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The dissertation proposed an original approach to decision-making on the choice of a vehicle replacement strategy, taking into account modern financing methods as well as the operating conditions and replacement conditions of the vehicles resulting from the characteristics of the business. The developed mathematical model also takes into account the conditions of vehicle replacement resulting from the tasks performed by the company and the solutions applied in the area of company car fleet management. The following thesis was formed: The combined consideration, when optimizing the vehicle exchange strategy of the available financing methods and the assumed transport tasks, of the vehicle functions and characteristics of the company can lead to economic benefits in comparison with separate optimization of the life cycle and financing methods of these vehicles and is a condition for obtaining solutions tailored to the needs of individual companies.

The theoretical part of the study describes the car market in Poland from the perspective of sales of new vehicles, trends, as well as tax changes from the beginning of 2019, which have a significant impact on the costs of companies. Then, the conclusions from the literature review concerning: the selection of investment variants, the theory of resource exchange, the exchange of vehicles, the selection of vehicles for tasks and multi-criteria decision support are described. As determined by the existing approaches to optimizing the exchange of vehicles, transport tasks are often taken into account, but the issue of the choice of financing sources is ignored or rather briefly discussed. The specificities of individual companies and the approaches used in fleet management are also being ignored. The conclusions of the review of the state of the knowledge made it possible to formulate the aim and the thesis of the hearing. Next, the available methods of financing company cars and their comparative analysis have been described.

The analytical part of the study begins with a chapter in which the proposed model of decision support concerning the selection of a vehicle replacement strategy, taking into account modern methods of financing, transport tasks and characteristics of the company, is presented. This model has been developed taking into consideration the conclusions from the analysis of the state of knowledge, legal regulations concerning the forms of vehicle financing and the decision-making needs in terms of the choice of a vehicle replacement strategy, as well as own long-standing experience in the fleet industry. The model takes into account: planning periods, company characteristics, company needs, vehicle financing methods and vehicles themselves. In order to simplify the consideration and for practical reasons, it has been assumed that the model developed will enable an optimal replacement strategy for passenger cars to be achieved with an accuracy of 12 months.

The next important stage of the research was the identification of solutions applied in Polish companies in the field of fleet management and their impact on costs, as well as the importance of the characteristics of the company itself and the mileage of the vehicles for the strategy of vehicle exchange. This identification was carried out by conducting a survey among 106 respondents responsible for corporate vehicle fleets.

The next part of the study describes the parametrization of the model carried out on the basis of surveys and analyses of cost data of Volkswagen Leasing and data obtained from business partners of this company. The two-step approach to solving the research problem is also presented here. According to it, in the first stage, the author's application generates admissible variants of vehicle selection, vehicle exploitation periods and financing methods, while in the second stage, these variants are assessed in terms of TCO, taking into account budget and task implementation restrictions. This chapter also describes the computer implementation of the method.

The next part of the hearing presents an example of using the developed model to solve selected practical decision-making problems concerning the choice of vehicle replacement strategy. In the last part of the study, however, conclusions were drawn and the potential benefits of using the proposed tools supporting the selection of vehicle replacement strategies, as well as the areas of further research, have been indicated.

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