (%) / *Slabljenje konkurentskog položaja na tržištu (%)*	21.9	18.8	40.6	12.5	6.2	3	3

*1 - completely unimportant, 2 - unimportant, 3 - neither unimportant nor important, 4 - important, 5 - extremely important / *1 – potpuno nebitno, 2 - nebitno, 3 – ni nebitno ni bitno, 4 - bitno, 5 – vrlo bitno*

Table 9 Descriptive statistics of business opportunities of the analyzed companies
Tablica 9. Deskriptivna statistika mogućnosti u poslovanju analiziranih tvrtki

OPPORTUNITIES / *PRILIKE*	Mark / *Ocjena**					Median / *Medijana*	Mod / *Mod*
	1	2	3	4	5		
Orientation to foreign markets (%) / *Orijentacija prema inozemnim tržištima (%)*	12.5	6.2	12.5	9.4	59.4	5	5
Encourage of local self-government for business operations (%) / *Poticaj lokalne samouprave poslovanju tvrtke (%)*	28.1	21.9	18.8	15.6	15.6	2.5	1
Association with other companies (%) / *Udruživanje sa drugim tvrtkama (%)*	37.5	28.1	21.9	3.1	9.4	2	1
Introduction of new products (%) / *Uvođenje novih proizvoda (%)*	6.2	9.4	12.5	25.0	46.9	4	5
High demand for wood assortments (%) / *Velika potražnja za drvnim sortimentima (%)*	9.4	6.2	25.0	15.6	43.8	4	5
Raising the level of product finalization (%) / *Podizanje razine finalizacije proizvoda (%)*	6.2	9.4	12.5	25.0	46.9	4	5
Occupying new segments of the domestic market (%) / *Osvajanje novih segmenata domaćeg tržišta (%)*	25.0	15.6	9.4	31.2	18.8	3.5	4
Expansion of production capacities (%) / *Proširenje proizvodnih kapaciteta (%)*	3.1	9.4	21.9	18.8	46.9	4	5
Investing in new technologies and equipment (%) / *Investiranje u novije tehnologije i opremu (%)*	0	6.2	15.6	18.8	59.4	5	5

*1 – completely unimportant, 2 – unimportant, 3 – neither unimportant nor important, 4 – important, 5 – extremely important / *1 – potpuno nebitno, 2 – nebitno, 3 – ni nebitno ni bitno, 4 – bitno, 5 – vrlo bitno*

Recognizing opportunities and acting in the direction of using them is a very important component of strategic action and directing the company's business policy. In that sense, the respondents identified and evaluated the opportunities (Table 9).

The majority of the respondents (59.4%) believe that orientation towards foreign markets is an extremely important opportunity. The largest number of respondents (46.9%) also see introduction of new products, raising the level of product finalization and expansion of production capacities as extremely important. Furthermore, 43.8% of respondents view the high demand for wood assortments as an extremely important opportunity. Occupying new segments of the domestic market is seen by 31.2% as an important opportunity, but also by 25% as completely unimportant. The majority of respondents (59.4%) rated investing in newer technologies and equipment as an extremely important opportunity (Table 9). In order to achieve the efficiency and effectiveness of business, but also to improve the connection between forestry and the wood industry, it is necessary to strive towards harmonizing the amount and production structure, to establish a transparent procedure for the sale of wood assortments, to encourage the development of production programs and technological progress, using innovative and original design, as well as throught the education and selection of professional staff (Delić *et al.*, 2016). Cronbach coefficient alpha was 0.71, which indicates a good reliability of the company opportunities scale. The mean value of average marks by all respondents was 3.54, and standard deviation was 0.69. The lowest average mark was 2.2, and the highest was 5.

Timely monitoring of market trends and recognition of potential threats to the company's operations ensure a proactive approach and better preparation for their elimination

Table 10 Descriptive statistics of business threats in the analyzed companies
Tablica 10. Deskriptivna statistika prijetnji u poslovanju analiziranih tvrtki

THREATS / *PRIJETNJE*	Mark / *Ocjena**					Median / *Medijana*	Mod / *Mod*
	1	2	3	4	5		
Instability in the quantity purchased (%) / *Nestabilnost nabavljene količine sirovine (%)*	6.2	15.6	12.5	18.8	46.9	4	5
Adverse demographic trends affecting product placement (%) / *Nepovoljna demografska kretanja koja utječu na plasman proizvoda (%)*	25.0	15.6	18.8	21.9	18.8	3	1
Decline in economic strength of the population (%) / *Pad ekonomske snage stanovništva (%)*	21.9	21.9	25.0	15.6	15.6	3	3
Slow market growth (%) / *Spori rast tržišta (%)*	18.8	12.5	31.2	28.1	9.4	3	3
Complexity of raw material purchase procedure (%) / *Složenost procedure nabave sirovine (%)*	15.6	15.6	43.8	15.6	9.4	3	3
Complexity of product placement procedure (%) / *Složenost procedure plasmana proizvoda (%)*	18.8	9.4	37.5	18.8	15.6	3	3
Long product billing period (%) / *Dugo razdoblje naplate proizvoda (%)*	25.0	9.4	31.2	9.4	25.0	3	3
Increased pressure from competitors in the market (%) / *Povećan pritisak konkurenata na tržištu (%)*	18.8	12.5	25.0	25.0	18.8	3	3, 4
Illiquid market (%) / *Nelikvidnost tržišta (%)*	25.0	15.6	28.1	12.5	18.8	3	3

*1 – completely unimportant, 2 – unimportant, 3 – neither unimportant nor important, 4 – important, 5 – extremely important / *1 – potpuno nebitno, 2 – nebitno, 3 – ni nebitno ni bitno, 4 – bitno, 5 – vrlo bitno*

or minimization. Based on this, the evaluation of certain categories of threats was carried out by respondents regarding the analysed companies (Table 10).

The largest percentage of respondents (46.9%) sees the instability of purchased quantities as an extremely important threat. The majority of them evaluate the decline of the population's economic power negatively or neutrally as a significant threat. Regarding the slow growth of the market, 31.2% of respondents believe that it is neither an unimportant nor an important threat. Most of the respondents (43.8%) believe that the complexity of the raw material purchase procedure is neither an important nor an unimportant threat, and the complexity of the product placement procedure amounts to 37.5%. Moreover, 31.2% of respondents see a long product billing period as neither an important nor an unimportant threat, but 25% of them see it as extremely important or completely irrelevant (Table 10). Cronbach coefficient alpha was 0.87, which indicates a good reliability of the company threats scale. The average mark of all companies was 3.05, and standard deviation was 0.95. The lowest average mark was 1, and the highest 4.7.

Table 11 shows the average values of individual elements of the SWOT matrix, in descending sequence.

Internal strengths/weaknesses of the company and external opportunities and threats were identified through the answers of the respondents (Table 11). As the most important **strengths,** the respondents pointed out interaction with customers through good business cooperation, meeting deadlines and many years of work experience. The factors mostly evaluated as **weaknesses** were: dependence on raw material suppliers, restrictions in its supply, as well as high business expenses, regarding the timely payment of suppliers, material expenses, overhead expenses, etc. As **opportunities**, the respondents emphasized investing, orientation towards foreign markets, expansion of production

Table 11 SWOT analysis
Tablica 11. SWOT analiza

STRENGTHS / *PREDNOSTI*	**Mark / *Ocjena* (1 – 5)**	**WEAKNESSES / *SLABOSTI***	**Mark / *Ocjena* (1 – 5)**
Good business cooperation with customers / *Dobra poslovna suradnja sa kupcima*	4.7	Dependence on raw material suppliers / *Ovisnost o dobavljačima sirovine*	3.8
Deadlines and efficient delivery / *Poštivanje rokova i učinkovita isporuka*	4.4	High business expenses / *Visoki troškovi poslovanja*	3.8
Tradition and many years of work experience / *Tradicija i dugogodišnje iskustvo u radu*	4.3	Restriction in the supply of raw materials / *Ograničenost u opskrbi sirovinom*	3.6
Fast and efficient placement process / *Brz i učinkovit proces plasmana*	4.2	Lack of qualified and professional workforce / *Nedostatak kvalificirane i stručne radne snage*	3.3
Proximity to the raw material base / *Blizina sirovinske baze*	4.2	Organization of work in the company / *Organizacija rada u tvrtki*	3.1
Quality of raw material / *Kvaliteta sirovinske baze*	4.1	Obsolescence of equipment and machinery / *Zastarjelost opreme i strojeva*	3.0
Relationship between price and product quality / *Odnos cijena i kvalitete proizvoda*	3.9	Insufficient capacity utilization / *Nedovoljna iskorištenost kapaciteta*	2.9
Qualified and professional workforce / *Kvalificirana i stručna radna snaga*	3.8	Weakening of competitive position in the market / *Slabljenje konkurentskog položaja na tržištu*	2.6
Price competitiveness / *Cjenovna konkurentnost*	3.8	Narrow product range / *Preuzak proizvodni asortiman*	2.5
OPPORTUNITIES / *PRILIKE*	**Mark / *Ocjena* (1 – 5)**	**THREATS / *PRIJETNJE***	**Mark / *Ocjena* (1 – 5)**
Investing in new technologies and equipment / *Investiranje u novije tehnologije i opremu*	4.3	Instability in the quantity purchased / *Nestabilnost u količini nabavljene količine*	3.8
Orientation to foreign markets / *Orijentacija prema inozemnim tržištima*	4.0	Increased pressure from competitors in the market / *Povećan pritisak konkurenata na tržištu*	3.1
Introduction of new products / *Uvođenje novih proizvoda*	4.0	Long product billing period / *Dugo razdoblje naplate proizvoda*	3.0
Expansion of production capacities / *Proširenje proizvodnih kapaciteta*	4.0	Complexity of product placement procedure / *Složenost postupka plasmana proizvoda*	3.0
Raising the level of product finalization / *Podizanje razine finalizacije proizvoda*	4.0	Slow market growth / *Spori rast tržišta*	3.0
High demand for wood assortments / *Velika potražnja za drvnim sortimentima*	3.8	Adverse demographic trends affecting product placement / *Nepovoljna demografska kretanja koja utječu na plasman proizvoda*	2.9
Occupying new segments of the domestic market / *Osvajanje novih segmenata domaćeg tržišta*	3.0	Complexity of raw material purchase procedure / *Složenost procedure nabave sirovine*	2.9
Encourage of local self-government for business operations / *Poticaj lokalne samouprave poslovanju tvrtke*	2.7	Illiquid market / *Nelikvidno tržište*	2.8
Association with other companies / *Udruživanje sa drugim tvrtkama*	2.2	Decline in economic strength of the population / *Pad ekonomske snage stanovništva*	2.8

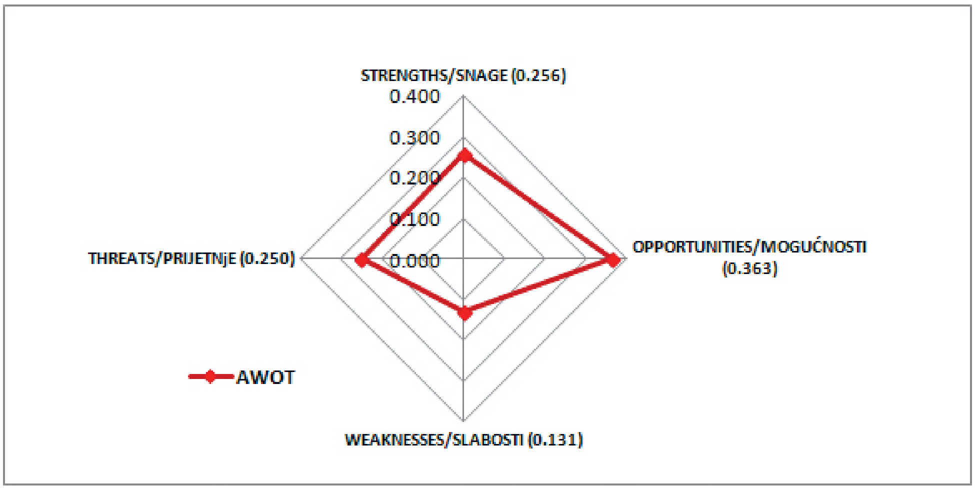

Figure 1 A'WOT analysis
Slika 1. A'WOT analiza

capacities, the introduction of new products, etc. In the category of **threats**, the respondents as most important evaluated to the instability in the purchase of raw materials, the influence of competition, long product billing period, etc. By applying AHP analysis on elements of the SWOT matrix, mean values were obtained, as shown in Figure 1.

In relation to other elements, according to the results of the A'WOT analysis, the highest value was obtained by the factors related to **opportunities (0.363)**. These factors are based on investments in facilities and technology, development of production lines and expansion of capacities, opening of new markets with the encouragement of export orientation, etc. **Threats (0.250)** are reflected in the instability of the purchase of raw materials, the influence of competition and the illiquid market. On the other hand, complex procedures in the purchase and placement of products, the decline in the economic power of people, etc. were highlighted. **Strengths (0.256)** include good business relations and cooperation with customers, as well as proximity and quality of raw materials. In addition, the relationship between the price and product quality, along with the existence of qualified and professional workforce, etc., was highlighted. **Weaknesses (0.131)** are expressed through high dependence on suppliers, the possibility of obtaining sufficient quantities of raw materials, obsolescence of equipment and machinery with insufficient capacity utilization, narrow product range, low level of product finalization.

CONCLUSION
ZAKLJUČAK

This research included 32 privately owned companies and one company in mixed ownership. The average number of employees was 112, with the majority of men (76.7%). The majority of employees have secondary education (60.3%), 31.8% of employees have elementary education, 3.6% have college education and 4.3% have university education. Almost all companies (96.9%) purchase raw materials from "Srbijašume" PE, and 56.2% from other sources, besides "Srbijašume" PE (import, "Vojvodinašume" PE and the Faculty of Forestry - teaching facilities). According to the analyzed companies, the most purchased species are beech (78.1%) and conifers (21.9%), followed by poplar and oak clones with 18.8%. The assortment of products includes sawn timber (37.5%), pellets (34.4%), furniture (28.1%) and boards (25%), which are exported to the international market (87.5% of companies) through wholesale. Fifty percent (50%) of companies sell products on the domestic market, and 87.5% on the domestic and international market. The business problems that were mostly identified are billing (31.2%) and the market (25%), while 15.6% cited raw materials.

Analysing opinions and attitudes towards companies' business, 43.8% of the respondents expressed their satisfaction with the quality and quantity of raw materials they purchase from "Srbijašume". 37.5% of respondents are very satisfied with the procedure regarding the purchase of raw materials, while 25% are neutral. The level of satisfaction with the procedure of product placement on the domestic and foreign markets has a similar profile: 25% of respondents are very satisfied, and 28.1% of them are satisfied with the procedure. When it comes to their market share, 37.5% of respondents are very satisfied, and 34.4% are satisfied. Twenty-five percent (25%) of respondents are very dissatisfied with the fact that the state forms the price of raw materials, and 21.9% are very satisfied. The majority of the respondents (53.1%) rated the competition for the procurement of raw materials as very strong, but also the competition between companies on the market (68.8%). The marketing activities of the company (43.8%) were evaluated as very strong.

By analysing the companies' goals, increasing the company's market share was rated as extremely important by 31.2%, as important by 28.1% and as neither important nor important by 31.2% of respondents. In addition, 28.1% of respondents consider profit as an extremely important company goal, 31.2% as important and 34.4% neither unimportant nor important. On the other hand, 43.8% of respondents see sales growth as an important goal of the company, but also 34.4% of them have a neutral attitude towards that question. Moreover, 50% of respondents consider customer satisfaction to be an extremely important goal, and 43.8% consider it important; employee satisfaction was cited by 53.7% and preserving the environment through socially responsible business by 50%, while increasing production efficiency is considered extremely important by 43.8% of respondents and by 40.6% as an important goal.

Based on the SWOT analysis, the most important strengths are interaction with customers through good business cooperation, meeting deadlines and many years of work experience. Among weaknesses, dependence on raw material suppliers, restrictions on its supply, as well as high operating expenses were pointed out. As opportunities, the respondents emphasized investing, orientation towards foreign markets, expansion of production capacities, the introduction of new products, etc. Threats included instability in the purchase of raw materials, the influence of competition, long product billing periods, etc. According to the results of the A'WOT analysis, in relation to other elements, the greatest value have the opportunities **(0.363)** which are based on investments in facilities and technology, development of production lines and expansion of capacities, opening of new markets with the encouragement of export orientation.

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SAŽETAK

U radu je provedena analiza poslovnog okruženja poduzeća iz područja šumarstva i prerade drva. Obuhvaćeno je 32 malih i srednjih poduzeća na području Republike Srbije. Za potrebe istraživanja kreiran je upitnik, koji je bio usmjeren na relevantne ispitanike unutar poduzeća. Cilj je bio da se ocijene određeni aspekti u poslovanju i identificira tržišno okruženje u kojemu posluju analizirana poduzeća. Za analizu su korišteni interni i eksterni čimbenici, kao što su opći podaci o poduzeću; oblici i načini nabave sirovine i prodaje gotovih proizvoda; mišljenja i stavovi ispitanika o određenim tržišnim faktorima; poslovna i buduća orijentacija poduzeća.

Prema analiziranim poduzećima, najviše se kupuju vrste bukve (78,1%) i crnogorice (21,9%), a slijede klonovi topole i sortimenti hrasta s 18,8%. Asortiman proizvoda uključuje piljenu građu (37,5%), pelete (34,4%), namještaj (28,1%) i ploče (25%) koji se putem veleprodaje izvoze na inozemno tržište (87,5% tvrtki). Pedeset posto (50%) tvrtki prodaje proizvode na domaćem tržištu, a 87,5% na domaćem i inozemnom tržištu. Poslovni problemi koji su najviše identificirani su naplata (31,2%) i tržište (25%), dok je 15,6% navelo sirovine.

Na osnovi SWOT analize, identificirani su interni i eksterni faktori, relevantni za provedbu poslovne aktivnosti poduzeća, dok je A'WOT analiza ukazala na preporučene smjerove za strateški razvoj poduzeća. Na temelju SWOT analize najvažnije snage su interakcija s kupcima kroz dobru poslovnu suradnju, poštivanje rokova i dugogodišnje radno iskustvo. Među slabostima je istaknuta ovisnost o dobavljačima sirovina, ograničenja u njihovoj opskrbi, kao i visoki troškovi poslovanja. Kao prilike ispitanici su istaknuli investiranje, orijentaciju prema inozemnim tržištima, proširenje proizvodnih kapaciteta, uvođenje novih proizvoda i sl. Prijetnje su nestabilnost u nabavi sirovina, utjecaj konkurencije, dugi rokovi naplate proizvoda i sl. Prema dobivenim rezultatima A'WOT analize, u odnosu na ostale elemente, najveću vrijednost imaju mogućnosti (0,363) koje se temelje na ulaganjima u objekte i tehnologiju, razvoju proizvodnih linija i proširenju kapaciteta, otvaranju novih tržišta uz poticanje izvozne orijentacije.

KLJUČNE REČI: šumarstvo, poduzeće, socio-ekonomske karakteristike, SWOT, A'WOT