THE INFLUENCE OF THE SUPPLY CHAIN ON THE COMPETITIVE ADVANTAGES OF COMPANIES IN AGRIBUSINESS

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A B S T R A C T

Changes in the market, caused by globalization, have led to the fact that many companies needed to adapt their operations. In response to these changes, the concept of supply chain was developed to help companies from procurement to sales of products. This paper examines the effects of supply chains on competitiveness using the example of agro-food companies from the Republic of Croatia. The research was conducted through a questionnaire which included 188 agribusiness companies. The responses were systematized and statistically processed using descriptive statistics, correlation analysis and multivariate regression analysis. The results showed that the effects of supply chains play a major role in determining the competitiveness of agro-food companies. Therefore, it is necessary to improve the effects of the supply chain in these companies in order to improve competitiveness and achieve better results of these companies on the market.

Introduction

Increasing globalization affects the operation of companies. In the 1980s, more and more attention began to be paid to logistics, that is, to the supply chain. The first task of the supply chain was to deliver goods at the lowest possible cost, i.e. to reduce transportation costs (Puška et al., 2018). However, as time passed, supply chain tasks became more complex and more extensive (Manavalan and Jayakrishna, 2019). Today, in the time of an integral approach, the supply chain includes all operations that connect suppliers on the one hand and customers on the other (Kozarević and Puška, 2015). In the case of agribusiness companies, the aim is to reduce business costs through the

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supply chain (Pamučar, et al., 2021). The focus of applying supply chains is to reduce all unnecessary costs in the commodity flow (Aldrighetti et al., 2019) and thus ensure that the company is more competitive in the existing market.

Achieving and strengthening competitiveness is important for all companies (Badi and Pamucar, 2020). That is why the aspiration is to achieve the competitiveness of companies by means of business improvement, through the improvement of the supply chain (Vesković, et al., 2018). In addition, it is necessary to make the supply chain sustainable in order to improve the competitiveness of companies (Zulqarnain, et al, 2021). This paper aims to examine how the effects of the supply chain affect competitiveness when it comes to companies working in the agribusiness sector on the example of the Republic of Croatia.

Theoretical framework of the research

Supply chain management is linked exclusively to the company's procurement system (Van den Brink et al., 2019). However, the concept of supply chains has changed so much over time that it cannot be tied exclusively to the procurement system (Taghikhah et al., 2019). The supply chain represents an integrated approach to connecting suppliers and customers through the satisfaction of customer needs. A supply chain integrates the flows of products, information and financial resources between participants in the supply chain. (Šapić et al., 2018; Novais et al, 2019) There is no universal definition of the term supply chain. The supply chain represents an integrated approach whose goal is to fulfil the needs of customers, and as such it should not be viewed separately from other processes in the company. The main goal of every company should be customer orientation, while taking into account all the activities that are carried out to satisfy the needs of customers. The supply chain includes all participants and processes from the producer of raw materials to the final consumer (Litke et al., 2019). The supply chain changed under the influence of changes in the market, especially when it comes to the supply chain of agribusiness companies (Puška, et al., 2022).

Christopher (2011) explains supply chain management through: Responsiveness, Reliability, Resilience and Relationships. Hugos (2011) starts from the customer's point of view, and explains the supply chain through: efficiency, reliability, flexibility and innovation. Lee Hau (2004) concluded in his paper that the best supply chain is not only fast and cost-effective, but also agile and adaptive, and in order to maintain the interests of companies, it must also be coordinated. This concept is called "Triple A" and it includes: Agility, Adaptability and Alignment.

Based on the above, it can be said that the supply chain should be multidimensional in order to contribute to the business of the company itself. In order to measure the application of supply chains, five dimensions of the supply chain will be observed: agility, flexibility, efficiency, stability and responsibility. It should be noted that there are other dimensions of the application of the supply chain, but in practice these dimensions are given the most importance (Puška, et al., 2020). The task of every supply chain is

to be as fast (agile), flexible, economical and efficient as possible. The supply chain should be made more stable, responsible and sustainable in order to respond to all environmental demands and thus help the company to increase its competitiveness. (Kozarević and Puška, 2015).

After the published paper "The Competitive Advantage of Nations" (Porter, 1990), more and more attention has been paid to the study of competitiveness. It was only in the 1980s that competitiveness gained importance when the American economic dominance was threatened by European and Asian states (Bhawsar and Chattopadhyay, 2015). Two reasons have increased the importance of competitiveness: globalization and business competition (Ozbekler and Ozturkoglu, 2020).

According to Zhao et al., (2019) competitiveness is the basis that determines the success or failure of a company. It also determines the appropriateness of the company's activities that contribute to its performance, such as innovation, cohesive organizational culture or good implementation. Competitive strategy is the search for an advantageous competitive position within the industry, the fundamental environment in which competition occurs (Muñoz and Kimmitt, 2019). Competitive strategy is aimed at establishing a profitable and sustainable position despite the forces that determine industrial competition (Porter, 2008).

The foundation of an above-average business in the long run is a sustainable competitive advantage. Although a company can have many strengths and weaknesses compared to its competitors, there are two basic types of competitive advantages that a company can possess, namely differentiation and low costs. (Anwar et al., 2018). The operations of every company in a global environment are affected by micro-competitiveness, which is defined as the relative efficiency of a company to sell its products and services in a market where international competition is present.

In this paper, the competitive advantage will be observed through four variables: application of innovation and technology in business, employee development, adaptation to customer and market requirements, and price and cost competition. Based on all of this, the basic hypothesis of this research is:

- The effects of the supply chain affect the competitiveness of companies from the agro-food industry in the Republic of Croatia.

Since five effects of the supply chain were used, five auxiliary hypotheses were also set, namely:

- The agility of the supply chain affects the competitiveness of companies from the agro-food industry in the Republic of Croatia.

- The flexibility of the supply chain affects the competitiveness of companies from the agro-food industry in the Republic of Croatia.

- The efficiency of the supply chain affects the competitiveness of companies from the agro-food industry in the Republic of Croatia.

- The stability of the supply chain affects the competitiveness of companies from the agro-food industry in the Republic of Croatia.

- The responsibility of the supply chain affects the competitiveness of companies from the agro-food industry in the Republic of Croatia

Materials and methods

In order to examine the impact of the supply chain on the competitiveness of agri-food companies in the Republic of Croatia, a questionnaire survey was used. The questionnaire consisted of two parts, the first part intended for general information about the companies, while the second part of the questionnaire examined research variables. The variables in the research are divided into an independent variable and a dependent variable. The independent variable in this research is focused on the effects of the supply chain, while the dependent variable focuses on the competitiveness of the companies.

The total number of companies from the field of agro-industry is 19,413. However, it was difficult to find all the data on these companies, so the research was focused only on the 2,000 most successful companies according to the business results. Those companies were contacted and a response was received from 188 companies that represent the sample of this research. Of that number of companies, 25 companies are large companies (13.29%), 48 companies are medium-sized companies (25.53%), while 115 companies are small companies (61.17%). According to the total number of employees, there are 105 companies with up to 20 employees (55.85), 43 companies with 20 to 50 employees (22.87), while 40 companies have more than 50 employees (21.28). Majority of the companies are privately owned and that is 98.58% of the companies, while the rest of them are in mixed ownership.

Table 1. Claims for measuring research variables

Variables	Claims
Agility	Our supply chain is fast, agile and easy to implement
Flexibility	Our supply chain is adaptable and rapidly changing
Efficiency	Our supply chain strives to provide maximum impact with minimal cost
Stability	Our supply chain enables continuous procurement and sales
Responsibility	Our supply chain is reliable and trustworthy
Innovations and technologies in business	Innovations and modern technologies are applied in our business
Employee development	In our business, we are working on the development and continuous learning of our employees
Adaptation to customer and market requirements	Our business adapts to the new demands of customers and the market
Price and cost competitiveness	Our business is focused on cost reduction and competitive product prices

Source: Authors

In order to determine the effects of the supply chain and the competitiveness of the companies, statements were formed to which the companies had to answer using: "completely disagree" to "completely agree"scale. A value scale of 7 levels was used for this purpose. For each of the set variables, the companies had to answer to certain statements, which are shown below in Table 1.

Measuring the impact of the effects of supply chains on the competitiveness of companies was carried out using multivariate regression analysis (MRA). MRA is a statistical method for analysing the influence of independent variables on dependent variables. The regression model is expressed in the form of a stochastic equation that includes at least one dependent and several independent variables (predictors). (Rath et al., 2020). The goal of this analysis is the prediction of the dependent variable as a reaction to changes in the independent variables. This goal is achieved by applying the least squares method, which is the most widely used linear regression model estimation because it provides the following desirable parameter estimates: unbiased estimate, efficient estimate, and consistent estimate. (Ahmad and Aslam, 2022). The task of MRA is the inclusion of several factors in the analysis, where the influence of the independent variable factor on the dependent variable is assessed.

In addition, correlation analysis will be used to examine the relationship between these research variables. Correlation analysis is interpreted as a connection, link, association or measure of covariation between phenomena. Studying the connection between phenomena is reduced to determining the direction, strength and form of the connection. Correlation analysis deals with the research of mutual relations between phenomena, but not the cause-and-effect relations between them (Tariq and Shujaa Safdar Gardezi, 2023). Correlation analysis shows how much the results of one variable explain the results of another variable, that is, how much the results of two variables vary in accordance (Fida et al., 2020).

When determining the correlation, the most important thing is the direction of change of interrelated variables. If the increase in the value of the results of one variable is associated with the increase in the value of the results of another variable, it is said to be a positive correlation (Bae et al., 2021). When the increase in the value of the result of one variable is associated with the decrease in the value of the result of another variable, it is said to be a negative correlation. Negative and positive correlation is determined by the result of correlation analysis. When explaining correlation analysis, it is important to determine a value that ranges from minus one to one. In practice, there is no single defined explanation of correlation analysis results. Therefore, in this research, the explanation of correlation analysis values will be used (Fazlović, 2013):

- Od 0.00 do ±0.20: slight correlation
- Od ±0.20 do ±0.40: low correlation
- Od ±0.40 do ±0.70: moderate correlation
- Od ±0.70 do ±0.90: high correlation
- Od ±0.90 do ±1.00: very high correlation

MRA values and correlation analysis were calculated using program Statistica 14.

Results and discussion

Before examining the research hypotheses, the following table 2 will present a descriptive analysis of the research data collected. For all research variables, the minimum value is one (1), while the maximum value is seven (7). When looking at the mean value, the variable stability has the highest value (mean = 3.4278), while the variable employee development has the minimum value (mean = 2.7766). Observing the dispersion of responses, the variable flexibility has the highest dispersion (SD = 1.2812), while the variable employee development has the lowest dispersion in responses. (SD = 1.0306).

Table 2. Descriptive analysis of research results

Variables	Min	Max	Mean	Standard deviation
Agility	1	7	3.3085	1.2412
Flexibility	1	7	3.1277	1.2812
Efficiency	1	7	3.3245	1.1909
Stability	1	7	3.4278	1.2043
Responsibility	1	7	3.0160	1.1722
Innovations and technologies in business	1	7	3.0426	1.2185
Employee development	1	7	2.7766	1.0306
Adaptation to customer and market requirements	1	7	3.1649	1.2536
Price and cost competitiveness	1	7	3.1330	1.0639

Source: Authors

When examining the impact of supply chain effects on the competitiveness of companies, it is necessary to first examine the degree of correlation between the observed variables using correlation analysis. If these correlation analysis values are greater than 0.7, then there is no need to do MRA (Puška et.al., 2015) since there is a high correlation between the variables.

The results of the correlation analysis in the following table 3 show that the highest value of the correlation between these variables is seen in the sub-variables responsibility and market and customers (r = 0.547), while the lowest correlation is between the variables stability and price and costs (r = 0.336). These results show that all values are less than 0.7, so all these variables are retained in further analysis.

Table 3. Connection of supply chain application parameters

	Innovation and technology	Market and customers	Development and learning	Price and costs
Agile	.341**	.409**	.338**	.382**
Flexible	.408**	.496**	.376**	.388**
Efficient	.359**	.412**	.401**	.358**
Stable	.479**	.416**	.478**	.336**
Responsible	.419**	.547**	.464**	.393**

** level of significance from 0,01

Source: Authors' calculation

When examining the impact of individual supply chain effects, auxiliary research hypotheses will also be examined. The first auxiliary hypothesis will be examined first. The obtained results of the research show that there is a significant impact on the competitiveness of agri-food companies in the Republic of Croatia (F-test = 11.855; p < 0.000), thus the first auxiliary hypothesis is accepted. The results show that there is a moderate correlation between the observed variables (R = 0.454), while this model explains a total of 20.6% of the dependent variable, which shows the coefficient of determination (R^2 = 0.206).

When looking at the individual impact of supply chain agility on the competitiveness of companies, it can be seen from the following table 4 that there is a significant impact on two dependent variables: Market and customers (T-test = 1.989, p = 0.048) and Price and costs (T- test = 2.567, p = .011). For other dependent variables, there is no significant influence of supply chain agility. It should be emphasized that all dependent variables have a positive influence on the direction of the regression function.

Table 4. The influence of supply chain agility on the competitiveness of companies

Summative regression model: R = 0.454; R^2 = 0.206; Adapted R^2 = 0.188; F-test = 11.855; p < 0.000; the standard error of the estimate = 1.118				
Model	**Non-standard coefficients**		**T-test**	**Significance**
	B	Standard error		
(Model constant)	**1.480**	**.282**	**5.246**	**.000**
Innovations and technologies	.090	.095	.945	.346
Market and customers	**.260**	**.131**	**1.989**	**.048**
Development and learning	.021	.097	.212	.832
Price and costs	**.245**	**.096**	**2.567**	**.011**

Source: Authors' calculation

The results obtained by examining the impact of supply chain flexibility on the competitiveness of companies presented in the following table 5 show that there is a significant impact (F-test = 16.890; p < 0.000), thus accepting the second auxiliary hypothesis. There is a moderate correlation between the observed variables (R = 0.519), and this model explains 27.0% of the dependent variables. (R^2 = 0.270). By observing the individual impact of flexibility on the competitiveness of the company, it can be seen that there is a significant impact on the Market and the customer (T-test = 3.282, p = .001), while there is no significant impact on the other variables. With the dependent variable Development and learning, there is a negative influence on the direction of the regression function (B = -.017), which shows that this variable has a negative influence on this model. However, this influence is weak since the value of the B coefficient is close to zero (0).

Table 5. The influence of supply chain flexibility on the competitiveness of companies

Summative regression model: R = 0.519; R^2= 0.270; Adapted R^2 = 0.254; F-test = 16.890; p < 0.000; the standard error of the estimate = 1.107				
Model	**Non-standard coefficients**		**T-test**	**Significance**
	B	Standard error		
(Model constant)	**1.054**	**.279**	**3.777**	**.000**
Innovations and technologies	.123	.094	1.305	.194
Market and customers	**.425**	**.129**	**3.282**	**.001**
Development and learning	-.017	.096	-.180	.857
Price and costs	.184	.095	1.942	.054

Source: Authors' calculation

In the following table 6, we observe the results of testing the third auxiliary hypothesis, which show that there is a significant influence of the efficiency of supply chains on the competitiveness of companies (F-test = 12.368; p < 0.000), which is why this auxiliary hypothesis is accepted. There is a moderate correlation between the observed variables (R = 0.461), and this model explains 21.3% of the dependent variables. (R^2= 0.213). When looking at the individual impact of supply chain efficiency on the dependent variable, it can be concluded that there is no significant individual impact. In addition, all dependent variables have a positive influence on the direction of the regression function.

Table 6. The influence of supply chain efficiency on the competitiveness of companies

Summative regression model: R = 0.461; R^2= 0.213; Adapted R^2 = 0.196; F-test = 12.368; p < 0.000; the standard error of the estimate = 1.107				
Model	**Non-standard coefficients**		**T-test**	**Significance**
	B	Standard error		
(Model constant)	**1.564**	**.269**	**5.805**	**.000**
Innovations and technologies	.090	.091	.995	.321
Market and customers	.179	.125	1.431	.154
Development and learning	.150	.093	1.614	.108
Price and costs	.165	.091	1.803	.073

Source: Authors' calculation

The examination of the fourth auxiliary hypothesis shows that there is a significant influence of the stability of the supply chain on the competitiveness of companies (F-test = 18.505; p < 0.000), which is why this research hypothesis is accepted. There is a moderate correlation between the observed variables in this model (R = 0.537), and this model explains 28.8% of the dependent variables. (R^2 = 0.288). Observing the individual impact of supply chain stability on two dependent variables, there is a significant impact on innovations and technologies (T-test = 3.336, p = .001) and development and learning (T-test = 2.963, p = .003). It should be mentioned that the variable market and customers has a negative influence on the direction of the regression function (B = -.025); however, this influence is weak because the value of the B coefficient is close to zero. (0). (Table 7)

Table 7. The influence of supply chain stability on the competitiveness of companies

Summative regression model: R = 0.537; R^2 = 0.288; Adapted R^2 = 0.272; F-test = 18.505; p < 0.000; the standard error of the estimate = 1.028				
Model	**Non-standard coefficients**		**T-test**	**Significance**
	B	Standard error		
(Model constant)	**1.509**	**.259**	**5.815**	**.000**
Innovations and technologies	**.291**	**.087**	**3.336**	**.001**
Market and customers	-.025	.120	-.204	.839
Development and learning	**.265**	**.089**	**2.963**	**.003**
Price and costs	.082	.088	.928	.355

Source: Authors' calculation

The results of the examination of the fifth auxiliary hypothesis in the following table 8 show that there is a significant influence of supply chain responsibility on the competitiveness of companies (F-test = 21.417; p < 0.000), which confirms this research hypothesis. The correlation between the observed variables is moderate (R = 0.565), and this model explains 31.9% of the dependent variables (R^2 = 0.319). For one dependent variable, there is a significant individual influence of supply chain responsibility, namely for the variable market and customers (T-test = 3.765, p = .000). With other dependent variables, there is no significant statistical influence, and there is no negative influence on the direction of the regression function either. All values of the B coefficient are positive.

Table 8. The impact of supply chain responsibility on the competitiveness of companies

Summative regression model: R = 0.565; R^2 = 0.319; Adapted R^2 = 0.304; F-test = 21.417; p < 0.000; the standard error of the estimate = 0.978				
Model	**Non-standard coefficients**		**T-test**	**Significance**
	B	Standard error		
(Model constant)	**1.005**	**.247**	**4.072**	**.000**
Innovations and technologies	.044	.083	.528	.598
Market and customers	**.431**	**.114**	**3.765**	**.000**
Development and learning	.109	.085	1.287	.200
Price and costs	.107	.084	1.285	.200

Source: Authors' calculation

By examining auxiliary hypotheses, the main hypothesis of this research was also examined. Since the results showed that there is a significant influence of individual independent variables, it can be concluded that the independent variable supply chain effects have a significant impact on the competitiveness of companies, thus accepting the main hypothesis of this research.

In addition, the results showed that different effects of the supply chain have a greater impact on certain segments of companies' competitiveness. Therefore, it is necessary to take into account all the effects of the supply chain. Thus, if one wants to achieve better innovation, it is necessary to improve the stability of supply chainsIf customers are to be more satisfied, it is necessary to develop a more responsible supply chain. Also, it is

necessary for companies to work on all the effects of supply chains and not just on some effects. The supply chain is a powerful weapon for improving business and developing competitiveness (Riaz, et al., 2021).

Conclusions

The results of the research showed that the sub-variable stability of the supply chain received the highest average value, while the sub-variable employee development received the lowest average value, with the slightest deviation from the average value of the sub-variables. After that, the correlation between the observed sub-variables of the research was determined. This analysis yielded results that showed that the supply chain and markets and customers are responsible for the sub-variables, while the weakest connection is seen between the sub-variables: the stability of the supply chain, and prices and costs. Also, the results of this analysis showed that all sub-variables have a significant impact on the competitiveness of companies, and all auxiliary hypotheses were accepted. Based on that, the main hypothesis of this paper was accepted. This paper thus proved that the effects of the supply chain have a great impact on the competitiveness of companies. Based on this, it is necessary to develop the supply chain in order to improve competitiveness. In future research, it is necessary to include other variables to see if some other variable has a greater impact on competitiveness and which variable it was.

Conflict of interests

The authors declare no conflict of interest.

References

1. Ahmad, S., & Aslam, M. (2022). Another proposal about the new two-parameter estimator for linear regression model with correlated regressors. *Communications in Statistics: Simulation and Computation*, 51(6), 3054-3072.

2. Aldrighetti, R., Zennaro, I., Finco, S., & Battini, D. (2019). Healthcare supply chain simulation with disruption considerations: A case study from northern Italy. *Global Journal of Flexible Systems Management*, 20(S1), 81-102.

3. Anwar, M., Rehman, A. U., & Shah, S. Z. A. (2018). Networking and new venture's performance: mediating role of competitive advantage. *International Journal of Emerging Markets*, 13(5), 998-1025.

4. Badi, I., & Pamucar, D. (2020). Supplier selection for steelmaking company by using combined Grey-MARCOS methods. *Decision Making: Applications in Management and Engineering*, 3(2), 37-48.

5. Bae, K.-H., El Ghoul, S., Gong, Z. (jason), & Guedhami, O. (2021). Does CSR matter in times of crisis? Evidence from the COVID-19 pandemic. *Journal of Corporate Finance*, 67(101876), 101876.

6. Bhawsar, P., Chattopadhyay, U. (2015). Competitiveness: Review, Reflections and Directions. *Global Business Review*, 16(4), 665-679.

7. Christopher, M. (2011). *Logistics and Supply Chain Management*, 4rd. ed., Prentice Hall & Financial Times, London,

8. Fazlović, S. (2013). *Primjenjena statistika*. Tuzla: Off Set

9. Fida, B. A., Ahmed, U., Al-Balushi, Y., & Singh, D. (2020). Impact of service quality on customer loyalty and customer satisfaction in Islamic banks in the Sultanate of Oman. *SAGE Open*, 10(2), 215824402091951.

10. Hugos, M. (2011). *Essentials of supply chain management*. Wiley.

11. Kozarević, S., Puška, A. (2015). Povezanost primjene lanca snabdijevanja, partnerskih odnosa i konkurentnosti malih i srednjih kompanija. *Ekonomska misao i praksa*, 10(2), 579-596.

12. Lee Hau, L (2004). The Triple-A Supply Chain, *Harvard Business Review*, October, 102-112.

13. Litke, A., Anagnostopoulos, D., & Varvarigou, T. (2019). Blockchains for Supply Chain Management: Architectural Elements and Challenges Towards a Global Scale Deployment. *Logistics*, 3(1), 5.

14. Manavalan, E., & Jayakrishna, K. (2019). A review of Internet of Things (IoT) embedded sustainable supply chain for industry 4.0 requirements. *Computers & Industrial Engineering*, 127, 925-953.

15. Muñoz, P., & Kimmitt, J. (2019). Social mission as competitive advantage: A configurational analysis of the strategic conditions of social entrepreneurship. *Journal of Business Research*, 101, 854–861.

16. Novais, L., Maqueira, J. M., & Ortiz-Bas, Á. (2019). A systematic literature review of cloud computing use in supply chain integration. *Computers & Industrial Engineering*, 129, 296–314.

17. Ozbekler, T. M., & Ozturkoglu, Y. (2020). Analysing the importance of sustainability-oriented service quality in competition environment. *Business Strategy and the Environment*, 29(3), 1504-1516.

18. Porter, M. (1990). *The competitive advantage of nations*. London: MacMillan.

19. Porter, M. (2008). *Konkurentska prednost, Postizanje i održavanja vrhunskog poslovanja*. Zagreb: Masmedia;

20. Pamučar, D., Behzad, M., Božanić, D., & Behzad, M. (2021). Decision making to support sustainable energy policies corresponding to agriculture sector: Case study in Iran's Caspian Sea coastline. *Journal of Cleaner Production*, 292, 125302.

21. Puška, A., Božanić, D., Nedeljković, M., & Janošević, M. (2022). Green Supplier Selection in an Uncertain Environment in Agriculture Using a Hybrid MCDM Model: Z-Numbers–Fuzzy LMAW–Fuzzy CRADIS Model. *Axioms,* 11(9), 427.

22. Puška, A., Kozarević, S., & Okičić, J. (2020). Investigating and analyzing the supply chain practices and performance in agro-food industry. International *Journal of Management Science and Engineering Management*, 15(1), 9-16.

23. Puška, A., Maksimović, A., & Stojanović, I. (2018). Improving organizational learning by sharing information through innovative supply chain in agro-food companies from Bosnia and Herzegovina. *Operational Research in Engineering Sciences: Theory and Applications*, 1(1), 76-90.

24. Puška, A., Maksimović, A., & Fazlić, S. (2015). Utjecaj kvalitete na zadovoljstvo i lojalnosti studenata. *Poslovna izvrsnost*, 9(2), 101-121.

25. Rath, S., Tripathy, A., & Tripathy, A. R. (2020). Prediction of new active cases of coronavirus disease (COVID-19) pandemic using multiple linear regression model. *Diabetes & Metabolic Syndrome*, 14(5), 1467-1474.

26. Riaz, M., Farid, H.M.A., Aslam, M., Pamucar, D., & Bozanić, D. (2021). Novel Approach for Third-Party Reverse Logistic Provider Selection Process under Linear Diophantine Fuzzy Prioritized Aggregation Operators. *Symmetry,* 13(7), 1152.

27. Šapić, S., Furtula, S., & Durkalić, D. (2018). Prestige and national identity as predictors of food products purchase. *Economics of Agriculture*, 65(2), 643-657., doi:10.5937/ekoPolj1802643S,

28. Taghikhah, F., Voinov, A., & Shukla, N. (2019). Extending the supply chain to address sustainability. *Journal of Cleaner Production*, 145, 652-666.

29. Tariq, J., & Shujaa Safdar Gardezi, S. (2023). Study the delays and conflicts for construction projects and their mutual relationship*: A review. Ain Shams Engineering Journal*, 14(1), 101815.

30. Van den Brink, S., Kleijn, R., Tukker, A., & Huisman, J. (2019). Approaches to responsible sourcing in mineral supply chains. *Resources, Conservation and Recycling*, 145, 389-398.

31. Vesković, S., Stević, Ž., Stojić, G., Vasiljević, M., & Milinković, S. (2018). Evaluation of the railway management model by using a new integrated model DELPHI-SWARA-MABAC. *Decision Making: Applications in Management and Engineering*, 1(2), 34-50.

32. Zhao, Y., von Delft, S., Morgan-Thomas, A., & Buck, T. (2019). The evolution of platform business models: Exploring competitive battles in the world of platforms. *Long Range Planning*, 53(4), 101892.

33. Zulqarnain, R.M., Siddique, I., Ali, R., Pamucar, D., Marinkovic, D., Bozanic D. (2021). Robust Aggregation Operators for Intuitionistic Fuzzy Hypersoft Set with Their Application to Solve MCDM Problem. *Entropy,* 23(6), 688.